



5-2003

From Snakes to Meaning: Interpretation and Explanation of Traditional Sub-Saharan African Religious Ethnographic Data

Mort

Follow this and additional works at: https://scholarworks.wmich.edu/masters_theses



Part of the Religion Commons

Recommended Citation

Mort, "From Snakes to Meaning: Interpretation and Explanation of Traditional Sub-Saharan African Religious Ethnographic Data" (2003). *Master's Theses*. 1436.

https://scholarworks.wmich.edu/masters_theses/1436

This Masters Thesis-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Master's Theses by an authorized administrator of ScholarWorks at WMU. For more information, please contact wmu-scholarworks@wmich.edu.



FROM SNAKES TO MEANING: INTERPRETATION AND EXPLANATION OF
TRADITIONAL SUB-SAHARAN AFRICAN RELIGIOUS ETHNOGRAPHIC
DATA

by

Joel Mort

A Thesis
Submitted To The
Faculty Of The Graduate College
In Partial Fulfillment Of The
Requirements For The
Degree Of Master Of Arts
Department Of Comparative Religion

Western Michigan University
Kalamazoo, Michigan
May 2003

FROM SNAKES TO MEANING: INTERPRETATION AND EXPLANATION OF
TRADITIONAL SUB-SAHARAN AFRICAN RELIGIOUS ETHNOGRAPHIC
DATA

Joel Mort, M.A.

Western Michigan University, 2003

Concerns about accepted approaches to ethnographic data have arisen in terms of how scholars attempt to explain and interpret the formation, transmission, and persistence of seemingly bizarre religious ideas and practices. I would like to suggest a new way to make sense of ethnographic data regarding religious thought and action.

My contention is that the explanatory and interpretive methods employed by the majority of religion scholars are mistakenly and unknowingly informed by intuitive background theories. As a result of using intuitive assumptions rather than an established scientific theoretical tradition as the basis for interpretive inference the conclusions offered by these scholars are suspect. The reasons for this dearth, particularly in the context of studying African religion, are a combination of a rejection of particular models of explanation, an emphasis on reported informant explanations, and a preoccupation with cultural relativism and so-called political correctness as a defense against participating in an intellectual colonial project.

By showing that acceptable models of explanation are available and giving the example of an emerging approach compliant with one such model I hope to demonstrate that a theoretical tradition in the study of religion is possible and at hand.

ACKNOWLEDGEMENTS

This thesis is the product of many years of work, procrastination, changing minds and opinions, and a colossal amount of external assistance. The first four in the list have been my doing and have, to varying degrees, helped and hindered the completion of the thesis. Any errors or shortcomings are my responsibility alone. The last item on the list is arguably the most significant since it enhanced my productivity and minimized my shortcomings whenever possible. It was contributed not by me but by others interested either in the work itself or at least in me *finishing* the work.

My overwhelming thanks goes to my advisor and committee chair, Dr. E. Thomas Lawson, who has in every way been available as a resource be it emotionally, socially, scholarly, or administratively. I can not overstate the importance of his involvement in my graduate career. In a strange sense I am sorry to see the thesis finished since our coffee meetings were such an encouraging rejuvenation for me. His family, particularly his wife Ruth, put up with my frequent visits and often frantic phone calls; a courtesy for which I am very grateful.

I must also thank Dr. D. Jason Slone, my erstwhile fellow graduate student at WMU and current professor at the University of Findlay, and Dr. Luther Martin, professor at the University of Vermont. Their incurable enthusiasm for the work and experience with the process allowed them to both encourage me and commiserate with me appropriately. Their timely comments were invaluable throughout.

Acknowledgements - Continued

My committee members, Drs. Brian Wilson and Rudolf Siebert, and my Director of Graduate Studies, Dr. Timothy Light, managed to stay the course with me through title changes, indeed entire project changes, leaves of absence and more so they too deserve my thanks.

My last minute proofreader, Amy Jean Koh, was a lifesaver; dropping everything at a moments notice to cross out, slash, comment, etc. with the eye of a knowledgeable technical scientific writer. Her work proved to be crucial in keeping much of the journalistic style out of this work.

In a less direct way my parents, Jim and Judy Mort, and my brother, Terry, have done all they could and more to get me to this point. Much of my life I have been to them much like this thesis has been to me: troublesome, unorganized, and just plain bad. I can now sympathize with them in my own way.

Lastly, I must mention my constant canine companion. Loomis has often stared at me in wonder from beneath my desk undoubtedly wondering what could be so important up above. If anything or anyone has saved my sanity in the last several months it is he.

I dedicate this thesis to my grandparents, Grant and Marguerite Pearson and Joseph and Evelyn Mort.

Joel Mort

Copyright by
Joel Mort
2003

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
INDEX OF FIGURES	vii
INTRODUCTION	1
Introduction.....	1
Problematic Situations	4
Propositions.....	5
CHAPTER	
I. GATHERING THE DATA: AMAZULU AND BASOTHO ETHNOGRAPHY	8
AMAZULU	8
Becoming an amaZulu Diviner.....	8
The Call of the Diviner	9
The Signs of the Call.....	9
Response to the Call.....	10
The Costs of the Call.....	11
Accepting the Call: A Diviner's Personal Account.....	12
The Alienation of the Diviner	14
The Training of the Diviner	15
Restoration of Health	15
Continual Sacrifice.....	18
Catching an Animal	18
Avoiding Danger.....	19
Initiation of the Diviner	20
BASOTHO.....	23
Accounts of Snakes.....	23
Lesotho Highlands Water Project	24
Causes of Tremors	26
Basotho Myths	27

Table of Contents - Continued

INTERPRETATIONS OF AMAZULU AND BASOTHO DATA	28
Berglund.....	28
Manyeli	29
CHAPTER	
II. INTERPRETING THE DATA: SCHOLARLY TENDENCIES.....	31
COMMON SCENARIOS.....	31
Introduction.....	31
Intellectual Scenario.....	31
Emotional Scenario	32
Social Scenario.....	33
Illusory Scenario	33
CONCERNS	34
III. EXPLAINING THE DATA: EXPLANATION AND INTERPRETATION	36
WHAT IS IT?	36
Introduction.....	36
Exclusivism.....	36
Inclusivism.....	37
Contrastive Explanation.....	38
Interactionism	40
NEED FOR SCIENTIFIC SOPHISTICATED.....	41
Reading Between the Lines	41
Scientific Explanation vs. Intuitive Explanation	44
Why Not Intuitive Explanation.....	45
IV. EVALUATING THE DATA: INFERENCE TO THE BEST EXPLANATION	48
WHAT IS IT?	48
Generating Theories.....	48
Kekule's Snake and Glaser's Beer.....	49

Table of Contents - Continued

Demons or no Demons?	50
ADVANTAGES	52
Contrastive	52
Contextual	52
Specific	52
CRITICISMS	53
Introduction	53
The Ranking Premise	53
The No-Privilege Premise	53
Is the Best Good Enough?	54
CHAPTER	
V. NEW APPROACHES TO THE DATA	56
COGNITIVE SCIENCE OF RELIGION	56
Premises	56
Boyer's Concerns Addressed	58
EXAMPLES	60
Boyer	60
McCauley/Lawson	63
Whitehouse	64
Others	66
CONCLUSION	69

INDEX OF FIGURES

Figure 1 - Map of Southern Africa	8
Figure 2 - Zulu Hut Layout During <i>ingoma yokuvusima</i>	16
Figure 3 - Map Showing Mohale and Katse Dam Areas	25
Figure 4 - Boyer's Concept Template	61

INTRODUCTION¹

Introduction

In this M.A. thesis I discuss issues underlying the study of religion and the implications those issues have for current and emerging approaches to the study of traditional African religion.

The study of religion in Africa has been tremendously productive in terms of the wealth of ethnographic data collected. In my thesis I introduce some of this data by summarizing some of my own field work done while spending nearly a year living in Lesotho (southern Africa) from November 2000 to September 2001 as well as the extraordinary work of Axel-Ivar Berglund on traditional Zulu religion in the KwaZulu-Natal Province of South Africa and the work done by Thomas Manyeli on the Basotho of Lesotho.

In recent years concerns about accepted approaches to such material have arisen. Specifically, in terms of how scholars attempt to explain and interpret the religious behavior included in the material I just mentioned. For example, how scholars explain the formation, transmission, and persistence of seemingly bizarre ideas such as special snake-men who are invisible until they are badly hurt or killed, ancestors communicating via special snakes, and giant snakes thundering through mountains causing tremors and fissures.

¹ Earlier drafts of this material were presented to the Midwest Region American Academy of Religion's Theory and Method Section April 2002 and Cognitive Science of Religion Section April 2003 at its (MWAAR) annual meetings.

I would like to suggest a new way to think about how to make sense of ethnographic data regarding religious thought and action. My contention is that the explanation and interpretation methods employed by the vast majority of religion scholars are mistakenly and perhaps unknowingly informed by intuitive background theories (which have been posited by cognitive scientists) such as folk physics, folk biology, folk psychology etc. As a result of using intuitive assumptions rather than an established *scientific* theoretical tradition (something which philosophers of science such as J. Watkins have said to be necessary for the increase of true knowledge) as the basis for interpretive inference the conclusions offered by these scholars are then suspect. Ultimately, because there is no real theoretical tradition upon which a methodology might be based, scholars have little choice but to base their conclusions on intuitive theories since there is little else at hand. The reasons for this dearth, particularly in the context of studying African religion, are a combination of **1)** a rejection of particular models of explanation coupled with a failure to recognize any alternative models which results in the unfortunate resistance to anything deemed ‘scientific’ or explanatory, **2)** a misguided emphasis on the epistemological equality of reported informant explanations with systematically generated theories, and **3)** a preoccupation with cultural relativism and so-called political correctness as a defense against participating in an intellectual ‘colonial project.’ The first point is the main point I take up in this thesis.

Fortunately alternative models of explanation are indeed available. Inference to the Best Explanation (IBE) is one example. It has several advantages over the

models rightly rejected by religion scholars. It is contrastive in that it enables scholars to rank multiple hypotheses which attempt to explain the same surprising facts; it is contextual in that it allows scholars to alter the ranking of hypotheses if background theories change or if ad hoc hypotheses are included in a theory making it less simplistic; it is specific in that it allows us to evaluate theories in terms of their efficacy regarding specific ranges of information (for example Theory A may be more effective in explaining *this* specific range of information while Theory B may be more effective in explaining *that* specific range of information.). Of course IBE has its detractors as well and I mention the criticisms leveled at it concerning the ability of IBE to accurately rank hypotheses *in absolute terms*.

Since, as I hope IBE can be said to demonstrate, the reasons for a deficiency in a theoretical tradition for religion scholars can be mitigated then optimism about emerging approaches to the study of religion is not ill-advised. One such approach is the cognitive science of religion. This approach is based on the premise that a good way to understand human behavior is to, first of all, understand how the world is represented by human minds and, secondly, to understand what kind of processes work upon those representations. The theories that have come out of this approach have the advantage that they are IBE compliant in that they take into consideration the criteria set forth by IBE and, additionally, are interdisciplinary which has resulted in a wealth of new resources from other fields of inquiry including philosophy, anthropology, evolutionary biology, developmental psychology, etc. Major contributors to the field include Pascal Boyer, Harvey Whitehouse, Justin Barrett, and Jason Slone, among others.

For the study of African religion a cognitive science of religion offers new explanations of those surprising facts like those dealing with special snakes I listed earlier as well as suggestions for experimental evaluation of those explanations. Suggestions which have already been heeded by scholars attached to our own department - Brian Malley and Tom Lawson – as well as others such as Jesse Bering from the University of Arkansas.

A cognitive science of religion also demystifies informant explanations by regarding them as needing explanation themselves. This premise, while often attacked by those concerned with preserving the intellectual integrity of indigenous or non Western peoples, along with the already mentioned metatheoretical considerations is a significant step toward establishing a new theoretical tradition that will produce new knowledge in the study of traditional African religion as well as the study of religion in general.

Problematic Situations

Consider the following situation: In a traditional Zulu village (*umuzi*)² the son of the headman (*umnumzane*) of the village becomes gravely ill. When the typical family medicines fail to halt the progression of the illness the headman decides to take action. Rather than appealing to the local herbalist (*inyanga yokwelapha*) who is skilled in the treatment of various illnesses, the headman summons the closest diviner (*inyanga yokubhula*) available. The reason for this move lies in the fact that it is the diviner who is regarded as most qualified to diagnose the cause of the disease and to decide the best course of action to take. In other words, divination precedes healing.

² In order to be faithful to the cultural situation I shall, where I deem it necessary, indicate parenthetically and also refer to relevant isiZulu words.

