

Modes of Religiosity:
towards a cognitive explanation of
the sociopolitical dynamics of religion

By Harvey Whitehouse
School of Anthropological Studies
The Queen's University of Belfast
Belfast BT7 1NN Northern Ireland

Patterns of mental activity, rooted in the biology of brain functions and the contexts in which these develop, have direct effects on the elaboration of all domains of human culture. For instance, patterns of kinship organization are as much constrained by the limitations of short-term memory for genealogical categories (D'Andrade 1995: 42-4) as by other, perhaps more obvious biological constraints, such as the relatively undifferentiated and limited physical capacities of human infants (Fox 1967: Chapter One). Recent work in the field of 'cognition and religion' has shown in increasing detail that evolved properties of human mental architecture constrain and shape religious representations and the forms of action and social morphology in which these are implicated (e.g. Lawson and McCauley 1990, Guthrie 1993, Mithen 1996, Barrett 2000, Boyer 2001). The theory of 'modes of religiosity', summarized in this article, seeks to contribute to this growing body of research, by explaining, in terms of underlying cognitive mechanisms, some of the varied ways in which religious commitments are experienced, organized, transmitted, and politicized.

Framing the Problem

It has long been recognized that 'religion' encompasses two very different sets of dynamics: Max Weber (1930, 1947) distinguished routinized and charismatic religious forms; Ruth Benedict (1935) contrasted Apollonian and Dionysian practices; Ernest Gellner (1969) explored the opposition between literate forms of Islam in urban centres and the image-based, cohesive practices of rural tribesmen; Jack Goody (1968, 1986) developed a more general dichotomy between literate and non-literate religions; Victor Turner (1974) distinguished fertility rituals and political rituals as part of an exposition of the contrasting features of what he called 'communitas' and 'structure'; I.M. Lewis (1971) juxtaposed central cults and peripheral cults; Richard Werbner (1977) contrasted regional cults and 'cults of the little community'; Fredrik Barth (1990) distinguished 'guru' regimes spread by religious leaders and 'conjurer' regimes in which religious revelations inhere in collective ritual experiences. And these are just a few of the many attempts to characterize a fundamental divergence in modalities of religious experience and practice (see Whitehouse 1995: Chapter 8). At the root of all such dichotomous models, is a recognition that some religious practices are very intense emotionally; they may be rarely performed and highly stimulating (e.g. involving altered states of consciousness or terrible ordeals and tortures); they tend to trigger a lasting sense of revelation, and to produce powerful bonds between small groups of ritual participants. Whereas, by contrast, certain other

forms of religious activity tend to be much less stimulating: they may be highly repetitive or 'routinized', conducted in a relatively calm and sober atmosphere; such practices are often accompanied by the transmission of complex theology and doctrine; and these practices tend to mark out large religious communities - composed of people who cannot possibly all know each other (certainly not in any intimate way). But all the great scholarship so far devoted to understanding these contrasting sets of dynamics suffers from two major shortcomings. The first is that none of the theories advanced in the past was sufficiently comprehensive. Each theory focused on just a few aspects of the two modes of religious experience and action. The second major shortcoming is that none of the existing theories explained adequately why we get two contrasting forms of religious experience in the first place.

This article summarizes a new theory, set out in detail in two monographs (Whitehouse 1995, 2000), which distinguishes doctrinal and imagistic modes of religiosity. These can occur quite separately, as the organizing principles of religious experience, belief, practice, and organization. But often the two modes of religiosity occur together, in a single tradition, and interact with each other. The aim of the modes of religiosity theory is to tie together all the features of the two modalities of religious experience that other scholars have already identified and to explain why these contrasting modalities come about in the first place.

The starting point is straightforward. In order for particular religions and rituals to take the form that they do, two things must take place. First, these religious beliefs and rituals must take a form that people can remember. Second, people must be motivated to pass on these beliefs and rituals. If people cannot remember what to believe or how to do a ritual, these beliefs and rituals cannot be passed down from one generation to the next, and so the religious tradition would not be able to establish itself. Equally, if people do not think that particular beliefs and rituals are important enough to pass on, they will mutate or become extinct. Memory and motivation have the potential to present far bigger problems than one might suppose. Some religious activities are performed very rarely. Unless some very special conditions apply, there is a real risk that people will forget the details of what these activities mean, and even how to perform them correctly. A potential solution to this problem is to have a very repetitive regime of religious transmission. One advantage of such a strategy is that a substantial corpus of complex cosmology can be reproduced in this fashion. People can learn difficult concepts, dogmas, and stories - and will remember these in the long run - if they repeat them frequently. But this can produce

problems of motivation. Continually listening to sermons and performing the same rituals over and over can be extremely boring. And if people are bored, there is a danger they won't continue to follow, or pass on, the religion. There are solutions to all these potential problems, and these solutions have profound consequences for the forms that religion can take. But before we can go into that, we need to grasp the general nature of memory functions (see Figure 1).