Or consider the following case. A young Zulu woman has fallen in love with a handsome young Zulu man. In her cultural context relationships between the sexes is governed by strict rules. Though she may be deeply desirous of marrying this young man she is powerless to proceed unless he makes the first move. In other words it is up to the man and his family to begin the negotiations that might eventuate in marriage. The young woman, however, would like to know whether the young man's feelings for her are reciprocated. There is action that she can take that promises at least to increase her knowledge about the possibilities of the man finding her attractive, and therefore, giving her sufficient confidence not only that that things will work out but that she might find it worth while to send those subtle signals to the young man that would demonstrate her interest. What does she do? She goes to a diviner to find out what the possibilities are. Here divination provides insight about the future.

What then is a diviner in this Zulu context?

In order to answer this question we need to examine the claims of ethnographers who have examined the interpretive possibilities provided by the religious symbolism that play an essential role in these Zulu religious practices.

Propositions

In this thesis I first propose to sketch approaches toward which scholars tend when attempting the interpretation and explanation of African ethnographic data. I will draw from the work of two ethnographers, Ivar-Axel Berglund and Thomas Manyeli, who have focused their work on the amaZulu of present day KwaZulu-Natal province in South Africa and the Basotho of Lesotho respectively. Providing

examples of African religious ethnographic and anecdotal data will allow me to discuss relevant points of inquiry, illustrate the primary approaches to such material, and consider concerns with these approaches.

Secondly, I propose to explicate metatheoretical issues that can facilitate possessing a clearer picture of where future scholarship might head; specifically in terms of nurturing a theoretical tradition in the study of religion in general and the study of African traditional religion in particular. This tradition, which should be based on a thorough understanding of the interaction between explanation and interpretation and epistemologically rigorous models of theory generation and evaluation, will allow scholars to take advantage of and contribute to emerging approaches to the study of religion.

Finally, I propose to outline one such emerging approach: the cognitive science of religion. In doing so I will describe its premises, advantages, and differences from approaches discussed earlier. Furthermore, I will give examples of those scholars employing this approach and their distinct strands within the cognitive science approach in order to provide a sense of its collaborative, interdisciplinary, and experimental features.

In Chapter 1 I overview ethnographic research found in the work of Berglund and Manyeli. From Berglund in his work Zulu Thought-Patterns and Symbolism, I summarize his ethnographic record of the calling, training, and initiation of amaZulu diviners. From Manyeli's book Phenomenological Perspective of Basotho Religion, I draw on examples of Basotho myths regarding invisible snake-men. In addition I take information from my own fieldwork in Lesotho to relate anecdotal data about

Basotho claims concerning seemingly bizarre events and explanations. Finally I describe the approaches taken by both Berglund and Manyeli when interpreting the data. All of this material demonstrates the important contribution anthropologists and religion scholars make to our store of data as well as providing examples for a discussion of the current and emerging approaches to such data.

In Chapter 2 I sketch extant *scenarios* or approaches to the study of religion as seen by Pascal Boyer (2001) and end with a discussion of two simple and fundamental concerns he has with all the scenarios in general. Building on that discussion, in Chapter 3 I describe a misunderstanding of explanation and interpretation of data that results in the deficiencies pointed out by Boyer. Current philosophy of science provides explanatory models that may help to clear up misunderstandings of what science is and provide evaluative criteria with which we might better justify or debunk approaches to theorizing about religious ideas and behavior. In Chapter 4 I introduce one such model, Inference to the Best Explanation, and point out its advantages as well as its criticisms. In Chapter 5 I describe an emerging approach that is compliant with current models of explanation, addresses the concerns of Boyer from Chapter II and, at the same time acknowledges the importance of approaches that preceded it. This cognitive approach to the study of religion attempts to apply the central hypotheses of cognitive science in order to understand the generation, transmission and persistence of religious ideas and practices. The Chapter ends with examples of scholars who employ this approach and their particular contributions.

CHAPTER I

GATHERING THE DATA: AMAZULU AND BASOTHO ETHNOGRAPHY

AMAZULU

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*)³. 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.



Figure 1 - Map of Southern Africa

³ What follows is a summary of Berglund's descriptions of how amaZulu become diviners. I have, however, organized the material according to various categories which help us understand the stages in the process of acquiring the status of a diviner.

The Call of the Diviner

This call by the ancestors can be accomplished through many means. Strange dreams and visions, which are often vague incomprehensible and frightening to the dreamer, are interpreted by an experienced diviner⁴. 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 1976 p 137) The sneezing etc. must be excessive and of such a nature which distinguishes it from ordinary occurrences. Belching, for 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

⁴ This means that the experienced diviner has already gone through the process of becoming a diviner and is therefore qualified to act on behalf of the shades.

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.

Response to the Call

Once the experiences of a Zulu person are determined to be a calling to divination a response is necessary. The call can be accepted (*ukuvuma idlozi*)⁵ or the person can attempt to bar it (*ukuwethula idlozi*)⁶. Either response requires that the shades doing the calling be clearly identified. Making this determination tells the person called 1) who is responsible for supplying those things necessary for the training and initiation of the novice diviner (a not inconsiderable financial burden) and 2) if an attempt to bar the shades is possible. For women called (the majority of diviners) this determination is important since her call can be by either her family shades or her husband’s. The family whose shades are doing the calling is

⁵ Literally “accepting the ancestors”

⁶ Literally “barring the ancestors”

responsible for animals for ritual slaughtering and any other financial requirements for the entire process associated with the call including the initial costs for a diviner to diagnose the call through the final initiation of the called person.

The Costs of the Call

These significant costs may cause the family responsible to attempt *ukuwethula idlozi*⁷. If the husband's family is found to be responsible this attempt is less likely because "a man does not disagree with his fathers" however often men forbid their wives to be diviners especially, according to Berglund if they are "newly married and/or the woman is the husband's only wife" since, as Berglund notes later, sexual activity is often curtailed by diviners in order to avoid dangerous contamination by hot people (*abantu abashisayo*). (Berglund 1976 p 140)

Ukuwethula idlozi may or may not work. The person called may not return to normal health and if this sickness is determined by a diviner to be a repetition of the call the person (or her husband or family) often relents.

A diviner is employed to trace the lineage of the calling shades but is sometimes unable to do so. If this is the case the diviner will take a goat, first from the husband's flock, and slaughter it. The gall from the goat is sprinkled over the called person and some is drunk. The gall bladder is hung, inflated, in the *umsamo* in the husband's hut. The *umsamo* is a special place in the hut dedicated to practices associated with rituals involving the shades. The meat is then eaten by the diviner and perhaps also by the called person (Berglund 1976 p 139). If, after these actions take place, normal dreams are had by the called person or if the symptoms already experienced by the called person increase "then it is clear that it is the shades of the

⁷ For a description of *ukuwethula idlozi* see Krige, 1936, p 306ff.

husband” doing the calling. If neither happens the same process is followed with a goat from the wife’s family flock.

Accepting the Call: A Diviner's Personal Account

Accepting the call from the shades, *ukuvuma idlozi*, is as important an experience to Zulu diviners (or more so) as the actual training or initiation of novice diviners. Berglund relates many accounts by the diviners themselves of their own experiences with *ukuvuma*. Often times these experiences extend over a significant period of time; days, weeks, or even months. Snakes (pythons and *ixhanthi*), emergence from pools of water, similar birth-like experiences, and the absence from home are common themes in the accounts. Berglund was particularly fortunate to be able to obtain a detailed account of her experiences from a Zulu diviner. This account is so clearly specified and gives us such a powerful view of the self-interpretation of the diviner that I shall quote it in its entirety:

I was very sick, having dreamt much for many nights. The body was painful everywhere, especially the shoulders and sides. It was *izibhopho*. The whole body was in sickness. On a certain day, in the evening, I was sitting in the doorway. Just sitting there, there came a beetle (*umzifisi*). It came closer. It was white. It came closer and closer until it was next to me. I heard it saying certain words. It said, ‘Stand up! Follow me! Stand up! Follow me! (*Sukuma! Ngilandele!*)’ It was saying these words very much, flying around about me. It spoke those words until I stood up. It flew in a certain direction, calling me all the time. I followed it. I walked and walked, following the beetle which was calling me all the time, saying the same words. I simply followed, going in the direction of the beetle all the time. It was flying in front. I was walking behind. I felt strong. The energy returned to the bones. I even followed running. I was amazed, finding myself running but being such a sick man. The beetle flew to a certain pool, all the time calling me. I followed it to the pool. It entered the pool, all the time saying to me, ‘*Ngilandele!*’ I walked on the stones, entering the pool. I walked on the stones in the pool until I came to the bottom, all the time following the beetle. There I stopped. I looked everywhere, seeing many things.

At this point in the account an important symbol appears, that of the snake. We shall later discuss the significance of this appearance.

I saw a very great python (*inhlwathi*) coiled on medicines. It was surrounded by many other snakes, big ones and small ones. They were the snakes of our fathers. They were just there, at the bottom of the pool, lying there and looking at me with open eyes. The python had a lamp (*isikethekethe*) on its head. It was shining in the pool, throwing light everywhere and revealing the things there in the pool. There was also a lady there with very big breasts, suckling the children of the python. There were many children of the python. It (the python) put spittle (*amate*) into the woman. She became pregnant and gave birth, producing the children of the snake. The python said to the shade-snakes, 'Is this the man?' They agreed, saying that I was the man. Then the snake (python) spoke to me, addressing me clearly, 'Did the beetle bring you here?' I agreed. 'What was the colour of the beetle?' I gave the colour of the beetle. It said, 'Did it speak of medicines?' I agreed that it had spoken of medicines, adding that I had also dreamt of medicines. It said, 'The medicines are under my stomach, just underneath me. Just take some medicines.' So I took some medicines, fearing very much. Then it said, 'Smear yourself with the medicines seeing that you have work (to do).' So I smeared myself with the clay, being naked. Then the snake put spittle on me. I feared very much. It put spittle everywhere. Then it returned, lying on the medicines, leaving me there with the medicines and the spittle. It was hot. Then the python said, 'Look at all these. Do you know them?' I said that I recognized them, seeing all the shade-snakes and the woman with the breasts, just suckling all the time. The python said to me, 'Just take som [sic] medicines in the hand.' I took medicines in the hand from under the snake.

Here the beetle who is the first emissary of the shades reappears.

Then the beetle came to me saying the words as before. I followed it, walking on the stones of the pool. I did not look back having been told not to look backwards. I walked and walked. I came to the top of the pool, following the beetle all the time, just following it. When it came to the bank of the river it stopped, saying, 'From here I leave you.' It returned into the water. There arose a mist. I found myself on the bank of the river, being naked and having the white medicines of the pool. There was whiteness everywhere on the body. Then I looked in the hand and saw the snake that I took in the pool. I hung it around the neck, its head resting on my head, the body around the neck. I walked home. I came home after walking a very long way.

Here we also find out about the response of the community to the diviners return from the “inner” (*emoyeni*)⁸ experience of initiation.

There was much noise, people lamenting very much, simply shouting and screaming (*isililo*) the death lamentation. I said, ‘Surely there must be a corpse, somebody having died, seeing that they are lamenting thus.’ I came close to the homestead. I called on them saying, ‘People of my fathers, what is this noise, me not having heard that there is death in our place?’ They said, ‘No, there is the corpse of the one that is not. He left here one day in the evening, just walking in the direction of the great river. Since his departure he has not returned. So we are lamenting him, seeing that he did not return.’ Then I knew that they were mourning me. I said, ‘No, I simply went to the river being called by a beetle, taking medicines at the river. Even just now I have the medicines.’ They came out. They saw me. They were very much amazed, seeing me naked and carrying medicines and with a snake. They said, ‘But you were dead. We have heard of them that know (diviners) that you were dead. But now we see you living again. We cannot deny the things that were said. But you are living now, having medicines and carrying this thing. But how is it that you left, leaving no word?’ Then they were satisfied, seeing me with the medicines and the snake. They took it (the snake). They carried it to its place. There they kept it. Then they were quiet, having stopped lamenting me. The pains in the side were less. But from that day I could not drink beer, or take beans or food made of beans. They just cause sickness and swelling. Even to this day I do not eat beans or a dish of beans. They kill me.” (Berglund 1976 p 140-142)

This account provides a treasure trove of interpretative possibilities for the scholar of religion. While not identical to every novice diviner’s experience, this report is typical of those accounts collected by Berglund and other ethnographers such as Kohler (1941) and Shooter (1857).

The Alienation of the Diviner

The absence from home is nearly a universal occurrence for novice diviners. Not informing others of their whereabouts during this time is also common and important. There is a danger for the novice if she is not alone. “The diviner at

⁸ Literally “spiritually” or, according to Berglund “preferably in dreams.” (Berglund 1976 p 155)

eThelezini spoke on the matter of being away alone and one's whereabouts not being known. 'The person must be alone. If he is with somebody else he is known as a twin. So to avoid the danger of twins the person must be alone wherever he goes.'” (Berglund 1976 p 148) It is clear from the above account that the diviner experiences a deep sense of isolation, if not alienation, from the society of which she is a part. From a comparative perspective we are reminded of other religious experiences such as the vision quest of some Native American groups, Jesus' period in the Wilderness, Muhammad's experience in the caves, etc.

The Training of the Diviner

It is not sufficient for a diviner to be called and then for her immediately to commence her divination practices. Upon a person's return and realization that a call from the shades to divination is behind these experiences, training with an established diviner commences. The training centers on two points: 1) since *ukuvuma idlozi* normally renders the novice weak and sickly, the tutor must help the novice to restore her health and 2) facilitate the adaptation of the novice to a diviner's living conditions.

Restoration of Health

The ill health and weakness of novices during *ukuvuma (ukuvala ubuthakathaka)* is believed to be brought about by the shades. Before a novice can be ready for initiation her health must be restored to an acceptable level. Most diviners expect a novice to remain sickly to a certain extent but the sickness of *ukuvuma* is not acceptable for a diviner. Medical treatments and the confessional dance (*ingoma*

yokuvumisa) are employed for this restoration of health and increase of strength and alertness.

Berglund attended an *ingoma yokuvumisa* and noted that only diviners perform such a dance since anyone else dancing would be seriously harmed, physically and mentally. Berglund described the dance minutely. The novice, her tutor, a number of other diviners and novices, as well as some family members and friends assembled in the tutor's hut. The tutor acted as a sort of host, indicating where those attending would sit (an ordering that seemed neither arbitrary nor trivial), and master of ceremonies, occasionally interacting with the novice as well as remarking on the events that were taking place.

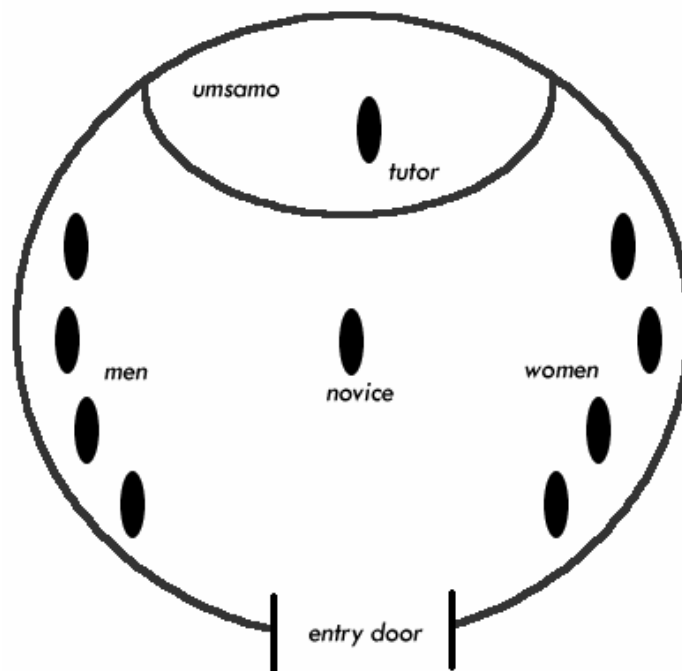


Figure 2 - Zulu Hut Layout During *ingoma yokuvusima*

Men were seated on the left of the hut, oldest near the door and youngest near the *umsamo*. Women were seated on the right of the hut in the same manner, oldest

to youngest. This arrangement was the reverse of ordinary sitting arrangements. In everyday life the men would be on the right of the hut and the eldest would be nearest the *umsamo*. Likewise for the woman, who would normally be on the left of the hut. The tutor placed herself in the *umsamo*. The position of the tutor is significant because it automatically indicates that this ritual situation involves interactions with the shades.

The novice entered the hut, knife in her left hand, and after asking the attendees to clap began to sing the song she was composing in preparation for her eventual initiation. Five of the attendees began beating ritually slaughtered animal skins; an act that caused the novice to become noticeably more excited and begin dancing at a very fast rate, pausing occasionally to smear herself with ashes from the hearth. This continued for some time with the skin-beating attendees periodically increasing the tempo of the beat and all the attendees shouting, clapping, and singing enthusiastically until the heat in the hut was nearly intolerable and all were drenched with sweat and at a high excitement level.

Suddenly the novice stopped and everyone else in the hut stopped and became silent as well. The novice then began relating her dreams aloud, addressing the tutor, including those dreams she had during her *ukuvuma* (i.e. that of the pool etc.). This went on for quite some time. The novice began the relating of the dreams enthusiastically but as her exhaustion mounted she became less so. During this time the attendees all left the hut, one at a time, until only Berglund, the tutor, and the novice remained. The tutor explained: “The relating of dreams brings back health. She must confess all the dreams. That is why we cause her to confess (*ukumvumisa*).

It is to bring back health.” (Berglund 1976 p 152) Berglund tells us that if any dreams are withheld during the *ingoma yukuvumisa* the novice’s health would not be restored and the dance would be repeated at other times in the novice’s training until all her dreams were confessed and she had been completely restored to health.

Continual Sacrifice

In addition to medicines and dances, ritual slaughtering is necessary throughout the novice’s training. (As before the family responsible for supplying the animal is that family whose shades have done the calling.) The number of slaughters varies, but the use of the animal (usually a goat though substitutions are acceptable if a goat is unavailable) remains the same. Novices loop *iminqwamba* (goat skins) around their bodies. They pour gall over their heads, shoulders, backs, feet and knees and inflate and tie the gall bladder (sometimes multiple gall bladders) to their hair. The chyme (partly digested food in semi-liquid form as it passes from the stomach into the small intestine) is used for washing.

Catching an Animal

Novices are expected to catch a wild animal. Berglund’s informants made it clear that this act was indispensable for diviners. “Informants claim they can hardly visualize a diviner without his/her having caught a wild animal.” (Berglund 1976 p 156) Most catch snakes though some diviners reportedly caught lions, leopards, elephants, and crocodiles. Others caught porcupines, weasels, or *umthini*.⁹ Not all captures take place the way we would expect. Many are done “*emoyeni*” or spiritually in dreams. The catching of snakes, however, is often a ‘real’ occurrence.

⁹ An *umthini* is an animal described as “a fabulous animal closely attached to the rainbow and waterpools where diviners claim to enter the earth.” (Berglund 1976 p 155)

Snake vertebrae are outward signs of the diviner's courage and strength to people whom the diviner might help.

Avoiding Danger

Throughout the training a novice is very careful about possible dangers to her person. There are many dangers to be avoided. Avoiding sunshine (especially on the shoulders and back), washing with cold and NOT hot water taken only from specific places, eating specific foods and avoiding others including foods prepared by others who are considered 'hot,' making a fire with particular matches and avoiding coals from the fires of others, and, above all, avoiding contact with *abantu abashisayo* (hot people) by never attending social gatherings, living in huts designated only for the tutor and specific visitors, and being extremely cautious about sexual activity. All of these behaviors are designed to prevent danger and sickness by imparting knowledge to the novice and introduce her to the constant brooding of the shades (*ukufukamela*) that causes the dangers.

Berglund points out that *ukufukamela* is different from *ukuba kona* (simply 'to be present'). In a Zulu community everyone knows that the shades are present. For them not to be present would be unthinkable. The shades are as much a part of the community as the diviner, the headman, or anyone else. Brooding is a more intimate situation often likened to fowls brooding over their young; sitting on them. The shades, when brooding, are sitting on the person. (Berglund 1976 p 128) This brooding is what brings about many sicknesses and creates potential dangers. Excessive brooding causes *uhlanya* (madness). For diviners the danger is higher than for others in the Zulu community. A diviner's abilities are linked to the shades

and brooding is an almost constant part of life. This is necessary but results in danger of *uhlanya* and novices must learn to be conditioned for this part of their life as a diviner.

Initiation of the Diviner

When it is determined (usually by the tutor but in some cases by the novice) that the novice's training is sufficient and she is ready for initiation *ukuthwasiswa* (from *ukuthwasa*, coming out) begins. This determination is made in various ways (dreams, the health of the novice, etc.). Once made, a day for the initiation is chosen and the family is alerted since the initiation takes place at the novice's home and certain preparations are required. Beer is brewed, a hut is set apart, and the hut's *umsamo* cleaned and stocked with new sitting mats and the brewed beer. The novice is expected to stay the night before the initiation *emaphandleni* (in the fields), naked. This rarely happens, though, and the novice often spends the night at the tutor's home and goes out in the early morning hours. The novice then returns to her home to begin the initiation.

Berglund reports on one such ceremony. He says that the novice returned home covered with white clay, carrying a knife and a pot of water (which the novice called *amalotha* or male fluid). Upon arrival the novice entered the hut set aside by her family. Various personages (i.e. other diviners and novices) entered the hut as well. Eventually the tutor appeared and sat next to the hut waiting for the novice to appear. When the novice exited the hut the tutor shouted, "I have given birth!!!" several times and the family, visitors, and other onlookers clapped and shouted and danced about. Following this moment the novice wandered about the homestead as if

in a daze. She also danced most enthusiastically, at first with the tutor, but then alone when the tutor failed to keep up with the novice. When exhausted and dripping with sweat the novice stopped dancing and she and her tutor retired to the hut.¹⁰ After an hour they emerged with fresh clothes and the novice began dancing again before falling on the ground speaking of dreams she had.

After this the tutor led the novice back into the hut, taking with her the gall and gall bladder, liver, *iminqwamba*, and chyme of a goat (brought by two men while the novice was confessing her dreams). Reappearing some time later the novice, washed with chyme and anointed with gall, had the gall bladder attached to her hair and an *iminqwamba* looped around her body. She almost immediately became agitated, singing and dancing and quivering, with onlookers clapping, stomping, and singing with her all the time until the novice became exhausted and threw herself on a mat. Children brought her beer and meat from the goat (*insonyama*) that she ate and drank with everyone present. This part of the celebration went on until evening and then the visitors returned to their homes.

It is this *ukuthwasiswa* and the *ukuvuma* of the novice that establishes her as a diviner in the community. Berglund notes “While a Zulu herbalist achieves a position of social standing through his ability and skill...the diviner looks back on two occasions as the historic moments of his life. Firstly, the occasion of *ukuvuma*, secondly, the occasion of the initiation.” (Berglund 1976 p 172)

So returning to our original question ‘what is a diviner?’ we have seen that a diviner is a person who: is called by the shades, has responded appropriately, has

¹⁰ Berglund notes that the tutor seemed irritated at this moment possibly due to the attention the novice was receiving.

been properly trained, and, finally, who has been initiated. A diviner is a person who is, first, called by the shades to be a diviner. Dreams, frequent and extraordinary sneezing, belching etc., pain in certain areas (*izibhopho*), and unusual night activity are some of the possible indications (diagnosed by an experienced diviner) that the shades are calling someone to be a diviner. Accepting this call (*ukuvuma*) includes a sometimes lengthy period of dreams, visions, pain, and time alone, away from people all of which results in exhaustion and sickness. It is this *ukuvuma* which first places a person in the community as a novice and which ultimately, for diviners, represents the most important moment in becoming a diviner. The novice then chooses a tutor for training. The training boils down to two parts: 1) restoration of health of the novice and 2) imparting knowledge to the novice. When the training is finished the final initiation (*ukuthwasiswa*) takes place. The tutor and novice together mark the ‘coming out’ of the novice as a full-fledged diviner with a place in the community as such.

Simply put the novice is initially notified of a future extraordinary event, the novice enters a liminal period (*ukuvuma* and training) during which she is changed (*ukuguqula ubuntu*)¹¹, and finally is formally accepted into the community with a changed status through initiation. The process of becoming a diviner is therefore a paradigmatic example of a rite of passage in Van Gennep’s sense. (Van Gennep 1909)

Now that we have a description of a diviner and the process required to become/create one we must think further. This description is intelligible but there are still some aspects that are surprising to us as scholars. For example, what is the

¹¹ Literally “to change a man”

significance of snakes to the amaZulu? In each of the stages of the process of becoming a diviner snakes play some role. During all the stages dreams of snakes are frequent. Indeed the dreams and visions during *ukuvuma* nearly universally involve snakes as in Berglund's example above. During subsequent training a novice is required to catch an animal. Often what is caught is a snake and, according to Berglund, rarely is it another animal. One of Berglund's informants notes that "If there is another animal [caught], then the novice must catch a snake besides catching the other animal. The novice must catch a snake." (Berglund 1976 p 157) Even in the initiation (*ukuthwasiswa*) when dreams are confessed all the snake-dreams are then related and often the snake vertebrae from the snake caught during training is worn by the novice during the initiation and then afterward when she is a diviner.