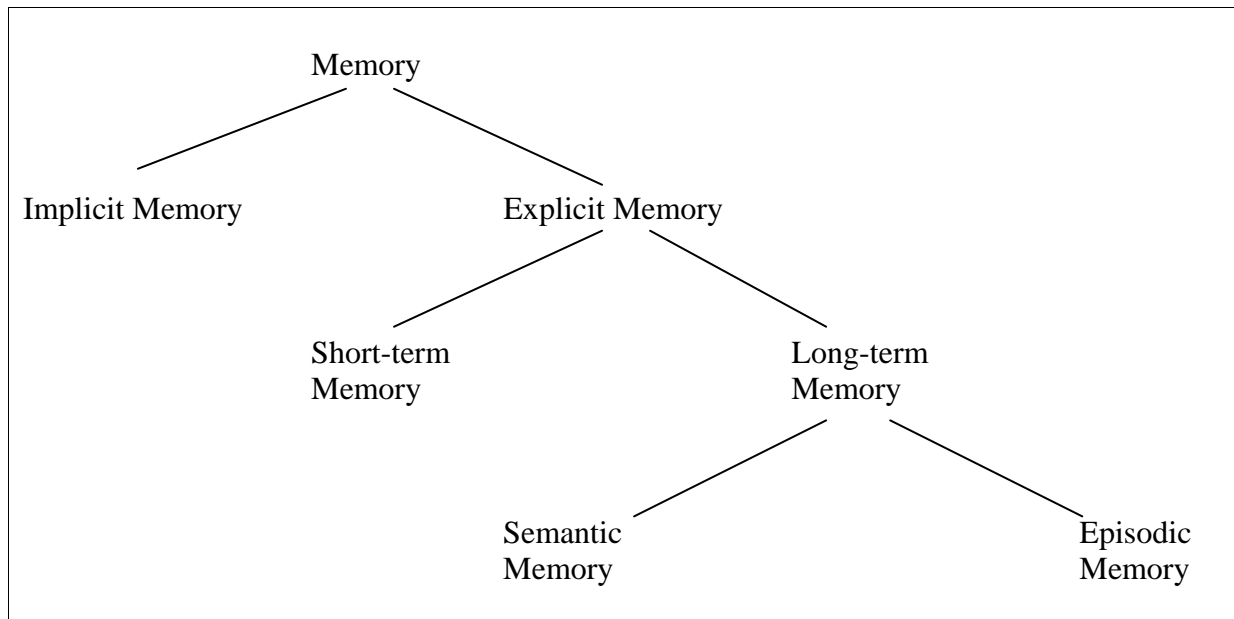


Figure 1: Types of Memory

There are basically two kinds of memory - implicit and explicit (Graf and Schachter 1985). Implicit memory deals with things we know without being aware of knowing (such as the varied forms of procedural competence required in successfully riding a bicycle).¹ Explicit memory deals with things we know at a conscious level, and can be further sub-divided into two types - short-term and long-term.² Short-term memory enables us to hold onto concepts for a matter of seconds (e.g. a new phone number, which we might remember just long enough to write it down before forgetting it). Long-term memory enables us to hold onto concepts for hours - and in some cases for a whole lifetime. Long-term memory can also be sub-divided into two types - semantic and episodic.³ Semantic memory consists of 'general knowledge' about the world (e.g. how to behave in restaurants, or what is the capital city of France, etc.). We can seldom recall how or when we acquired this sort of knowledge. By contrast, episodic memory consists of specific events in our life experience (e.g. our first kiss, the death of a beloved relative, the day

war broke out, etc.). These types of memory are activated very differently in doctrinal and imagistic modes of religiosity.⁴ And this goes a long way to explaining the divergent sociopolitical features of the two modes.

The Doctrinal Mode of Religiosity

The theory of modes of religiosity advances a set of hypotheses, amenable to empirical investigation, concerning the causal interconnections between a set of cognitive and sociopolitical features. In the case of the doctrinal mode, these hypotheses are summarized in Figure 2, and enumerated in the text below.

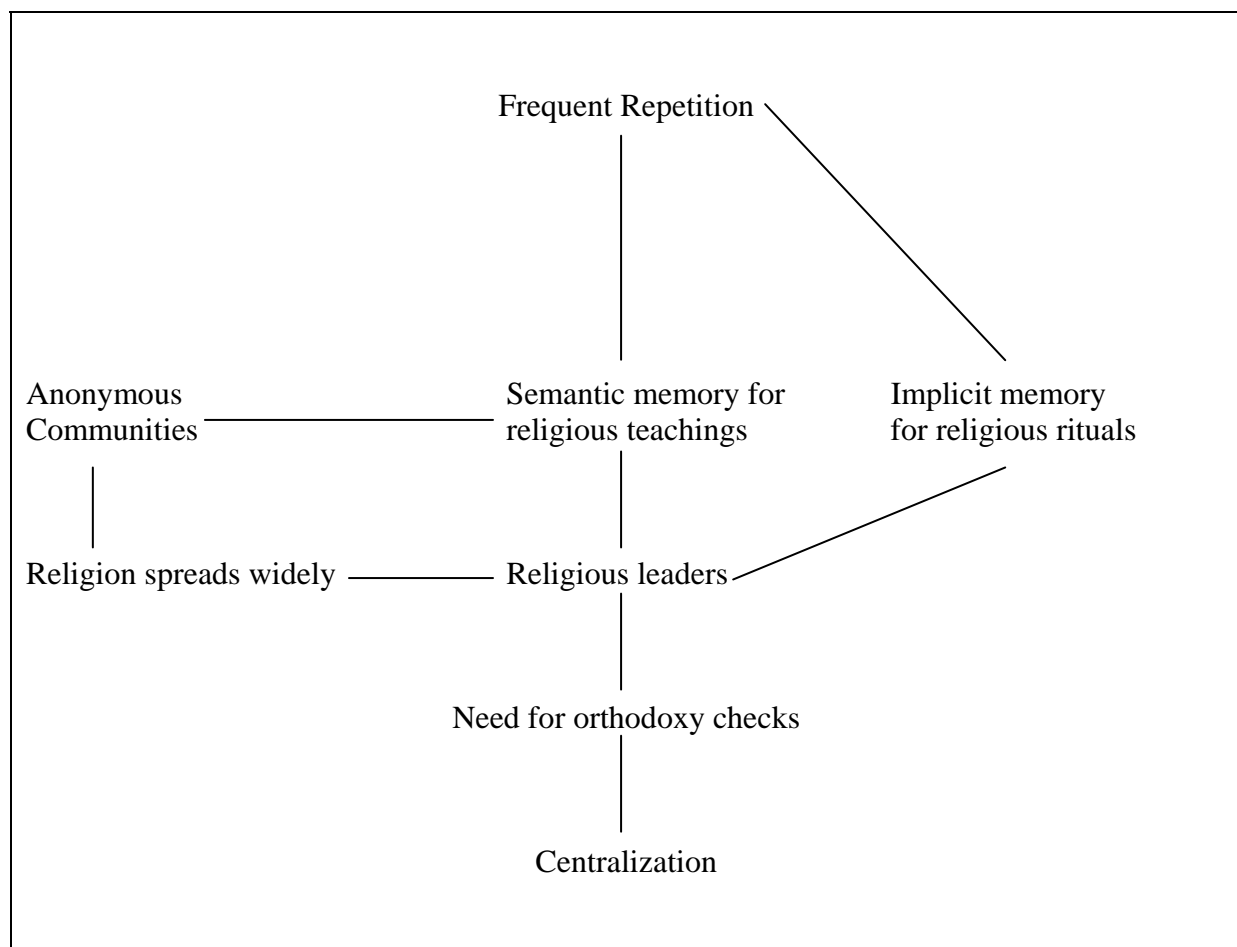


Figure 2: The Doctrinal Mode of Religiosity

1. Frequent repetition activates semantic memory for religious teachings.

One of the most conspicuous features of the doctrinal mode is that the transmission of religious teachings is highly routinized (i.e. frequently repeated). A great advantage of frequent repetition is that it allows the establishment of a great deal of explicit verbal knowledge in semantic

memory. Doctrines and narratives that would be impossible to learn and remember if they were rarely transmitted, can be very effectively sustained through repetitive sermonizing.⁵ Repetition, however, can lead to reduced levels of motivation. In detailed empirical studies of this phenomenon, I have labelled this the 'tedium effect'.⁶ But many routinized religions are successful at holding onto their followers through a variety of mechanisms. These can include supernatural sanctions (such as eternal damnation) and, more positively, incentives (such as eternal life and salvation). Of course, both of these mechanisms depend on people believing the religious teachings. In order for people to believe in a set of doctrines, they have to be cast in a highly persuasive fashion. This is commonly achieved, at least in part, by special techniques of oratory established over time through processes of selection. Routinized religions tend to be associated with highly developed forms of rhetoric and logically integrated theology, founded on absolute presuppositions that cannot be falsified.⁷ All of this is commonly illustrated by poignant narratives, that can easily be related to personal experience.⁸

2. Semantic memory for religious teachings and the presence of religious leaders are mutually reinforcing features.

Where religious ideas are expressed in words (e.g. transmitted through oratory), it is likely that the orators themselves will rise above the common herd. Most religious traditions of this sort have celebrated leaders, who may take the form of gurus, messiahs, prophets, divine kings, high priests, mediums, visionaries, disciples, or simply great evangelists or missionaries. The very fact that there are so many different types of, and terms for, religious leadership is an index of how widespread and important the phenomenon is. Partly through their skills as orators, these leaders become marked out as special. But, at the same time, their pronouncements (real or attributed) provide the central tenets of a belief system, and their deeds become the basis for widely-recounted religious narratives, transmitted orally. Both forms of knowledge are stored primarily in semantic memory.