Now let us consider some scenarios from another community, that of the Basotho in the Kingdom of Lesotho.

BASOTHO

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. I was particularly interested in books written by Basotho authors.

What I found was that religious ideas and practices were everywhere to be found. For example, one day in Roma, Lesotho I opened the English/Sesotho newspaper, The Public Eye, which had printed a story on its front page with the 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.¹² 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. Of course, 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? 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 dams, 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.¹³ Geologists, human rights activists,

¹² Maseru is the capital city of Lesotho. The hospital in question was Queen Elizabeth II Hospital in the center of Maseru.

¹³ 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.

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.



Figure 3 - Map Showing Mohale and Katse Dam Areas

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 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' DID give 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. Indeed Thomas Manyeli, in his rare work on Basotho religion (Phenomenological Perspective of Basotho Religion 1995), relates several myths 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)

So, whether we examine accounts of the call and initiation of an amaZulu diviner, read reports of strange Basotho births, listen to Basotho "explanations" of earth tremors, or study Basotho myths, we find ourselves in territory ripe for interpretation and explanation.

Questions needing answers are

- Why are ideas concerning special snakes central in amaZulu and Basotho religious system?
- Why do these ideas persist whereas other ideas do not?

Initially it might be helpful to see just what Berglund and Manyeli have to say about these snakes and how they fit in to general scholarship.

INTERPRETATIONS OF AMAZULU AND BASOTHO DATA

Berglund

Where Axel-Ivar Berglund fits in terms of his scholarly perspective is not entirely clear. He is, no doubt, intensely interested in the symbols employed by the amaZulu in general and, in the above case, amaZulu diviners in particular. However, many scholars with varying theoretical premises are interested in symbols. Indeed one would be hard pressed to find one who was not. 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.¹⁴ To a Symbolist the question “Why snakes?” 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.¹⁵

Manyeli

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)

¹⁴ The connection between snakes and ancestors in amaZulu mythology has been noted many times (i.e. Krige, 1936; Lawson, 1984; Kohler, 1941; etc.).

¹⁵ 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, etc.) even to the surprise of those informants.

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. The narrative qualifies as a myth because “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 (Lawson/McCauley 1990) take myths and other religious ideas to be literal explanations of the world, not encoded expressions. 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; my emphasis)

CHAPTER II

INTERPRETING THE DATA: SCHOLARLY TENDENCIES

COMMON SCENARIOS

Introduction

Snakes interpreted as a sort of psychoanalytic phallic symbol might be the most titillating choice for scholars.¹⁶ Indeed Berglund and his amaZulu informants mention snakes as associated with fertility; their spittle as semen, their young suckling on human breasts. Manyeli notes the reproductive imperative of the snake-men found in Basotho myths. However, despite this temptation, scholars interpret ethnographic data in a variety of ways. Pascal Boyer in his book Religion Explained: The Evolutionary Origins of Religious Thought (2001) describes the most prevalent approaches to analyzing this kind of data all of which are what Boyer calls “spontaneous explanations” (Boyer 2001 p 32) primarily concerned with the historical origin of religion.

Intellectual Scenario

The earliest scholars introduced to religion students today – Tylor, Frazer, and Spencer to name a few – were the pioneers of the academic study of religion as well as the first Intellectualists (Cunningham 1999). These scholars determined religion to be one way people explain various events and phenomena. Boyer points out that this approach requires the premise that people are generally intellectually curious. This

¹⁶ D. Sperber notes: “Even the ethnographer who is most hostile to psychoanalysis is tempted to baptize as ‘phallic’ symbols which his informants describe in a completely different way.” (Sperber, 1975)

natural need to explain the world was the intellectual spring from which religion arose. From this perspective, religious ideas are employed to explain natural disasters, astronomical events, dreams, death, creation, evil, and suffering etc. Robin Horton, a neo-Intellectualist, asserts that religious ideas are equivalent to scientific theories in that both function to explain the world and only the idioms within each theoretical structure differ. For example, in order to explain the persistence of African traditional religion Horton suggests that two separate spheres have functioned to explain changing aspects of the world: a microcosm and a macrocosm. The microcosm being the well developed ideas regarding spirits (i.e. ancestors) that are within the community and the macrocosm being the previously underdeveloped notion of a supreme deity (i.e. *deus absconditus* or *deus otiosus*). Horton suggests that as a community's worldview expands the macrocosm eclipses the microcosm in importance to the community's explanations of the world.

Emotional Scenario

Religion as an emotional palliative is another common approach scholars take. A prominent example of this approach is Karl Marx. Marx thought religion to be an illusion which nevertheless provided people comfort from their distress. Oppression by the ruling class led to those oppressed to embrace religion as an opiate providing relief in the form of looking forward to a better life after leaving this less than satisfactory one.¹⁷ Whether it functions to alleviate emotional distress caused by an uncomfortable world or to allay anxiety resulting from a fear of one's ultimate mortality, religion assists the human psyche by providing comfort.

¹⁷ The opiate, as well as the oppression, provided by the ruling class.

Social Scenario

Religion as a social organizing force 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/McCauley 1990 p 48-49) 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 p 23) 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. Religion functions in an important way and that important function is therefore an explanation for religion. In this sense, the explanation for the existence/creation of religion is that it functions as a social stabilizer without which society would crumble.

Illusory Scenario

Mental deficiency or primitive intellect is also employed as an explanation for religion. Perhaps due to the powerful influence of Darwin’s evolutionary ideas of the time, the Early Intellectualists mentioned above attempted to apply these recent evolutionary ideas, however misunderstood, to the development of human minds. Religion was, to them, the creation of primitive minds as a response to a need to explain the world and, even in later stages of development, caused to persist by *unenlightened* minds that failed to see its illusory nature. Freud went further and described religion as a *neurosis* due to natural psychological defect. (Freud 1946) More recently scholars have argued that people are inclined to believe ‘superstitious,’

religious ideas more easily than more so-called rational ideas as a result of deficient thinking. (Wiebe 1991) Boyer gives examples of UFO's, alchemy, and urban legends as concepts that "...are both cheap and sensational; they are easy to understand and rather exciting to entertain." (Boyer 2001 p 28)

Religious ideas are also thought by scholars to be unique in that they are often irrefutable. Concepts having to do with supernatural beings are impossible to falsify and therefore people do not have the negative epistemological motivation, as it were, sufficient to give them up. And even if that motivation were provided, it is likely that religious ideas would still be believed since the effort required to throw them off and accept less established ideas is more trouble than it is worth. Boyer states: "If everyone around you says that there are invisible dead people around, and everyone acts accordingly, it would take a much greater effort to try and verify such claims than it takes to accept them, if only provisionally." (Boyer 2001 p 29)

CONCERNS

At first glance the above scenarios make a lot of sense. Don't creation myths attempt to explain events in the world? (Tornados and earthquakes in Lesotho) Don't some religious ideas provide emotional reassurance? (shades/ancestors or *amadlozi*) Don't religious rituals seem to help maintain social order? (diviner initiation or *ukuthwasiswa*) And aren't some religious ideas so bizarre that only a seemingly crazy person could *possibly* believe them? (Woman giving birth to a snake) Unfortunately, though they do make sense, there are objections to them all.

"If religion is reassuring, why does it create much of the anxiety it cures?
If it explains the world, why does it do it with such baroque complication?
Why does it have these common, recurrent themes rather than a great

variety of irrefutable ideas? Why is it so closely connected to morality, whereas it cannot really create morality?” (Boyer 2001 p 31-32)

It is not as if Boyer wants to say that religion has nothing to do with explanation, emotion, social interaction, or bizarre concepts. Instead his criticism focuses on two points:

- The explanations generated in the scenarios above are what Boyer calls “spontaneous explanations;” (Boyer 2001 p 32) explanations gotten by *fantasizing* about how human minds work. They fail to present evidence in their favor and refute evidence to the contrary. Explanations without proper evidence are poor explanations.
- Explanations derived from a supposed historical origin of religion are dubious. It is unlikely that there was a sort of religious “Urtext”¹⁸ as it were. The notion of ONE religion developing into MANY is less likely than VERY MANY religious ideas developing into MANY FEWER.

The criticisms presented by Boyer are incongruent with the reasonable, almost intuitive, scenarios outlined. In order to make sense of Boyer’s objections to the above scenarios that we find so comfortable and easily acceptable, we must delve into fundamental issues concerning the nature of explanations and interpretations of them.

¹⁸ Tracing the historical development of Christian/Jewish liturgies led some scholars to posit that an “Urtext” existed and was disseminated to various communities where it was subjected to inevitable transformation. The “Urtext” was meant to explain the commonalities within liturgical traditions. Paul Bradshaw and others have convincingly refuted this idea. (Bradshaw 1992)

CHAPTER III

EXPLAINING THE DATA: EXPLANATION AND INTERPRETATION

WHAT IS IT?

Introduction

E. Thomas Lawson and Robert M. McCauley, like Boyer, see difficulties within the prevailing approaches and suggest that it is due to metatheoretical issues having to do with explanation¹⁹ and interpretation. They point out that, for the most part, the nature of explanation and interpretation is not contested by scholars.

“[M]ost do agree that interpretation involves questions of meaning and that explanation concerns causal relations (in some sense).” (Lawson/McCauley 1990 p 13)

Under what circumstances explanation and interpretation are appropriate (even *possible*) and how those endeavors interrelate are the issues dividing scholars. In Rethinking Religion (1990) Lawson and McCauley give a summary of two general metatheoretical approaches to inquiry.²⁰ It is within these groups that scholars of religion tend to fall, though they may not realize it.

Exclusivism

This group is made up of two sub-groups. (1) Explanatory Exclusivists believe that scientific explanation is necessary for fruitful inquiry and that interpretive

¹⁹ The explanation that is considered here is *scientific* explanation; not everyday common sense explanation. The distinction is an important one and will be explicated later in this paper.

²⁰ The issues dealt with here can not be surprising to philosophers of science nor those scholars particularly interested in these kinds of metatheoretical issues. However, in religious studies in general, especially in the instruction of graduate students, they rarely come up.

activity is irrelevant or impossible. (2) Hermeneutic Exclusivists, quite to the contrary of their exclusivist brothers, consider law-driven explanation (in fact ALL explanation) simply not possible in the human sciences. Understanding can emerge only from a focus on meaning via interpretation.

Inclusivism

This view subordinates explanation to interpretation. Whereas Explanatory Exclusivists believe that social phenomena *can* and *should* be studied using the methods of natural science, Inclusivists believe that while social phenomena perhaps *should* be studied using the methods of natural science it is far from clear that they *can* be. “It is not that interpretation excludes explanation; explanation is allowable but, at present, unreachable.” (Lawson/McCauley 1990)

The issues separating the Explanatory Exclusivists from the Hermeneutical Exclusivists and Inclusivists turn on, for the most part, the acceptance or rejection of a particular model of explanation. This model, the Deductive-Nomological (D-N) model of explanation, is cited on both sides as either an advantage or a detriment. The D-N model requires that explanations include causal laws and is dependent on the Hypothetico-Deductive (H-D) model of theory evaluation.

The methodological impasse in the human sciences in general and religious studies in particular arises from this fixation on models of scientific explanation that are nearly half a century old.²¹ Contemporary philosophy of science provides vastly

²¹ Spickard goes so far as to say that generalizing “implies a dual wish: to generalize beyond particular cases and to uncover law-like regularities in human behavior” (2002) and by doing so displays just the misguided preoccupation with the D-N model of explanation noted here. Another example of this preoccupation is a portion from the Harper Collins Dictionary of Religion’s (1995) description of the D-N model of explanation: “The continued existence of behaviorism and sociobiology and emergence of what has become known as cognitive science provide ample proof that the principles of positivism remain active.”

more sophisticated models that supply the student of religious studies with the resources to move beyond an exclusive concern with hermeneutics without incurring some of the objectionable features of the H-D and D-N models.

Contrastive Explanation

Exclusivists accept the D-N model. The advantage for Exclusivists' acceptance of this model is the epistemological clarity of stringent evaluative criteria. However, those who cling to the D-N model of explanation and consider it an effective tool encounter problems, some due to its dependence on the H-D model. Both the D-N and H-D models are idealistic and exclude much of the inductive inferential practices currently and frequently used by scientists in the natural and human sciences, David Hume's enduring problem of induction notwithstanding. Explanation is not simply facts subsumed under universal causal laws.²² For example, often our explanations are contrastive. We explain something, not in an isolated sense, but in terms of its contraries or "foils."

Why Did The iNsangoma Hang The Python Vertebrae Around Her Neck?

In this case our choice of foils is wide: Why an iNsangoma and not someone else? (The explanation would plausibly stress the internal dynamics of amaZulu kraals, particularly the significance of the distinction between the iNsangoma and the other amaZulu actors and the particular situation involved.) Why a Python rather than a Puff Adder or another kind of snake? (One possible explanation relevant to this foil

²² Point to hermeneutics but not match. John Watkins clearly states that current philosophy of science recognizes what science really is, namely "establishing certain rules and requirements which are necessary to prohibit some wrong-headed moves but insufficient to guarantee success." However, he also makes the point that while deducing laws is nigh on impossible "a single comprehensive explanation of a whole range of phenomena is preferable to isolated explanations of each of those phenomena, whatever your field of inquiry." A point Boyer et al. have also made. (Boyer 2001; Lawson/McCauley 1990; Thagard 1985) Advantage Philosophy of Science.

could be that he has successfully handled this kind of snake before and knows what to expect.) Why a snake and not another kind of animal? (Here we possibly need an explanation in terms of the commitment to a connection between Pythons and the ancestors.) While (as noted above) explanation does have a causal element, other factors are involved; specifically the interplay between fact and foil. The D-N model of explanation is not sensitive to contrastive issues since it requires covering laws which are absolute.

Inclusivists reject the D-N model. In their view, the subject matter of the human sciences (human actions) creates problems for such causal models of explanation. Alex Rosenberg formulates a type of causal law that could be required in applying the D-N model to the human sciences:

$L(x)$ (if x desires d , and x believes that all things considered doing action a is the most efficient means of attaining desire d , then x does a)

A person's intent, then, becomes of central importance in determining causality in the study of human behavior. Whether intentionality can be tested for and if so be formulated into a causal law is beyond the scope of this paper. However, for our purposes it is enough to say that Inclusivists claim that it cannot; therefore, the D-N model can not be applied to social facts. While this argument might make the D-N model less attractive it is hardly a case against natural scientific models in general since universal laws are extraordinary, if not impossible, in actual science as philosopher of science John Watkins notes: "You cannot...deduce a universal law from a finite number of observations whether you are a physicist, a biologist, or an anthropologist." (Watkins 1957) This does not mean, however, that human scientists

are excused from pursuing the goal of rational explanations. The *goal* of explanation is not faulty. The *model* by which one attains this goal is faulty. Many social scientists believe that in order to understand human behavior one must uncover reasons, *and the rules that govern them*, which are linked to actions. This crucial belief is driven by a rule-based idea of social scientific inquiry: “Rules are learned by asking those who already understand them [local informants] the right questions, not by making experimental observations of behavior.” (Rosenberg 2000) Thus the semiotic, emic, use of local informants, going native, on the ground, particularizing, and exclusively hermeneutical methods in much of the human sciences as well as the prevailing post-modern notion of cultural relativism are the only ways to make societies and those individuals in them intelligible. (Tooby and Cosmides 1992)

Interactionism

The crux of Lawson and McCauley’s Interactionist position is that explanation and interpretation, instead of being pitted against one another, should be seen as what they are: two separate but complementary tasks. Explanation does involve some notion of cause and effect, but Lawson and McCauley stress that whatever account of causality one prefers, *seeking explanation is necessary to generate new theories for new theories are new explanations*. (Lawson/McCauley 1990 p 29) Interpretation, on the other hand, is concerned with meaning. It works using extant theories (explanations) and *organizes those theories by discovering meaning rather than generating new explanations*. In other words, interpretation is inference based on extant theoretical assumptions. Interpretation requires explanatory assumptions and new theories are facilitated by interpretations based on prior theories. It follows then

that *good* interpretation requires *good* assumptions and *good* new theories are facilitated by *good* interpretations. So, ironically, while social scientists would have us believe that they are exclusively interpreting the data before them, they are necessarily employing explanatory assumptions of which, often times, they are unaware.²³ Therefore Exclusionists of both sorts and Inclusionists are all excluding one of these two tasks that are necessary to each other. By clinging to narrow, idealistic models of explanation and theory evaluation and scoffing at interpretive endeavors Explanatory Exclusionists exclude much of what passes for progress in everyday science as well as an important complementary tool to explanation. By denying the place explanation has in interpretation or subordinating explanation to interpretation Hermeneutical Exclusionists and Inclusionists fail to allow for an increase in new knowledge through new causal theories.

NEED FOR SCIENTIFIC SOPHISTICATION

Reading Between the Lines

Lawson and McCauley ultimately agree with Explanatory Exclusionists in that scholarly explanation is important but agree with the Hermeneutical Exclusionists/Inclusionists that deductive/nomological requirements restrict realistic explanatory work and thereby theory generation. However, the rule based model to which many social scientists *have* committed is not explanation at all but weak interpretation masquerading as such. And though interpretation *is* important to furthering discovery, that discovery must be based on scientific theories already in place, as noted above.

²³ For example, Berglund *assumes* that, because of the association of the call to be a diviner with particular ancestors, the person called or her family will act in certain ways (i.e. reject the call or accept the call). This is clearly an assumption of cause and effect. (Berglund 1976 139-140)

Unfortunately there has long been an absence of true and explicit theoretical tradition in the human sciences.

“What is typically missing, though, is a concern for identifying systematic relationships among the explanatory principles. Consequently, these principles inevitably seem largely superficial, if not ad hoc. The crucial point is that even if they are true, the interest of such principles is limited because they lack depth.”
(Lawson/McCauley 1990 p 26)

As a result, the theoretical assumptions upon which human scientists do (indeed *must*) base their interpretations are suspect. The early Intellectualists’ (Tylor, Frazer, etc.) attempt to generate explanations was a promising beginning for the human sciences since, even though their naïve cultural distinctions undermined their efforts, they did produce real theories. Subsequent waves of Symbolists (Turner, etc.) and Structuralists (Levi-Strauss, etc.)²⁴ have failed to productively build upon the Intellectualists program and provide us with new explanations either because their theoretical model proved faulty (Sperber 1975) or because they offered vague methodologies in lieu of explanations.²⁵ Finally, while Post-Modernism has been a wonderful critique of Modernism (including logical positivism) proponents of Post-Modernism have yet to move past that critique and on to alternative explanatory models.

What we are left with is a methodological insistence on interpretations that depend upon the common, unsystematic conceptual schemes that *do* exist (our own intuitions, informants’ intuitions, folk psychology) in the human sciences and that, because of the intuitive explanatory assumptions on which they are based, result in no

²⁴ For a description of Symbolists and Structuralists see Lawson/McCauley 1990.

²⁵ Claude Levi-Strauss is the best example. While he contributed much in the sense that he believed that cognitive factors underlie the meanings of ideas and myths, his interpretation of myths ultimately depended on his own intuitive premises. (Levi-Strauss 1967).

new knowledge, faulty conclusions, and no epistemic framework within which to evaluate those interpretations and the assumptions on which they are based.²⁶

The theoretical assumptions of the explanatory power of local informant reports are a particularly limiting factor in so-called explanatory endeavors. “What emic preoccupations obscure is that even informants’ theoretical observations about the systems of behavior in which they participate are part of the data to be explained.” (Lawson and McCauley 1990 p 184)²⁷

Considering current methods in the human sciences such as the inviolable treatment of informant data as well as acceptance of cultural relativism as a guiding principle, the cognitive science of religion must be objectionable to many scholars. Since the Post-Modern critique of Modernistic scholarship, an insistence upon the indiscriminate epistemological equality²⁸ of data gotten from those peoples previously labeled as primitive, non-scientific, or inferior intellectually has made inroads into scholarship in religion and particularly the work concerned with these so-called ‘primitive’ peoples. The study of African traditional religion, with which we are most concerned here, is an area in which scholars are very much invested in a defense against those who suggest that subjects studied may not be consciously aware of those factors which influence their behavior.

²⁶ The assumptions upon which interpretive inferences are based are, in current and normative social science, largely tacit, common sense, intuitive, on line, non-scientific, and ‘politically correct’ as is shown below. For example, arguments for the phenomenological epistemological equality of informant reports based on an abhorrence for scholarly elitism. However, settling for the satisfaction of not being complicit in a ‘colonial project’ is, while admirable, insufficient for increasing knowledge.

²⁷ Furthermore, the rules of action which are “discovered” cannot be independently tested and thus fail to satisfy the requirements of scientific explanation.

²⁸ In other words, explanations generated by so called ‘primitive’ informants is deemed equal in terms of truth potential as explanations generated by “Others” (i.e. Westerners). Unfortunately the only epistemic requisite of informant data is that it IS informant data. For that reason alone informant explanations become regarded as epistemologically equivalent (in fact superior) to scientific explanations of the same data.

“The separation into categories of conscious/unconscious, among all borrowed scientific vocables, has probably caused more evil, more malicious slandering of peoples and traditions, during our lifetime, than any other methodological approach.” (Bolle 1979)

This is harsh criticism indeed. To be fair, scientific theorizing in the past *has* sometimes been based upon a dichotomy of modern and primitive minds²⁹ that arguably facilitated elitism not only intellectually but politically as well. However, by advocating a scientific approach I am hardly suggesting its infallibility. The question before us now is whether the notion necessitating explanation of the information from informants is simply a reconstituted version of a “colonial project”³⁰ or whether there is more to the story.

Scientific Explanation vs. Intuitive Explanation

To advocate the use of a cognitive approach to explain informant reporting when studying African Religious traditions is not to say that those adherents of African traditional religion have an inferior intellect incapable of scientific reasoning. To do so would be to say that only non-African scholars could scientifically study African religion which is patently not the case. McCauley asserts (R. McCauley 19??), though, that there is a clear difference between scientific and ordinary or everyday thinking and it is the ordinary processes in minds which primarily drive the generation, transmission, and persistence of religion in general. (Boyer 1994, 2001; Lawson/McCauley 1990; McCauley/Lawson 2002) Therefore, it is the study of the ordinary processes that constrain religious ideas and practices which promises to increase our understanding about religion the world over. As stated before, it is not

²⁹ This is the case in the Early Intellectualist program. See Lawson/McCauley 1990 p 36 for a succinct description of this Intellectualist program.

³⁰ Spickard (2002) argues that generalizing (as opposed to particularizing) about human behavior in general is simply an example of a colonial project.

natural for everyday, online inferential thought to generate explanations which adhere to criteria as would make them stand up to rigorous, scientific evaluation.³¹ The claim that intuitive explanation is the only form of explanation employed by so-called primitive Africans (in lieu of scientific explanation) and that it is epistemologically equal to scientific explanation is akin to the erstwhile Intellectualist program and a misguided attempt at political correctness that, perhaps unintentionally,³² undermines good scholarship.

Why Not Intuitive Explanation

One of the ideas we have learned from cognitive science is that intuitive inference is natural because our built in cognitive tendencies promote it. We intuitively infer things based on our built in cognitive mechanisms, for example we infer from a very young age, based on our ‘folk physics,’ that since our finger is solid and the table is solid we cannot put our finger through the table. Nor do we attempt (most of the time) to walk through walls. Scientific inference is unnatural because intuitive inferential processes we use in everyday life get in the way of learned ones. Despite our best efforts to attend to learned, scientific explanatory models we tend to default to our intuitive processes. Ironically, scientific inference is strikingly similar to intuitive inference. They are both abductive inference dependent upon accepted background, an idea originally proposed by Charles Sanders Pierce. (Pierce 1935)

³¹ Evaluation based on any number of explanatory models including Inference to the Best Explanation which will be discussed below.

³² Perhaps intuitive explanation is used unknowingly but it is in fact used deliberately as well, as is evidenced by Evan M. Zuesse when discussing how religion ought to be approached: “It is intuitively clear to us that religion cannot be captured in this way [referring to Levi-Strauss’ cognitive/structural approach]. We might ask ourselves why. The simple answer is that religion is not about data, as such, at all. It is about the ways in which these data are understood. It is, in short, and right at its origins, about meanings, existential meanings, that apply to this quite real person that I am, in my actual situation.” (Zuesse 1991 p 172)

“Abductive reasoning accepts a conclusion on the grounds that it explains the available evidence. The term was introduced by Charles Peirce to describe an inference pattern sometimes called ‘hypothesis’...He used the example of arriving at a Turkish seaport and observing a man on horseback surrounded by horsemen holding a canopy over his head. He inferred that this was the governor of the province since he could think of no other figure who would be so greatly honoured. In his later work, Peirce used the word more widely: the logic of abduction examines all of the norms which guide us in formulating new hypotheses and deciding which of them to take seriously. It addresses a wide range of issues concerning the ‘logic of discovery’ and the economics of research.” (Oxford Companion to Philosophy 1995)

The key difference is that intuitive inferences are based on our intuitive theories of the world - folk psychology, folk biology, folk physics, etc. – theories that make it possible for us to attribute agency, intentionality, solidity, inanimateness, etc. to ‘things’ in the world. In other words, theories that make it possible for us to make sense of the world in everyday life. (Boyer 2001) Scientific inference, on the other hand, is based on background theories that have been accepted as at least approximately true through evaluation by counterintuitive criteria such as those specified in explanatory models like Inference to the Best Explanation. Our ‘folk theories,’ while generally effective for everyday use, are not necessarily even approximately or comfortably true. Cognitive scientists have argued that, because of cognitive mechanisms, we regularly intuitively infer incorrectly when confronted with surprising facts. We infer a burglar instead of a lamp out of place due to a default ‘agency detection’ mechanism; we infer a sunrise instead of earth rotation due to our default folk physics. *Intuitive* explanation, while potentially pragmatically successful, should not be the tool of choice when attempting to accurately explain the world. (Boyer 2001; Lawson/McCauley 1990) Systematic evaluation, testability, and

the corrective culture these foster helps offset the explanatory mistakes that are a result of our intuitive tendencies.