3. The presence of religious leaders implies a need for orthodoxy checks.

Where religious leaders are upheld as the source of authoritative religious knowledge, their teachings must be seen to be preserved intact. At the very least, the credibility of any such tradition depends on its adherents

agreeing what the teachings are, even if other traditions hold to alternative (and perhaps conflicting) versions. We might call this the Principle of Agreement. Agreement depends partly on effective detection of unauthorized innovation and partly on its effective obstruction and suppression. Religious routinization contributes to both detection and suppression, by conferring a selective advantage on standardized/ orthodox forms, over non-orthodox ones. The link between routinization and detection is especially straightforward. Frequent repetition of a body of religious teachings has the effect of fixing it firmly in people's minds. In literate traditions, the teachings might also be written down, in sacred texts, and thereby fixed on paper (at least to some extent). But the crucial thing is that standardized versions of the religious teachings become widely shared and accepted, through regular public rehearsal and reiteration.⁹ Once this has happened, the risks of innovation going undetected become remote. Rather more complex is the role of routinization in the obstruction of unauthorized innovation, to which we now turn (points 4-5).

4. Frequent repetition leads to implicit memory for religious rituals.

So far, we have considered only the effects of frequent repetition of religious teachings, but what about the effects of routinized ritual performances? Rituals that are performed daily or weekly rapidly come to be processed, to a considerable extent, in procedural/ implicit memory.¹⁰ For example, a weekly Christian service might involve praying, listening to a sermon, and singing hymns. The associated bodily activities might therefore involve: kneeling with head bowed and hands clasped; sitting still; standing up and singing. These bodily adjustments can be carried out to a large extent 'on autopilot'. And there is no doubt that at least some people spend significant portions of church services simply 'going through the motions'. This is not a slur on people's religious commitments. It is simply a psychological reality that repetitive actions lead to implicit behavioural habits, that occur independently of conscious thought or control. Although potentially accessible to conscious representation (e.g. for the purposes of teaching a child or newcomer how to behave in church) liturgical rituals may not, in the normal pattern of life, trigger very much explicit knowledge at all.

5. Implicit memory for religious rituals enhances the survival potential of authoritative teachings stored in semantic memory.

To the extent that people do participate in routinized rituals 'on autopilot', this reduces the chances that they will reflect on the meaning of what they are doing. In other words, frequent repetition diminishes the extent to which people come up with personal theories of their rituals.¹¹ And they are more likely to accept at face value any official versions of the religious significance of their rituals. The processing of routinized rituals as implicit procedural schemas really opens the way for religious authorities to tell worshippers what to believe, especially when it comes to the meanings of their rituals. At the same time, the provision of a standardized orthodoxy tends to limit individual speculation. The causal role of routinization in the suppression of unauthorized innovation is, here again, governed by principles of selection. It is not that frequent enactment of rituals prohibits exegetical innovation, but it tends to reduce the volume and elaborateness of exegetical reflection, leading to relatively low rates of unauthorized innovation across populations of religious adherents. The question 'relative to what' will be answered below, through an examination of processes of exegetical reflection and independent innovation in the imagistic mode.

6. The need for orthodoxy checks encourages religious centralization.

Not all innovation is a bad thing. The Principle of Agreement simply requires that innovation is seen to originate from authoritative sources and is accepted/ observed by all loyal followers. Routinization may have the effect of insulating orthodoxies from unintended innovation but it does little to obstruct the determined heretic. The problem here is clearly one of policing. As soon as a routinized religion becomes well established, we tend to see the emergence of a central authority and some sort of ranked, professional priesthood.¹² It becomes the task of delegated officials to police the orthodoxy across the tradition as a whole, and there will often be a proliferation of sanctions for unauthorized innovation and heresy (ranging from excommunication and ostracism to torture and execution).

7. Semantic memory for religious teachings leads to anonymous religious communities.

Where religious beliefs and practices are frequently repeated, we have seen that at least part of this religious knowledge is organized in semantic memory. This means that the knowledge itself becomes separate from particular episodes in which it is acquired. For instance, a Christian may believe certain things (e.g. about the significance of the crucifixion) and may

do certain things (such as participating in weekly church services) but that is not the same as remembering how and when all this knowledge was acquired. In other words, many of the beliefs and acts that define a person's identity as a Christian are not remembered as special episodes.¹³ In consequence, many aspects of what makes somebody a Christian are really abstracted properties that, in principle, could be ascribed to anybody. And, in fact, they do get ascribed to anonymous others. To understand why, it is useful to think about the issues in a concrete way. If you ask a regular church-going Christian to tell you what happened at a service or mass three years ago, he or she wouldn't be able to remember the actual event. That person could tell you, though, what happened, because it was the same thing that always happens. In other words, what makes a particular episode distinctive gets forgotten. This of course includes the make-up of the congregation: people in the congregation come and go, people die, they move in and out of the area, and there may be visitors who come and go. If it is a big congregation, there may be many people there who do not know each other personally. Thus, one's memories for Christian rituals are not memories for a particular group of people. What it means to be a regular church-goer is not to be part of a particular group, but to participate in a ritual scheme and belief structure that anonymous others also share.¹⁴ Of course, the anonymity principle only comes into operation if the religious community is large enough to ensure that no individual follower could possibly know all the other followers. And it turns out that there are factors at play in routinized religions that encourage rapid spread, and therefore large-scale religious communities. One of the most important of these is the emphasis on oratory and religious leadership.

8. The presence of religious leaders is conducive to the religion spreading widely.

The fact that the religious teachings are expressed in oratory, on the part of great leaders, means that these teachings are readily transportable. Only one or a few proselytizing leaders or good evangelists are required to spread the Word to very large populations.¹⁵

In sum, the doctrinal mode of religiosity consists of a suite of features that are causally interconnected. When these features coalesce, they tend to be very robust historically and may last for centuries and even for millennia. At the root of all this are a set of cognitive causes, deriving from the ways in

which frequently-repeated activities and beliefs are handled in human memory.