There are many reasons for the rejection of scientific explanation being applied to religion most notably the exclusion of explanation altogether for a solely interpretive method on grounds that social and religious facts cannot be explained, at least in the scientific sense, due to the failures of deductive/nomological models of explanation. However, since interpretation necessarily has an explanatory aspect *some* explanatory model must be adopted, even unknowingly, as is the case of Hermeneutical Exclusivists and Inclusivists employing intuitive ‘folk’ theories. As mentioned earlier, there are alternatives to nomological models of explanation.

CHAPTER IV

EVALUATING THE DATA: INFERENCE TO THE BEST EXPLANATION

WHAT IS IT?

Generating Theories

Generating an explanation is typically done in order to reduce or remove the surprise encountered after observing a surprising fact. Charles Pierce (1935) illustrates our typical abductive inferential process:

The surprising fact [C] is observed.

If hypothesis [A] were true, [C] would be a matter of course.

Hence, there is reason to suspect that [A] is true.

So if we apply this schema to an example we get something like this:

We “surprisingly” observe a pen fall from our hands to a table [C].

If we generate the hypothesis [A] that two invisible demons are jumping on the pen and forcing it to drop, [C] would be a matter of course.

Hence, there is reason to suspect that [A] is true.

This cannot, of course, be a complete account of explanatory reasoning since [A] is only one in an infinite set of possible hypotheses [P]³³ where [C] would be a matter of course. In probabilistic terms we see that any of the hypotheses in set [P] would transform the low probability of [C] to a higher probability, thus removing (or at least reducing) our surprise. The event [C] is now not surprising/low probability but a matter of course/higher probability.

³³ 2 demons, 3 demons, 4 demons, 5 demons, ..., ∞ demons

Some may be concerned about using probability to illustrate a mode of reasoning because it seems to indicate a precision that may not be apparent. However, even though we may not be able to assign exact probabilistic numbers to events and/or explanations we can surely be confident of inequalities without having an exact computation at our disposal. For example, if I lose game after game at a poker table as the dealer turns up one fantastic hand after another, I may reasonably conclude that I have been the victim of a card shark, even if I have no idea how to calculate the improbabilities of this or that hand at poker. The main thing I need to know is that these results are much more likely to occur if he is cheating than if he is not.

Kekule's Snake and Glaser's Beer

Not only is there more than one model of explanation, there are various approaches to theory generation. At the end of the day it does not matter what approach one takes to generate explanations,³⁴ though background theories do play a role in competent theory generation as we will discuss later.³⁵ What matters, at this point, is whether generated theories are evaluated well. Kekule employed what can be described as the dream approach. His successful modeling of the benzene molecule was based on a dream of a fiery snake chasing its tale. Glaser employed a favorite approach of many scholars. He went to the bar. While staring into his glass

³⁴ Of course anyone can think of explanations, however, it is clear that those who are well versed in relevant background theories as well as the criteria used in evaluating explanations will be more likely to produce good explanations than those who are not.

³⁵ "At least one feature of theory evaluation, however, is almost universally acknowledged, not least among those eager to cast doubt on the possibility of rational belief in science. This is the essential role played by background theories: theories already accepted, if only tentatively, at the time when a new theory is tested." (Lipton 1996) As we will see later, this point both counters particular criticisms of IBE but also points to a fundamental problem in the social sciences in terms of what explanatory premises interpretation presumes.

of beer and noting the bubbles he was inspired to posit the principles behind what we now know as the Bubble Chamber where electrons are “shot” through liquid hydrogen and photographs are taken every thousandth of a second of the “bubbles” which mark the path of the electron. Surely there was no particular virtue to the approach to the invisible demon explanation. However, with demons as well as ritual structures, it is how and how well explanations are *evaluated* rather than how well those explanations are generated that matters at the end of the day.³⁶

Demons or no Demons?

Earlier we have pointed out objections to the D-N model of explanation and the H-D model of theory evaluation upon which the D-N model depends. Pierce’s schema demonstrates that there are an infinite number of hypotheses within the set [P] of hypotheses that *may* cover surprising facts in question. As a result *some* explanatory model is necessary in order to wade through set [P]. Fortunately, current philosophy of science posits many alternatives to the D-N model. One such model, Inference to the Best Explanation (IBE), provides us with clear criteria for evaluation. Paul Thagard offers three criteria for IBE:

- *Consilience* - the capacity to explain diverse, independent classes of facts;
Thagard: “To say that a theory is consilient is to say more than that it ‘fits the facts’: it is to say first that the theory explains the facts, and second that the facts it explains are taken from more than one domain.” He points out, though, that a theory which explains ALL facts is the most consilient of theories and therefore this virtue could be taken too far so that a theory might

³⁶ This point is important, however one must note, as will be seen later, that effective generation of theories owes much to reliable methods of evaluation. (Lipton 1996)

explain too much.³⁷ It is here that the following two criteria will offset any abuses of the consilience claim.

- *Simplicity* - the capacity to explain facts at hand without invoking a host of ‘convenient’ auxiliary hypotheses; this standard guards against the addition of ad hoc auxiliary hypotheses that might, if used, illegitimately increase consilience. It is important to note that while this criterion seems straightforward, it is not. Occam’s Razor suggests that, for example, if in Michigan one hears the pounding of hooves one should think ‘horses’ and not ‘zebras’ or ‘springbok.’ Though this seems to be proposing a ‘common sense’ view of explanation we have already seen above that the simplest true explanation is not necessarily (indeed *rarely*) common sensical. At the same time ‘simple’ does not necessarily mean brief either. Simply because one scholar’s theory posits two important factors to another scholar’s four does not mean that the former’s theory is more simplistic therefore should be ranked higher in terms of the simplicity criterion.³⁸
- *Analogy* - the invocation of causes of a type known to have explanatory value in similar contexts. Thagard says “The use of familiar models is not essential to explanation, but it helps.” (Thagard 1985 p 91)

³⁷ One possible example of this is E. O. Wilson’s view in his book entitled, perhaps appropriately, Consilience. (Wilson, 2000)

³⁸ H. Whitehouse proposes a theory of religious transmission wherein he identifies, at base, two criteria that constrain the transmission of religious ideas. (Whitehouse 2000) McCauley/Lawson offer a dialogical alternative which posits other constraining criteria *in addition to* Whitehouse’s. (McCauley/Lawson 2002) It is insufficient for the purposes of evaluating these theories to simply favor the theory with the fewest constraining factors.

ADVANTAGES

When considering Inference to the Best Explanation some advantages are worth noting:

Contrastive

We cannot always know, using ANY evaluation method, that a hypothesis is correct or even highly probable. With IBE we can contrast multiple possible hypotheses and decide, based on what we know, which is most likely. The H-D model employs an isolated evaluation. A hypothesis and its related data are evaluated but the hypothesis is not evaluated in relation to alternative hypotheses.

Contextual

If our background knowledge changes we can alter the order of hypothesis preference. The H-D model provides no way of distinguishing between empirically equivalent hypotheses; even those rigged with ad hoc auxiliary hypothesis in order to result in the same predictive consequences. Since the H-D model lacks the resources to evaluate hypotheses in these terms IBE provides just those resources in the evaluative criteria shown above.

Specific

Hypothesis A may be preferable to Hypothesis B as an explanation for *this* fact relative to *this* foil. Indeed B may be preferable to A for *that* fact relative to *that* foil. Using IBE as a model for evaluation provides us with the tools to handle *specific* questions about the efficacy of A or B on a much more fine-grained scale than the H-D model. This point is not as limiting as it appears. Hypothesis A may be preferable to Hypothesis B for a range of information, perhaps the whole range of the

relevant information we currently possess, but we can in principle separate out specific pros and cons within the IBE model.

CRITICISMS

Introduction

Inference to the Best Explanation is a powerful evaluative tool as seen above; however, there are issues which may fundamentally undermine its usefulness. In fact one of IBE's greatest strengths, being contrastive, may be that which renders it weak at the end of the day. The argument of *underconsideration* can be leveled against IBE (van Fraassen 1989). Peter Lipton (1996) considers the two premises of that argument and responds to them.

The Ranking Premise

According to this premise, the evaluation of theories using IBE results in only a "comparative warrant." In other words, given a set of four possible theories, using IBE allows one to rank the four theories from likeliest to least-likeliest. As we have seen above, this is a good thing. However, this "comparative warrant" does not provide the likelihood of the likeliest of the four theories. Theories A, B, C, and D are evaluated and theory C is determined to be the likeliest of the four but this determination does not tell us how likely theory C is.

The No-Privilege Premise

According to the second premise, no set of proposed theories (no matter how they are generated) can be assumed to include a true theory. The true theory (or a true theory) can always possibly be among those theories which have not been generated and not part of the set of proposed theories being evaluated.

So, since (1) the only theories which can be evaluated are those in the set of generated theories [G], (2) the likeliest *of the theories in set [G]* can not be given a likelihood, and (3) the possibility that a true theory is one outside of set [G] can always exist then there is no good reason by which the truth of any of the likeliest theories in set [G] can be determined, no matter the ranking. For example, the Wisconsin Badgers' men's basketball team is ranked number one within set [Big Ten]. Despite this ranking there is no reason to believe that the Badger's will win the 2003 NCAA Tournament simply because we know they are the best in the Big Ten.³⁹

Is the Best Good Enough?

Peter Lipton acknowledges the above criticism in the following way: "That is, inference to the best explanation might be more accurately if less memorably called 'inference to the best explanation if the best is sufficiently good.'" (Lipton 1996 p 96) Scholars like van Fraassen (1989) would argue that, according to the argument of underconsideration, there is no way to determine, using IBE, if any generated theory is sufficiently good (in other words, likely) but only that it is more likely than those other theories which have been generated, all of which may be nowhere near true.

It is at this juncture, however, that we must recognize that while the generation of theories and the evaluation of theories are indeed separate undertakings they are by no means unrelated. Background theories are used by scientists when ranking theories to determine the level of consilience. Lipton argues that since the ranking premise attaches high reliability to this ranking it follows that the background

³⁹ If one had made a determination that the Badgers would win the tournament we know that the University of Kentucky Wildcats sunk that ship.

theories upon which the ranking is based must be, at the very least, probably approximately true. Otherwise the ranking premise would be unfounded. In addition, accepted background theories have been subject to ranking and are accepted because they were reliably ranked as most likely to be true. “Hence, if scientists are highly reliable rankers, as the ranking premiss [sic] asserts, the highest-ranked theories have to be absolutely probable, not just more probable than the competition.” (Lipton 1996) In other words, IBE affords scientists with not only a contrastive tool but one that is also reliable in absolute terms.

CHAPTER V

NEW APPROACHES TO THE DATA

After considering previous approaches to the study of religion, concerns with those approaches, and the issues underlying the concerns let us now consider a new approach to the study of religion and the theorists working within it.

COGNITIVE SCIENCE OF RELIGION

Premises

Paul Thagard, in his book Mind (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 behaviorist perspectives of what constrains human actions. Cognitive scientists consider what goes on in our “black boxes” 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*⁴⁰

⁴⁰ This data being all that occurs outside of the mind and taken in by our senses.

must be understood in order to develop better notions of human behavior across cultures.⁴¹

How minds relate to external data (or not) depends in part, according to cognitive scientists, on a distinction between intuitive and counterintuitive (or natural vs. unnatural, online vs. offline, etc.) processing. Intuitive processing is that which depends very slightly (if at all) on cultural input. Built in abilities, biases, and constraints (often unconscious) play a larger role. Examples of processing that may depend *solely* on mental structures 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.

Built in constraints and biases that characterize intuitive processing play a much more prominent role in shaping religious ideas and practices than do external information or institutions. (Lawson/McCauley 1990; Boyer 1994, 2001) In other words it is a non-cultural process. (McCauley 2000) Because our intuitive representations are our defaults, their influence is vast. For example, the way humans tend to mentally represent religious rituals is constrained by built in cognitive mechanisms. Lawson and McCauley's ritual form hypothesis suggests that this can potentially effect ritual form, centrality, repeatability, and likelihood of transmission, among other things. (Lawson/McCauley 1990, 2002) Religious ideas require little

⁴¹ Hence the subtitle for Lawson-McCauley's 1991 book, Rethinking Religion: Connecting Cognition and Culture.

cultural assistance to persist since our minds are predisposed to generate, attend to, and transmit religious 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 may be a fruitful endeavor. The alternative is to accept that the mind is a “blank slate”; a behaviorist program that, while not explicitly invoked, lives on through implicit metatheoretical residue.⁴²

Boyer’s Concerns Addressed

Now let us return to the concerns about other approaches we discussed earlier:

- The explanations generated in the scenarios above are what Boyer calls “spontaneous explanations;” (Boyer 2001 p 32) explanations gotten by *fantasizing* about how human minds work. They fail to present evidence in their favor and refute evidence to the contrary. Explanations without proper evidence are poor explanations.
- Explanations derived from a supposed historical origin of religion are dubious. It is unlikely that there was a sort of religious “Urtext” as it were. The notion of ONE religion developing into MANY is less likely than VERY MANY religious ideas to MANY FEWER.

An approach that addresses these concerns must be a step in the right direction. A cognitive approach to religion, as stated above, is not a spontaneous or intuitive explanation of human behavior. Instead it is a rigorously justified approach compliant with currently viable models of explanation and evaluation.

Other approaches to the study of religion have focused on “one particular problem or idea or feeling and deriving the variety of things we now call religion

⁴² 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.

from that unique point.” (Boyer 2001 p 32) A cognitive approach, instead of a preoccupation on explaining particular events that occur, focuses on providing general principles for whole domains. For example, instead of interpreting a Basotho myth or anecdote about superhuman snake-men as an explanation for particular occurrences like tornados or earthquakes cognitivists try to explain the general persistence of ideas like snake-men, shades, witches, spirits by showing why such counter-intuitive ideas catch on.

Furthermore, the interdisciplinary nature of cognitive science allows (in fact *requires*) scholars to draw on resources from a number of disciplines. This is a welcome change from the current culture of religious studies departments where scholars are often unaware of their colleagues’ projects. The ways in which cognitive scientists try to form an understanding of the mind and of the ways it constrains human behavior are, as Paul Thagard notes, “more than just people from different fields having lunch together to chat about the mind.” The presumption that structures in the mind constrains and shapes human behavior necessarily impacts any field interested in anything human. Cognitive scientists, in order to develop general, consilient theories, draw on scholarship from and collaborate with scholars from many disciplines including philosophy of mind, anthropology, developmental psychology, evolutionary biology, history, religious studies, neuroscience, linguistics, etc. (Thagard 1996) What follows is a list of examples of current scholarship in the cognitive science of religion, itself an indication of the collaborative nature of the approach.

EXAMPLES

Boyer

Pascal Boyer argues (Boyer 1994, 2001) that religious concepts are represented employing the ordinary cognitive mechanisms in all human mind-brains. No special ‘equipment’ or experiences⁴³ are required for that representation. Our ordinary mental ‘equipment’ that is used for all concept representation is also used for religious concept representation. Learning more, then, about how human minds work in general rather than so called ‘religious minds’⁴⁴ will shed light on the representation of religious ideas.

Drawing on background theories from cognitive science Boyer outlines those factors necessary for mental representation of concepts.

- Intuitive Ontology or Domain Concepts
- Mental modules: intuitive biology, intuitive physics, intuitive psychology, etc.
- Model of concept templates

Evidence from developmental psychology demonstrates that human beings are ‘set up’ with an Intuitive Ontology from very early in life. Such an 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.

Human minds can naturally distinguish between Domain Concepts: (1) Persons, (2)

⁴³ 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)

⁴⁴ Boyer describes the challenges for the cognitive science of religion: “Whether or not this interpretation holds will depend on progress in the cognitive neuroscience of religion...Developing this programme does not require that we seek to describe the “religious mind”, for there is no such thing. Rather, it will result from findings and interpretations concerning a whole variety of functional structures, none of which is intrinsically about religion, but all of which are jointly required to represent supernatural agency.” (Boyer 2003)

Animals, (3) Plants, (4) Natural Objects, and (5) Artificial Objects. Our mental modules or intuitive theories about the world provide the basis for these distinctions. Our intuitive psychology tells us that the Domain ‘Persons’ includes those things which have a mind that includes intentionality, duplicity, etc. Our intuitive biology tells us that the Domain ‘Persons’ includes things which have a body and die. Our intuitive physics tells us that the Domain ‘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:

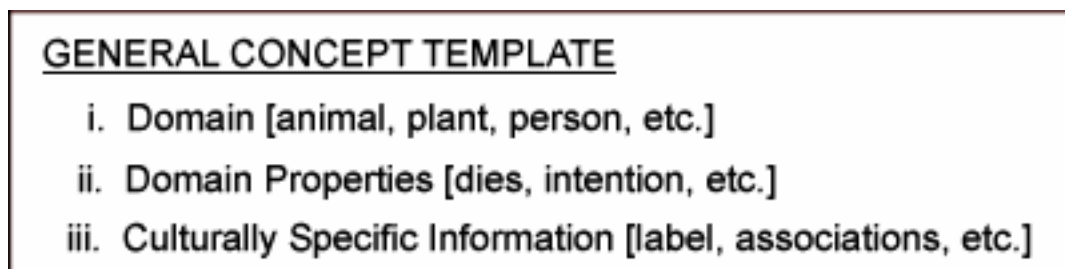


Figure 4 - Boyer's Concept Template

Each bullet in the template requires some kind of content. ‘i’ is filled with a Domain Concept; ‘ii’ is filled with those default assumptions attached to the particular Domain Concept supplied by our intuitive theories (folk psychology, etc.); ‘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 Domain in question. For example, the concept of a ghost

utilizes the Person Domain. 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.

While on the surface a concept 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.”

Religious concept representation is, then, simply part of our natural imaginative domain⁴⁵ and not unnatural at all. Though there are ‘tweaks’ in religious concepts they are minor. Indeed, Boyer claims, extreme violations of Domain boundaries in concepts render them less likely to be transmitted. The ‘tweak’ or boundary violation heightens the attention one pays to a concept.⁴⁶ 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 tweaks. A walking couch, for instance, has only one violation of default assumptions of the Artificial Object Domain 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). Similarly, Boyer would argue,

⁴⁵ 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.

⁴⁶ For more on this idea see Boyer 1994, 2001 and also a discussion of the Cognitive Alarm Hypothesis in McCauley/Lawson 2002.

concepts involving special snakes are more apt to be transmitted than other ideas which may go some way in explaining their persistence in Zulu and Basotho conceptual schemes.

McCauley/Lawson

Robert N. McCauley and E. Thomas Lawson have contributed a theory of religious ritual competence. Using as an analogy Noam Chomsky's notions of linguistic competence via an internalized universal grammar McCauley and Lawson describe with their theory those cognitive mechanisms which allow human minds to intuit (tacitly) important features of ritual action on the basis of our common, ordinary cognitive resources.

An accurate and thorough description of how minds represent ritual structures and an understanding of key innate cognitive mechanisms (such as a preoccupation with agency) can, according to McCauley and Lawson, provide us with the means to understand *and even predict* key issues concerning religious ritual including what kind of rituals may be more central to religions, what kind of rituals may be repeatable or not, what kind of rituals may be reversible or not, and which rituals are more likely to be transmitted.

By proposing a cognitive approach to religious ritual systems that is testable, McCauley and Lawson have provided scholars with an experimental tool that may be applied across cultures, including that of the Zulu and Basotho. In their most recent book, Bringing Ritual to Mind: Psychological Foundations of Cultural Forms, they apply their theory to the ethnographic data of Frederick Barth (Baktaman) and our next example, Harvey Whitehouse (Pomio Kivung). (McCauley/Lawson 2002)

Whitehouse

Harvey Whitehouse has attempted to explain with cognitive means the relationship of religious ideas and practices to many domains (social, political, etc.). While this attempt is broader in scope than that of Boyer or Lawson/McCauley, the premises of cognitive science are the same here. Cognitive mechanisms constrain and shape the way religious ideas are “experienced, organized, transmitted, and politicized.” (Whitehouse 2002)

Whitehouse’s theory focuses on two “modes of religiosity” (Whitehouse 2002, 1995) which have been recognized by many scholars in the past.⁴⁷ These modes – the doctrinal mode and the imagistic mode – are constrained cognitively by the type of memory largely employed to make religious aspects memorable and transmittable and constrained culturally by levels of literacy. The Doctrinal Mode is characterized by acts which are “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) The Imagistic Mode is characterized by practices which 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.”

⁴⁷ Whitehouse mentions Max Weber, Ruth Benedict, Ernest Gellner, Jack Goody, Victor Turner, I. M. Lewis, Richard Werbner, and Fredrik Barth as those scholars who have previously contrasted dynamics of ‘religiosity.’ (Whitehouse 2002)

In order to explain the occurrence and persistence of these modes Whitehouse begins with two points he believes necessary for their formation.

- Religiosity must be memorable
- Religiosity must be transmitted

In order for religious ideas and practices to be memorable they must take on a form which allows or promotes this memorability. The fact that any idea or practice, religious or not, is remembered is a necessary first step for it to be transmitted to future generations. If I can not remember the name of my grandmother, the chance of my transmitting the name of my grandmother to my own offspring is zero. However, the fact that an idea is remembered is hardly sufficient for its certain transmission. Whitehouse considers importance to be a driving force in terms of motivation to transmit ideas. In other words, if an idea is remembered but is not considered important, its transmission will be difficult. Mnemonic factors, therefore, are central to Whitehouse's "modes of religiosity theory."

Religiosity in the Doctrinal Mode depends upon frequency (routinization), semantic memory, and literacy. The frequent practice of rituals places them firmly in semantic memory which is reinforced by the ability to record the doctrines and theology associated with these acts. Motivation to transmit the knowledge stored in semantic memory may be compromised due to the "tedium effect" that occurs as a result of repetition. Whitehouse posits that various methods may counteract this tedium and maintain transmission motivation such as "supernatural sanctions (such as eternal damnation) and, more positively, incentives (such as eternal life and salvation)." (Whitehouse 2002)

Religiosity in the Imagistic Mode depends upon emotional intensity (sensory pageantry⁴⁸) and episodic (flash bulb) memory, and is characterized by the infrequent practice of rituals and nonliteracy. Rituals that are infrequently performed require some kind of high arousal in order for them to be stored in episodic memory and then transmitted. For example, if one were to ask a Baby Boomer where he/she was when President John F. Kennedy was assassinated they could likely relate a very vivid scene drawing on a 'flash bulb' memory. Conversely, if you were to ask the same person where they were when President Richard Nixon died they would likely not remember or only have a vague memory. The emotional arousal attached to the former event allows for memories of that event (especially in relation to the individual doing the 'remembering') to be placed and persist in episodic memory, whereas the lack of emotional arousal in the latter case provides no such episodic memory activation and as a result a lower probability of transmission.

Whitehouse uses ethnographic materials he himself gathered while in Melanesia to bolster his claims and subsequent experimental studies (Whitehouse, Barrett, and Martin; Whitehouse, Barrett – both pilot studies) to test his theory. Furthermore, he calls for further experimental testing (made possible by his systematic theory) in order to more deeply understand the underlying mechanisms he proposes are responsible for shaping and constraining religious ideas and practices.

Others

Boyer, McCauley/Lawson, and Whitehouse have all proposed theories using a cognitive approach to cultural systems. In so doing they have all begun with the same

⁴⁸ Term coined by McCauley/Lawson (1990) though Whitehouse's use of the term differs from McCauley/Lawson in terms of what role emotion plays.

premise: cognitive mechanisms constrain and shape religious ideas and practices. They have also, simply by the nature of their approaches, facilitated continued, collaborative, and interdisciplinary scholarship. The systematicity and testability of their theories allows evaluation with strict criteria (e.g. IBE) as well as experimentation.