The Imagistic Mode of Religiosity

The sorts of practices that lead to the coalescence of imagistic features are invariably low frequency (rarely enacted). They are also, without exception, highly arousing. Examples might include traumatic and violent initiation rituals, ecstatic practices of various cults, experiences of collective possession and altered states of consciousness, and extreme rituals

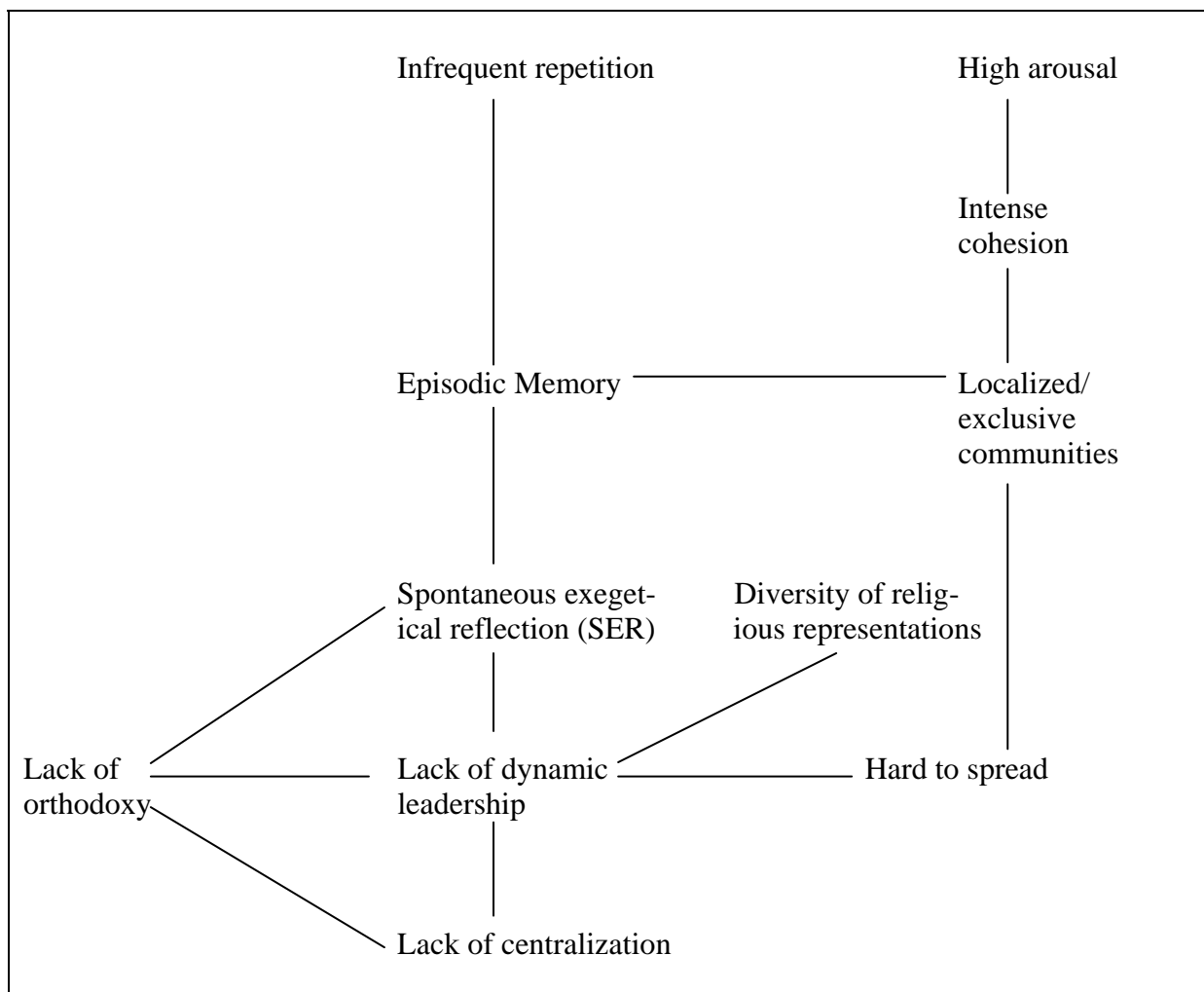


Figure 3

involving homicide or cannibalism. These sorts of religious practices, although taking very diverse forms, are extremely widespread.¹⁶

Archaeological and historical evidence suggests they are also the most ancient forms of religious activity.¹⁷ As with the doctrinal mode, the coalescence of features of the imagistic mode derives its robustness from the

fact that these features are causally interconnected or mutually reinforcing. Once again, this claim rests on a series of testable hypotheses, depicted in Figure 3 and enumerated below.

1. Infrequent repetition and high arousal activate episodic memory.

Rarely performed and highly arousing rituals invariably trigger vivid and enduring episodic memories among the people who participate in them. It appears to be a combination of episodic distinctiveness, emotionality, and consequentiality that together result in lasting autobiographical memories.¹⁸ These memories can be so vivid and detailed that they can take the form of (what some psychologists call) flashbulb memories.¹⁹ It is almost as if a camera has gone off in one's head, illuminating the scene, and preserving it forever in memory. The effects of infrequent performance and high levels of arousal should be thought of in terms of processes of selection. Religious practices that are rarely performed, but which elicit low levels of arousal, are unlikely to be passed on: people will rapidly forget the procedures, and especially their meanings, during the long gaps between performances;²⁰ even if they could remember some aspects of the rituals, their lack of thought about these practices for long periods would not be conducive to high motivation. In short, rarely performed religious practices that survive tend to involve high levels of arousal, and this is due to the triangular nexus of causes indicated in Figure 2.

2. Activation of episodic memory triggers spontaneous exegetical reflection.

The combination of infrequent repetition and high arousal may provide excellent conditions for remembering the details of religious procedures - such as ritual actions. But it does not seem to help people to remember verbally transmitted information - such as doctrines and narratives.²¹ It turns out that this needn't matter. In fact, the meaning and salience of rare, climactic rituals usually lies their capacity to trigger spontaneous exegetical reflection (SER) - often experienced as personal inspiration or revelation. The key to understanding this lies in the fact that episodic memory is a type of explicit memory. This means that rare, climactic rituals are processed at a conscious level. Not surprisingly, people tend to reflect deeply on these experiences, and speculate about their significance and meaning.²² An important factor here is that elevated arousal is occasioned typically by sensory stimulation (often using a variety of channels - auditory, visual, kinaesthetic, olfactory, etc.). This in turn

encourages people to draw associations between different images evoked in religious ceremonies which are rooted in the way perception is organized (see McCauley 2001). Space limitations prevent a more detailed discussion of this here, but we can note two important points. The first is that rare and climactic rituals evoke abundant inferences, producing a sense of multivalence and multivocality of religious imagery, experienced as personal and unmediated inspiration. The second requires a separate hypothesis.

3. SER leads to a diversity of religious representations.

The personal experiences and revelations triggered by rare, climactic rituals tend to be quite unique. They may converge on certain themes and central ideas, but there is nothing resembling the kind of uniformity of belief that characterizes doctrinal orthodoxies. The Principle of Agreement, if it is invoked at all, applies only to the ritual procedures themselves and not to their meanings.²³ If exegesis is verbally transmitted, it is restricted to 'experts' whose adherence to the Principle of Agreement may well be asserted but seldom demonstrated.²⁴

4. SER and representational diversity inhibit dynamic leadership.

If a fertile and compelling array of religious beliefs and interpretations is generated independently through personal reflection, dynamic leadership is almost impossible to establish. If a leader tried to come forward at rare, climactic rituals, to advance an intricate and coherent body of doctrine, people might listen. But they would very rapidly garble or forget what they had been told and, at least in the long run, their own inspirational ideas are likely to be more compelling than the content of a single oration. In such circumstances, admittedly, the possibility remains open for an individual, group, or class, to be elevated socially, and for this to be expressed in the structure and choreography of rituals and the accordance of ritual precedence to persons of high standing. But leadership of this sort is primarily symbolic rather than dynamic.²⁵

5. Lack of dynamic leadership, lack of centralization, and lack of orthodoxy are mutually reinforcing.

The fact that each person experiences inspiration as coming directly from the gods or ancestors, rather than being mediated by leaders or priests, means that there is no place here for centralized authority. And there is no orthodoxy over which such an authority might preside.

6. High arousal fosters intense cohesion.

The high arousal involved in the imagistic mode tends to produce emotional bonds between participants. In other words, there is intense social cohesion.²⁶ People who are bound together in this way tend to form rather small and localized communities.

7. Intense cohesion and episodic memory foster localized, exclusive communities.

Where rituals are remembered episodically, each participant remembers who else went through the rituals with them. Ritual groups are based on memories for shared episodes, in which particular co-participants feature. Consequently, religious communities tend to be exclusive: you cannot be a member unless people remember you as part of a previous cycle of religious activities; and, by the same token, you cannot very easily be excluded once you are in (i.e. your participation cannot be easily forgotten). This tends to give rise to fixed and exclusive ritual groups in which there is no easy way of adding to, or subtracting from, the established membership.

8. Localized/ exclusive communities and lack of dynamic leadership inhibit spread/ dissemination.

Unlike the beliefs and practices of the doctrinal mode, traditions operating in the imagistic mode do not spread widely.²⁷ Since religious understandings are inspired by collective ritual performances, the unit of transmission is the entire ritual group (not a small number of talented orators). It follows that the spread of such traditions would be inefficient and costly: either the local group must perform its rituals with neighbouring groups, or the local group must be mobile (i.e. migratory or nomadic). But, either way, the practices are likely to mutate as soon as they get passed on.²⁸ In part, this is because of the lack of leaders and religious hierarchies, capable of policing an orthodoxy and, in part, it is because each ritual community is likely to be fiercely exclusivist (and therefore will tend to emphasize local distinctiveness over regional unity).

Modes of Religiosity

The key features of doctrinal and imagistic modes of religiosity stand in stark contrast with each other, as represented in Figure 4. It will be observed that these contrasting features are of two types. First, there are cognitive features, concerned with differences in the way religious activities are handled psychologically. Second, there are sociopolitical features, concerned with contrasts in social organization and politics at the level of groups and populations. This clustering of sociopolitical features has been widely recognized for quite a long time, but what is new about the theory of 'modes of religiosity' is the way it places these features together in a single model, and then explains the clustering of features in terms of a set of cognitive or psychological causes.

VARIABLE	DOCTRINAL	IMAGISTIC
<hr/> Psychological Features <hr/>		
1. Transmissive frequency	High	Low
2. Level of arousal	Low	High
3. Principal memory system	Semantic schemas & implicit scripts	Episodic/ flashbulb memory
4. Ritual meaning	Learned/acquired	Internally generated
5. Techniques of revelation	Rhetoric, logical integration, narrative	Iconicity, multivocal- ity, and multivalence
<hr/> Sociopolitical Features <hr/>		
6. Social cohesion	Diffuse	Intense
7. Leadership	Dynamic	Passive/absent
8. Inclusivity/exclusivity	Inclusive	Exclusive
9. Spread	Rapid, efficient	Slow, inefficient,
10. Scale	Large-scale	Small-scale
11. Degree of uniformity	High	Low
12. Structure	Centralized	Non-centralized

Figure 4

What gives these psychological features causal priority is that they are founded in the material conditions of brain activity - expressed in the form of memory effects. Human memory is the outcome of extremely complex neural functions, which constantly adapt to new experiences in the light of previous ones. Space limitations prevent a discussion here of the neurological foundations of these memory dynamics.²⁹ But, useful as it may be, it is not essential to provide a thorough account of the neurological basis of memory functions in order to explain the coalescence of modes of religiosity.

What is necessary is to understand the consequences of neural activity in terms of the general properties of cognitive organization, including the way memory works in the real world. And then we need to show how the properties of these systems shape and constrain the selection of different forms of religious thought, experience, action, and social organization.

Doctrinal and imagistic modes of religiosity are not types of religion but organizing principles for religious experience and action. It is very common for both modes of religiosity to be present within a single religious tradition. This does not, however, result in a simple fusion of the two modes. Invariably, those aspects of a religious tradition associated with doctrinal and imagistic modes respectively, remain distinct from the viewpoints of both participants and observers. It is precisely this distinctiveness that prompted the numerous dichotomous theories of religion listed at the outset. But if we now have a clearer grasp of the causes of these alternative modes, we may also be in a better position to understand the nature of their interaction.

Religious traditions founded upon interacting modes of religiosity encompass large populations but, at the same time, they are composed of many locally distinctive ritual communities. The cohesion of the latter may readily be projected onto the wider religious community, and such processes appear to have been crucial in many large scale and bloody religiously-motivated wars. In other cases, however, the effect of the imagistic mode is not necessarily to intensify commitment to a set of principles codified in language but rather to provide a substitute for such principles as the main source of religious motivation. This point requires some elaboration.

In many large religious traditions, a fully developed doctrinal mode of religiosity is apparent only in a rather restricted (typically elite) domain of operation. For instance, in medieval Christianity in Europe, the doctrinal mode was substantially (though not entirely) confined to the monasteries (Whitehouse 2000a: Chapter 7). Likewise, in much of present-day Eurasia, the doctrinal mode may only be fully operational among educated elites. The 'little traditions' (Redfield 1955) of rural tribespeople and peasantries are founded on versions of elite religious practices which (for the laity) lack a systematic justification in doctrine and narrative. Within all the so-called 'world religions' and their offshoots, an uneven distribution of religious knowledge is apparent. In some cases, lay populations participate in highly routinized forms of worship for which there is no widely available exegesis. And yet lay participants are seldom in any doubt that their rituals possess

authoritative meanings, known to religious 'experts' and elites. How is this to be squared with the expectation, outlined above, that frequent rituals will be motivated by principles codified in language and stored in semantic memory? Surely, it is not enough to believe that somebody, somewhere has access to such knowledge?

Almost certainly this is not enough. If people are to be motivated to continue to reproduce in action a range of highly repetitive rituals, they must have some personal sense of the value and necessity of such activities. This is one area in which the presence of an imagistic mode can have important consequences. It is precisely within those populations that lack access to the authoritative corpus of religious teachings, and so cannot be adequately motivated by these teachings, that we find the greatest profusion of imagistic practices. Elitist discourses would have us believe that the prominence of the imagistic mode among the uneducated and dispossessed is symptomatic of ignorance. Expressed more precisely, and less snobbishly, routinized religious rituals that lack a persuasive justification in dogma (i.e. learned via instruction) will die out unless they are motivated by forms of religious experience and understanding that are, at least to some significant extent, internally generated. A model for this sort of motivational base is provided the world over by the ancient imagistic mode of religiosity.