Paul Thagard describes cognitive science as “the interdisciplinary study of mind and intelligence, embracing philosophy, psychology, artificial intelligence, neuroscience, linguistics, and anthropology.”⁴⁹ The interdisciplinary nature of a cognitive approach facilitates the contribution of knowledge and insight from many fields and indeed an explosion of interest in religious ideas and practices has begun. A few examples include: Justin Barrett, a cognitive psychologist, who has developed experiments to test these new theories but also contributed to knowledge about the capacity of minds to employ online and offline thinking for different tasks and situations; Luther Martin, a historian of Graeco-Roman religions, who has, among other things, suggested a cognitive approach to help understand the persistence of petitionary prayer by people especially in the face of “the absence of statistical or scientific evidence for the efficacy of prayer” and an exclusive reliance on anecdotal evidence; Jesse Bering, an evolutionary/developmental psychologist studying primates, has further expanded the breadth of a cognitive science of religion by attempting to determine the extent to which species other than humans may employ religious concepts in their conceptual scheme, if at all; Jason Slone, a scholar of comparative religion, Brian Malley, a comparative religion scholar, and Stewart

⁴⁹ And, may we add, comparative religion, at least to the extent that theorists in the discipline are informed by cognitive science.

Guthrie, an anthropologist, have all contributed new cognitive approaches, applied current approaches to existing ethnographic data, or experimentally tested theories in order to streamline (or criticize) the explanations posited by others.

The fact that the disciplines represented here can collaborate and continue the cognitive science of religion program is a testament to the systematicity and consilience of each approach. Indeed the cognitive science of religion should not be “people from different fields having lunch together to chat about the mind” and as we have seen above it is surely NOT that.

CONCLUSION

Let us revisit the questions we posed earlier

- Why are ideas concerning special snakes central in amaZulu and Basotho religious system?
- Why do these ideas persist whereas other ideas do not?

Explanations for the centrality of special snakes in African religious systems due to their explanatory power (Intellectual scenario), their palliative effect (Emotional scenario), their function as a social stabilizer (Social scenario), or the general mental deficiencies of the amaZulu and Basotho (Illusory scenario) all fall short. For example, snakes' association with the ancestors allows an individual to explain why snakes are important but an explanation for the existence and persistence of concepts about ancestors remains. Additionally, snake-men having covert relations with their wives and causing tornados and earthquakes resulting in much destruction are not particularly emotionally comforting.

So how can new approaches with explanatory pretensions illuminate the ethnographic reports described at the beginning of this thesis? The cognitive science approach has striven to seriously attend to the objections to previous approaches as well as extend their contributions toward a testable explanation of religion. By considering cognitive constraints on religious concepts,⁵⁰ theories of idea generation and transmission have been proposed. Describing specific constraints and mechanisms sheds light on what kind of concepts are more or less likely to be central to a religious system and what concepts are more or less likely to be transmitted from

⁵⁰ Of course religious concepts are constrained by the same cognitive mechanisms that constrain all concepts.

generation to generation. Cognitive optimums not only explain the existence of religious concepts (in spite of the emergence of science, nonexistence of stabilizing social institutions, associated emotional anxiety) but also predict their continued persistence. For example the persistence of snake-man/snake concepts in Lesotho concurrent with increased education in scientific explanations as we noted with the university students and the account of the snake birth.

Theories of ritual form predict the concepts central to the process of becoming an amaZulu diviner. Attribution of special qualities to snakes creates a cognitive optimum which makes special snake concepts central to the ritual system and therefore more likely to persist. Other concepts that may be associated with the process and even deemed very important may fade in time while those central concepts will be more likely to persist. In many ritual systems substitutions are made for seemingly important aspects of rituals. With a theory explaining those mechanisms which constrain ritual form scholars can predict what kinds of substitutions are more or less likely.

Perhaps most exciting about the cognitive science approach is its testability. Indeed, scholars have already devised and performed experiments in order to evaluate the predictions of these theories. Scholars in evolutionary psychology, anthropology, and other fields have contributed to the cognitive science of religion project by taking the theories developed and rigorously testing them. This testability and interdisciplinary nature of the project may be justification for optimism about the production and contribution of this approach to the study of religion.

A cognitive approach to the study of African religion utilizes the excellent ethnographic record available from many scholars. It is compliant with current explanatory models in the philosophy of science. It acknowledges the proper role of interpretation in scholarship rather than excluding it. It provides ample opportunity for experimental testing of its theories. It employs the necessary level of theoretical sophistication. These factors mark the cognitive science of religion as an invigorating project for scholars of African religion.

BIBLIOGRAPHY

- Berglund, Axel-Ivar 1976. *Zulu Thought-Patterns and Symbolism*. Bloomington, IN: Indiana University Press.
- Bolle, K. W. 1979. The History of Religions and Anthropology: A Theoretical Crisis. *Epoche, Journal of the History of Religions at UCLA* 7 (1-2): 1-8, 1979.
- Boyer, Pascal 1994. *The Naturalness of Religious Ideas: A Cognitive Theory of Religion*. Berkely, CA: The University of California Press.
- Boyer, Pascal 2001. *Religion Explained: The Evolutionary Origins of Religious Thought*. New York: Basic Books.
- Boyer, Pascal 2003. Religious Thought and Behavior as By-Products of Brain Function. *Trends in Cognitive Science*. 7 (3): 119-124, 2003.
- Bradshaw, Paul F. 1992. *The Search for the Origins of Christian Worship: Sources and Methods for the Study of Early Liturgy*. New York: Oxford University Press
- Cunningham, Graham 1999. *Religion & Magic: Approaches & Theories*. New York: New York University Press.
- Dent, G.R. and Nyembezi, C.L.S. 1969. *Scholar's Zulu Dictionary*. Pietermaritzburg, South Africa: Shuter & Shooter.
- Evans-Pritchard, E.E. 1965. *Theories of Primitive Religion*. Oxford: Clarendon Press.
- Freud, S. 1946. *Totem and Taboo*. New York: Vintage Books.
- Geertz, C. 1973. *The Interpretation of Cultures: Selected Essays*. New York: Basic Books.
- Gopnik, Meltzoff, and Kuhl. 1999. *The Scientist in the Crib*. New York: William Morrow.
- Guthrie, Stewart 1993. *Faces in the Clouds*. Oxford: Oxford University Press.
- Hempel, C. 1965. *Aspects of Scientific Explanation*. New York: The Free Press.

- Horevich, Ted (ed.) 1995. Abduction. *The Oxford Companion to Philosophy*. Oxford: Oxford University Press.
- Horton, R. 1993. *Patterns of Thought in Africa and the West: Essays on Magic, Religion, and Science*. Cambridge: Cambridge University Press.
- Isichei, Elizabeth 1995. *A History of Christianity in Africa: From Antiquity to the Present*. Grand Rapids, MI: Wm. B. Eerdmans Publishing Co.
- Krige, Eileen Jensen. 1936. *The Social System of the Zulus*. Pietermaritzburg, South Africa: Shuter & Shooter.
- Kohler, M. 1941. *The Izangoma Diviners*. Pretoria, South Africa: Government Printers.
- Lawson, E. Thomas 1984. *Religions of Africa: Traditions in Transformation*. San Francisco: Harper and Row.
- Lawson, E. Thomas and McCauley, Robert N. 1990. *Rethinking Religion: Connecting Cognition and Culture*. Cambridge: Cambridge University Press.
- Levi-Strauss, C. 1958, reprinted 1984. The Story of Asdiwal. *Sacred Narrative: Readings in the Theory of Myth* (Alan Dundes ed.). Berkeley, CA: University of California Press.
- Lipton, P. 1995. *Inference to the Best Explanation*. Cambridge, UK: Cambridge University Press
- Lipton, Peter 1996. Is the Best Good Enough? *The Philosophy of Science* (David Papineau ed.). Oxford: Oxford University Press.
- Lipton, Peter 2000. Inference to the Best Explanation. *A Companion to the Philosophy of Science* (W.H. Newton-Smith ed.). Oxford: Blackwell Publishers Ltd.
- Malley, B. and Barrett J. 2003. Can Ritual Form Be Predicted from Religious Belief? A Test of the Lawson-McCauley Hypothesis. *Journal of Ritual Studies*. 17 (2): 1-14, 2003.
- Manyeli, Thomas Lesaoana 1995. *Phenomenological Perspective of Basotho Religion*. Maseru, Lesotho: Maseru Book Centre.

- Martin, L. 1996. Introduction: The Post-Eliadean Study of Religion and the New Comparativism. *The New Comparativism in the Study of Religion: A Symposium. Method and Theory in the Study of Religion.* 8: 1-3, 1996.
- McCauley, R. N. 2000a. Overcoming Barriers to a Cognitive Psychology of Religion. *Method and Theory in the Study of Religion.* 12: 141-161, 2000.
- McCauley, Robert N. 2000b. The Naturalness of Religion and the Unnaturalness of Science. *Explanation and Cognition.* (Keil, F. and Wilson, R. eds.) Cambridge, MA: MIT Press.
- McCauley, R. N. and Lawson, E. T. 1998. Interactionism and the Non-Obviousness of Scientific Theories: A Response to Michael P. Levine. *Method and Theory in the Study of Religion.* 10: 61-77, 1998.
- McCauley, Robert N. and Lawson, E. T. 2002. *Bringing Ritual to Mind: Psychological Foundations of Cultural Forms.* Cambridge: Cambridge University Press.
- McGrew, T. 2001. *Toward a Rational Reconstruction of Design Inferences.* Kalamazoo: Western Michigan University, <http://vms.cc.wmich.edu/~mcgrew/design05.htm>
- Morris, B. 1987. *Anthropological Studies of Religion.* Cambridge: Cambridge University Press.
- Oosthuizen, Gerhardus Cornelis 1991. The Place of Traditional Religion. *Contemporary South Africa in African Traditional Religions in Contemporary Society.* (Olupona, Jacob K. ed.) St. Paul, MN: Paragon House.
- Orpen, J. M. 1979, reprinted from 1857. *History of the Basutus of South Africa.* Mazenod, Lesotho: Mazenod Book Centre.
- Pals, D. 1995. *Seven Theories of Religion.* New York: Oxford University Press.
- Pierce, C. S. 1935. *Collected Papers* Vol. 5 (Hartshorne and Weiss eds.). Cambridge, MA: Harvard University Press.
- Pinker, Steven 2002. *The Blank Slate: The Modern Denial of Human Nature.* New York: Viking.
- Popper, K. 1963. *Conjectures and Refutations.* New York: Harper and Row.

- Rosenberg, A. 2000. Philosophy of Social Science. *Companion to the Philosophy of Science* (W. H. Newton-Smith ed.). Oxford, UK: Blackwells Publishing Ltd
- Salmon, W. 1989. Four Decades of Scientific Explanation. *Scientific Explanation* (Salmon and Kitcher eds.). Minneapolis: University of Minnesota Press
- Shooter, J. 1969. *The Kafirs of Natal and Zulu Country*. New York: Negro Universities Press. (originally published 1857, London: E. Stanford.)
- Sperber, Daniel 1975. *Rethinking Symbolism*. Cambridge: Cambridge University Press.
- Spickard, James V. 2002. Disciplinary Conflict in the Study of Religion: Anthropology, Sociology, and “Lines in the Sand.” *Method & Theory in the Study of Religion*, 14: 141-169, 2002.
- Thagard, P. 1985. The Best Explanation: Criteria for Theory Selection. *Journal of Philosophy*, p. 76-92
- Thagard, Paul 1996. *Mind: Introduction to Cognitive Science*. Cambridge, MA: MIT Press.
- Tooby, J., & Cosmides, L. 1992. The Psychological Foundations of Culture. *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*. (J.H. Barkow, L. Cosmides, & J. Tooby eds.) New York: Oxford University Press.
- Turner, V. 1967. *Forest of Symbols*. Ithaca, New York: Cornell University Press
- Turner, V. 1969. *The Ritual Process: Structure and Anti-Structure*. Ithaca: Cornell University Press.
- Waardenburg, J. 1973. *Classical Approaches to the Study of Religion*, 2 vols. The Hague: Mouton.
- Watkins, John 1991. Methodological Individualism and Social Tendencies. *The Philosophy of Science* (Boyd, Gasper, and Troud eds.). Cambridge, MA: MIT Press.
- Westerlund, David 1991. “Insiders” and “Outsiders” in the Study of African Religions: Notes on Some Problems of Theory and Method. *Contemporary South Africa in African Traditional Religions in Contemporary Society* (Olupona, Jacob K. ed.) St. Paul, MN: Paragon House.

- Whitehouse, Harvey 2001. Transmissive Frequency, Ritual, and Exegesis. *Journal of Cognition and Culture*. 1 (2): 167-182, 2002.
- Wiebe, Donald. 1991. *The Irony of Theology and the Nature of Religious Thought*. Montreal: McGill-Queens University Press.
- Wilson, Edward O. 1999. *Consilience: The Unity of Knowledge*. New York: Vintage Books.