What is being offered here is a selectionist model. A religious tradition in which the teachings and rituals are frequently repeated is one in which all the component features of the doctrinal mode, outlined above, will enjoy a selective advantage and (over time) would therefore be expected to coalesce. Similarly, a religious tradition in which the rituals are rarely performed and elicit high levels of arousal is one in which all the component features of the imagistic mode will enjoy a selective advantage and, similarly, would be expected to coalesce over time. A religious tradition in which both modes of religiosity are present is one in which two basic scenarios are possible. The first is that the core religious teachings are successfully transmitted to the vast majority of adherents, opening up a particular range of sociopolitical consequences. Much depends here on whether the imagistic domain of operation confers cohesion only on the local communities it encompasses, or whether this cohesion is projected onto (at least some aspects of) the mainstream doctrinal orthodoxy and the large anonymous populations over which it presides. The second basic scenario is that core religious teachings are substantially restricted to elites, in which case lay versions of the religious tradition must be augmented and

motivated by the imagistic mode. In the first scenario, both modes of religiosity are potentially self-sustaining (even though they may also be mutually reinforcing). In the second, lay religious practices which are incompletely modelled on a doctrinal mode of religiosity, depend for their survival on the presence of imagistic practices.

The above is not intended to be read as a functionalist argument, at least not in the sense normally used in social theory (see Kucklick 1996). The features of each mode are mutually reinforcing but this does not imply stasis, as in classical forms of functionalism. Since modes of religiosity are generated through processes of selection, the theory does, however, lend itself to evolutionary arguments. It has been mentioned already that the two modes of religiosity are not equally ancient or widespread: the imagistic mode appears to be the more ancient and cross-culturally recurrent (see Pfieffer 1982, Diamond 1997); the doctrinal mode probably dates back no more than about 6,000 years (Whitehouse 2000a: Chapter 8). Moreover, it is only in the last few hundred years that it has spread to virtually every corner of the globe (as part of processes of invasion, colonization, and globalization). A crucial question, to which archaeology and ancient history may hold the key, is the role of literacy in the emergence of the doctrinal mode. But what is already clear is that the evolution of religious forms is not characterized by a succession of neat stages, nor is it unilinear. By and large, the spread of the doctrinal mode has not eliminated or displaced the more ancient imagistic mode. Commonly, these two modes form aspects of the same religious traditions, and the interaction of these modes has often been crucial in maintaining religious motivation and commitment in a wide variety of different traditions. Moreover, in some societies with a long tradition of doctrinal practices (e.g. in contemporary North America and Europe) cults founded on an imagistic mode of operation have gained considerable ground recently. Co-evolution and de-evolution are as characteristic of contemporary religions as those of the first bronze age 'civilizations'. But we may now be on the cusp of knowing a good deal more than ever before about the why the patterns we observe historically and cross-culturally unfold in the way they do.

Epilogue

If we are to gain a fuller understanding of the role of modes of religiosity in shaping not only contemporary religions but the religious and sociopolitical history of our species, this will require cross-disciplinary collaboration.

British Academy funding has recently facilitated the construction of a series of specialist research teams in the study of modes of religiosity. These now consist of a team of social and cultural anthropologists, a team of archaeologists and historians of religion, and a team of cognitive scientists (currently involved in developing experimental research on memory for religious practices and teachings). Co-ordinators of these research teams comprise myself, James Laidlaw (anthropologist, University of Cambridge), Luther H. Martin (historian, University of Vermont), R.N. McCauley (philosopher, Emory University), and Justin Barrett (psychologist, University of Michigan). Together with our collaborators, we hope to test out the theory of modes of religiosity much more thoroughly than I have so far been able to do on my own. And in the process, we hope to unlock many other previously unexplained mysteries of religious forms, ideas, and practices.

REFERENCES

- Allen, M. R. 1967 Male Cults and Secret Initiations in Melanesia, Melbourne: Melbourne University Press
- Aronson, E. and Mills, J. 1959 'The Effect of Severity of Initiation on Liking for a Group' in Journal of Abnormal and Social Psychology, 59: 177-81
- Atran, S. *in press* In Gods We Trust: the evolutionary landscape of religion, New York: Oxford University Press
- Baddeley, A. 1997 Human Memory: theory and practice, Hove: Psychology Press
- Barrett, J.L. 2000 'Exploring the Natural Foundations of Religion' in Trends in the Cognitive Sciences, 4: 29-34
- Barth, F. 1975 Ritual and Knowledge among the Baktaman of New Guinea, New Haven: Yale University Press.
- 1987 Cosmologies in the Making: a generative approach to cultural variation in inner New Guinea, Cambridge: Univ. Press
- 1990 'The Guru and the Conjuror: transactions in knowledge and the shaping of culture in Southeast Asia and Melanesia' in Man (N.S.), 25:640-653
- Bateson, G. 1936 Naven: a survey of the problems suggested by a composite picture of the culture of a New Guinea tribe drawn from three points of view, Stanford: Standord University Press
- Benedict, R. 1935 Patterns of Culture, London: Routledge and Kegan Paul
- Boyer, P. 2001 Religion Explained: the evolutionary origins of religious thought, New York: Basic Books
- in press* 'Review of H.Whitehouse, Arguments and Icons, OUP' in Journal of Ritual Studies
- Brown, R. & Kulik, J. 1982 'Flashbulb Memory' in U. Neisser (ed.) Memory Observed: remembering in natural contexts, San Francisco: W.H. Freeman
- Christiansen, S.-A. 1992 'Emotional Stress and Eyewitness Memory: a critical review' in Psychological Bulletin, 112: 284-309
- Conway, M.A., Rubin, D.C., Spinnler, H., and Wagenaar, W.A. 1992 (eds.) Theoretical Perspectives on Autobiographical Memory, Netherlands: Kluwer Academic Publishers

- D'Andrade, R. 1995 The Development of Cognitive Anthropology, Cambridge: Univ. Press
- Diamond, J. 1997 Guns, Germs, and Steel: a short history of everybody for the last 13,000 years, London: Chatto and Windus
- Fox, R. 1967 Kinship and Marriage: an anthropological perspective, New York: Penguin Books
- Gellner, E. 1969 'A Pendulum Swing Theory of Islam' in R. Robertson (ed.) Sociology of Religion: selected readings, Harmondsworth: Penguin Education
- Goody, J. 1968 'Introduction' in J. Goody (ed.), Literacy in Traditional Societies, Cambridge: Cambridge University Press
- 1986 The Logic of Writing and the Organization of Society, Cambridge: Cambridge University Press.
- Graf, P. and Schachter, D.L. 1985 'Implicit and Explicit Memory for New Associations in Normal and Amnesic Subjects' in Journal of Experimental Psychology: Learning, Memory, and Cognition, 11: 501-18
- Graf, P., Squire, L.R., and Mandler, G. 1984 'The Information that Amnesic Patients Do Not Forget' in Journal of Experimental Psychology: Learning, Memory, and Cognition, 10: 164-78
- Guthrie, S.E. 1993 Faces in the Clouds: a new theory of religion, New York: Oxford University Press
- Herdt, G. H. 1981 Guardians of the Flutes: idioms of masculinity, New York: Columbia University Press
- (ed.) 1982 Rituals of Manhood: male initiation in Papua New Guinea, Berkeley: University of California Press
- Jacobs, J. 1887 'Experiments on "Prehension"' in Mind, 12: 75-9
- James, W. 1890 Principles of Psychology, New York: Holt
- Kluckhohn, C. and Leighton, D. 1974 (1946) The Navaho, Cambridge MA: Harvard University Press
- Kuklick 1996 'Functionalism' in A. Barnard and J. Spencer (eds.) Encyclopedia of Social and Cultural Anthropology, London: Routledge
- Lawson, E.T. and McCauley, R.N. 1990 Rethinking Religion: connecting cognition and culture, Cambridge: Univ. Press
- Lewis, I. M. 1971 Ecstatic Religion: a study of shamanism and spirit possession, London: Routledge

Lewis-Williams, J. D. 1997 'Agency, Art, and Altered Consciousness: a motif in French (Quercy) Upper Palaeolithic parietal art' in Antiquity, 71: 810-830

Lowie, R. 1924 Primitive Religion, New York: Boni and Liveright

Martin, L. *in press* 'Discourse, Performativity, and Cognition: the case of the Roman cult of Mithras' in Persuasion and Performance: rhetoric and reality in early Christian discourses in W. Braun, ed. Waterloo: Wilfrid Laurier University Press

McCauley, R.N. 2001 'Ritual, Memory, and Emotion: comparing two cognitive hypotheses in J. Andressen (ed.) Religion in Mind, Cambridge: Univ. Press

Meggitt, M.J. 1962 Desert People: a study of the Walbiri Aborigines of Central Australia, Sydney: Angus and Robertson

Mills, J. and Mintz, P. 1972 'Effect of Unexplained Arousal on Affiliation' in Journal of Personality and Social Psychology, 24: 11-13

Mithen, S. 1996 The Prehistory of the Mind: the cognitive origins of art, religion, and science, London: Thames and Hudson

Pfeiffer, J. E. 1982 The Creative Explosion: an inquiry into the origins of art and religion, New York: Harper & Row

Redfield, R. 1955 The Little Community: viewpoints for the study of a human whole, Chicago: Univ. Press

Roediger, H.L. 1955 'Implicit Memory: retention without remembering' in American Psychologist, 45: 1043-56

Schachter, D.L. 1987 'Implicit Memory: history and current status' in Journal of Experimental Psychology: Learning, Memory, and Cognition, 13:

Schwartz, T. 1962 'The Paliau Movement in the Admiralty Islands, 1946-1954' in Anthropological Papers of the American Museum of Natural History, 49: 210-421

Sperber, D. 1975 Rethinking Symbolism, Cambridge: University Press

Strehlow, T.G.H. 1970 'Geography and Totemic Landscape in Central Australia: a functional study' in R.M. Berndt (ed.) Australian Aboriginal Anthropology, Nedlands: Australian Institute of Aboriginal Studies

Tulving, E. 1972 'Episodic and Semantic Memory' in E. Tulving & W. Donaldson (eds.) Organization of Memory, New York: Academic Press

Turnbull, C. 1962 The Forest People: a study of the Pygmies of the Congo, New York: Simon and Schuster

Turner, V. W. 1974 Dramas, Fields, and Metaphors: Symbolic Action in Human Society, Ithaca, NY: Cornell University Press.

Tuzin, D.F. 1980 The Voice of the Tambaran: truth and illusion in Ilahita Arapesh religion, Berkeley: University of California Press

Weber, M. 1930 The Protestant Ethic and the Spirit of Capitalism, London: George Allen and Unwin

-----1947 The Theory of Social and Economic Organization, Oxford: Oxford University Press

Werbner, R.P. 1977 (ed.) Regional Cults, London: Academic Press

Whitehouse, H. 1992 'Memorable Religions: transmission, codification, and change in divergent Melanesian contexts' in Man (N.S.), 27:777-797

-----1994 'Strong Words and Forceful Winds: religious experience and political process in Melanesia' in Oceania, 65:40-58

-----1995 Inside the Cult: religious innovation and transmission in Papua New Guinea, Oxford: Univ. Press

-----1996a 'Rites of Terror: emotion, metaphor, and memory in Melanesian initiation cults' in Journal of the Royal Anthropological Institute (N.S.), 4: 703-715

-----1996b 'Jungles and Computers: neuronal group selection and the epidemiology of representations' in Journal of the Royal Anthropological Institute (N.S.), 1: 99-116

-----1996c 'Apparitions, Orations, and Rings: experience of spirits in Dadul' in J.M. Mageo & A. Howard (eds.) Spirits in Culture and Mind, London: Routledge

-----1998 'From Mission to Movement: the impact of Christianity on patterns of political association in Papua New Guinea', in Journal of the Royal Anthropological Institute (N.S.),

-----2000a Arguments and Icons: divergent modes of religiosity, Oxford: Univ. Press

-----2000b 'Cultural Cognition and Psychopathology: anthropological perspectives' in J. Schumaker and T. Ward (eds.) Cultural Cognition and Pyschopathology, Westport: Greenwood

-----2001a (ed.) The Debated Mind: evolutionary psychology versus ethnography, Oxford: Berg

-----2001b Transmissive Frequency, Ritual, and Exegesis' in Journal of Cognition and Culture, 2: 167-81

-----in press (a) 'Implicit and Explicit Knowledge in the Domain of Ritual' in V. Antonnen and I. Pyysiainen (eds.)Current Approaches in the Cognitive Study of Religion, London: Continuum

-----in press (b) 'Religious Reflexivity and Transmissive Frequency' in C. H. Hojberg (ed.) Religious Reflexivity: anthropological approaches to ambivalent attitudes to religious ideas and practice, (Social Anthropology, Special Issue) Cambridge: Univ. Press

Williams, F. E. 1928 Orokaiva Magic, London: Humphrey Milford.

Winograd, E. and Neisser, U. 1992 (eds.) Affect and Accuracy in Recall: Studies of 'Flashbulb' Memories, New York: Cambridge University Press

NOTES

¹ The dividing lines between explicit and implicit memory are difficult to draw (for a fine overview, see Schachter 1987), but evidence from studies of normal cognition (e.g. Roediger 1990) and amnesic patients (e.g. Graf, Squire, and Mandler 1984) show that such a distinction (or a series of more fine-grained distinctions) is difficult to avoid (although see Baddeley 1997: Chapter 20).

² This particular distinction has a long history, and certainly predates cognitive science. It is apparent, for instance, in William James' (1890) discussion of 'primary' and 'secondary' memory, and the first experimental studies of short-term memory date back to the same period (Jacobs 1887).

³ The distinction between semantic and episodic memory was first fully developed by Tulving (1972), and is now used by psychologists studying a wide range of phenomena, including amnesia, aphasia and agnosia, story grammars, schemas and scripts, and framing and modelling. For a thorough overview, see Baddeley 1997.

⁴ See Whitehouse 1992, 1994, 1995, 1996a, 1996b, 1996c, 1998, 2000a, 2000b, 2001a, 2001b.

⁵ A recent pilot study by Barrett, Martin, and Whitehouse suggests that repetition is not only important for the learning of religious doctrines, but also to ensure that they are remembered in the long run. In this study, a class of religion students heard twice-weekly repetitions of the 'four noble truths' of Buddhism over four weeks. Recall for these doctrines was tested after the second repetition (Time 1), after the eighth repetition (Time 2) and after a six-week interval, during which period no further repetition took place (Time 3). On a scale of 0-8, the Time 1 mean score was .91 (11.4%), the Time 2 mean score was 3.2 (40%), and Time 3 went back down to 1.18 (14.7%). These findings would seem to suggest that eight repetitions, each spaced by a few days, would not necessarily be sufficient to transmit even quite limited doctrinal information (the Time 2 score is not impressive, although motivational factors in genuine cases of religious transmission may produce better results). Rather more interestingly, we observe a very rapid decay in recall for the information that *has* been successfully learned (possible low motivation among learners notwithstanding).

⁶ See, for instance, Whitehouse 2000a: 44-6, 115, 142-3, 148, 155

⁷ As Atran (*in press*) points out, doctrinal traditions are seldom logically integrated in the same manner as scientific or mathematical systems of thought, except perhaps in some rather esoteric domains of professional theologizing. For the most part, dogma is interwoven by strings of logical implications. Since the range of *possible* strings is far greater than those that happen to be exploited by religious teachers, standardization necessitates frequent rehearsal (i.e. a 'routinized' regime of doctrinal transmission).

⁸ See, for instance, Whitehouse 1995: Chapter 7 and 2000a: 60-3.

⁹ For a fuller discussion of this point, see Whitehouse 2000a: 151-3 and 172-80. Some criticisms of this aspect of my argument notwithstanding (e.g. Boyer, *in press*), I accept that literacy is a precipitating condition (perhaps even a necessary condition) for the independent invention of doctrinal mode

phenomena (Whitehouse 2000a: 179-80) but it is not essential for their reproduction (Whitehouse 1992).

¹⁰ See Whitehouse *in press* (a) and (b)

¹¹ This point is elaborated at length in Whitehouse *in press* (a), based primarily on ethnographic evidence. Some (admittedly preliminary) experimental support comes, however, from a study by Barrett and Whitehouse of 'spontaneous exegetical reflection' (SER) generated by repeated performances of an artificial ritual modelled on the Catholic practice of self-crossing. This study suggested that levels and volume of SER correlate inversely with degree of repetition and habituation.

¹² This argument is elaborated in Whitehouse 2000a: Chapter 8. For a similar (and fuller) overview of these processes, see Diamond 1997.

¹³ The reality is a bit more complicated than that. Consider, for instance, conversion experiences in some Christian traditions, which appear to be constructed around episodic memories. From the viewpoint of my argument, three points are crucial to make about these sorts of phenomena. First, where episodic memory plays a significant role in the doctrinal mode, it is typically in relation to highly personalized rather than collectively-experienced episodes (episodes of the latter sort tend to produce something altogether different – an imagistic domain of operation, discussed below). Second, these highly personalized episodes tend to be subjected to such frequent verbal reiteration that they eventually give rise to quite rigidly schematized, even stereotyped, narratives (thus 'dissolving' into the standardized schemas of semantic memory). Third, religious experiences encoded in episodic memory are invariably superfluous to the doctrinal mode, in the sense that the reproduction of the doctrinal tradition in a recognizable form does not depend on their preservation. In short, being a member of a doctrinal tradition (e.g. a 'Christian') minimally presumes some level of commitment to schemas encoded in semantic memory – no more and no less.

¹⁴ See Whitehouse 1992 and 2000a: 9-12, 40-1, 50-2, 113-7.

¹⁵ See Whitehouse 1992, 1994, and 2000a: 72-80

¹⁶ For ethnographic examples, see Lowie 1924, Kluckhohn and Leighton 1974 (1946), Turnbull 1962, Meggitt 1962, Allen 1967, Strehlow 1970, Barth 1975, 1987, Tuzin 1980, Herdt 1981, 1982.

¹⁷ See Lewis-Williams 1977, Pfeiffer 1982, and Martin (*in press*).

¹⁸ The evidence here is somewhat complex, but useful overviews are presented by Christiansen 1992, McCauley 2001, and Atran (*in press*).

¹⁹ This term was first coined by Brown and Kulik 1982, and has since been examined in a variety of major studies (for further details, see Winograd and Neisser 1992, Conway et al 1992). The role of flashbulb memory in recall for ritual episodes has been most extensively discussed in Whitehouse 1996a, 2000a and McCauley 2001.

²⁰ The only cases of low-frequency, *low*-arousal rituals known to me are ones that use external mnemonics and/or a compositional hierarchy of ritual elements (i.e. rarely-performed rituals composed of an assortment of more frequently-performed rites). For examples, see McCauley 2001 and Atran *in press*. But such exceptions seem to prove the rule – not only because they are hard to find but because they always constitute practices that are

inessential to the reproduction, in a recognizable form, of the doctrinal traditions in which they occur.

²¹ A recent pilot study by Barrett and Whitehouse suggests that recall for rarely-transmitted verbal exegesis is extremely poor, and certainly very much poorer than for rarely-transmitted behavioural procedures. In this study, a class of 100 first year anthropology students participated in an artificial ritual requiring them to carry out a series of unusual actions. They were told that the purpose of this was to learn about the pressures of ethnographic fieldwork, especially the effects on stress-levels among researchers of having to participate in strange activities. Participants were instructed not to write down what they had heard. The theological statement was delivered loudly and slowly, to maximize the chances of successful encoding. Participants then completed a short questionnaire asking them to rate their emotional states during the performance. Seven weeks later, participants completed a questionnaire asking them to record both the action sequence they had performed, the stated reasons for the experiment, and the fictitious theology they had heard. The elements and sequence of the ritual actions were recalled more or less perfectly by the entire class. By contrast, recall for the fictitious theology and even for the stated reasons for the experiment was virtually nil. This particular experiment was unsuccessful, insofar as it was intended to establish correlations between emotional self-ratings and recall for various aspects of the artificial ritual. The lack of significant variation in recall performance made this impossible. Nevertheless, our findings do suggest that the cultural reproduction of ritual actions does not require very great frequency (even quite rarely performed actions sequences will be well-remembered). By contrast, even the simplest exegetical and theological concepts cannot survive relatively long transmissive cycles. In order to be learned in the first place, and sustained in semantic memory in the long run, they must be repeated and rehearsed.

²² All rituals have the potential to trigger SER, by virtue of being 'symbolically-motivated' actions (Sperber 1975). Nevertheless, it has been suggested above that frequent repetition can reduce the likelihood of an internal 'search' for symbolic motivations being initiated, by causing habituation and reliance on implicit procedural knowledge. This is not the case with respect to low-frequency, high-arousal rituals activating episodic memory. Whenever recall for the rituals is triggered, this will involve recall of an explicit kind which is, in turn, eminently capable of setting off a search for symbolic motivations.

²³ See Barth 1975, Whitehouse 2000a, and Martin *in press*.

²⁴ See especially Whitehouse 2000a: Chapter 4.

²⁵ In other words, the position of leader (if it exists) does not afford opportunities to transmit, shape, or direct any systematic programme of belief and action.

²⁶ See, for instance, Aronson and Mills 1959 and Mills and Mintz 1972.

²⁷ Ethnographic evidence for this is presented in Whitehouse 2000a; historiographical evidence is presented in Martin, *in press*.

²⁸ Classic ethnographic studies include Williams 1928, Schwartz 1962, and Barth 1987 (for an extended discussion, see Whitehouse 2000a).

²⁹ See Whitehouse 1996b, 2001a, Atran *in press*.