

MODES OF RELIGIOSITY AND THE COGNITIVE SCIENCE OF RELIGION

HARVEY WHITEHOUSE

This collection of essays addresses the core findings of a newly established field of enquiry, the cognitive science of religion. Several of the essays single out my theory of “modes of religiosity” for particular attention, and that is partly because some began as presentations at meetings on that topic. The modes theory has been summarized in a recent issue of this journal (Whitehouse 2002) and set out in detail in three monographs (Whitehouse 1995, 2000, 2004a) so I will not devote any further space to rehearsing those arguments. But what scholar could resist an opportunity to reply to erudite criticism? This essay opens with such a response but I do also have a nobler objective, namely to lead debates about the modes theory into a wider discussion, skillfully opened up by a number of other contributors to this collection, of the relevance of cognitive science to the study of culture in general and of religion in particular.

1. *Interacting and Oscillating Modes of Religiosity*

Ted Vial and Gregory D. Alles, though generous in their appraisals of the theory of divergent modes of religiosity, constructively criticize its account of the historical dynamics of religious traditions. Vial argues that the theory overemphasizes the discreteness of doctrinal and imagistic modes, largely because it was inspired by a non-representative case study, the Pomio Kivung movement of Papua New Guinea. The Pomio Kivung exhibited two readily distinguishable domains of operation: a large, highly routinized mainstream tradition dominated by the *doctrinal* mode of religiosity; sporadic localized cults of short duration, based around climatic rituals and other characteristic features of the *imagistic* mode. Although imagistic splintering contributed to the motivating force of mainstream teachings, the activities of local cults stood in opposition to the wider orthodoxy/orthopraxy not only in coalitional terms but also in the ways their ideas were cognized, codified, and transmitted. This opposition, readily acknowledged in local discourse, arose from divergent systems of psychological and sociopolitical dynamics (see

Whitehouse 1995). In a more recent study (Whitehouse 2000), I attempted to demonstrate that the pattern observed in the Pomio Kivung could be generalized to other Melanesian religious movements, owing to the somewhat traumatic encounter of indigenous imagistic religiosity and the rapacious doctrinal religiosity of Christian missions. From this regional and historical base, I went on to suggest that these “modes dynamics” were probably both widespread and ancient features of the world’s religious traditions.

According to Vial, however, doctrinal and imagistic dynamics are less easily distinguished outside of Melanesia: “As we move through time and place, the situation in Papua New Guinea turns out to be a relatively rare one. These two modes rarely seem to appear so distinctively, side by side. Long standing, stable religious traditions often appear to be a kind of mix of the two modes.” Vial’s favored solution to this alleged problem lies in a more comprehensive account of the range of possible (and presumably actual) forms of interaction between doctrinal and imagistic modes that might (or do) occur in the world’s religious traditions. Vial suggests at least three additional forms of possible interaction, associated respectively with: (i) revivalism—which entails the enlivening of routinized mainstream practices through the borrowing of imagistic elements; (ii) pietism—roughly the embedding of officially sanctioned imagistic cells in the mainstream tradition; (iii) medieval Catholicism—the sanctioning of relatively low frequency (e.g. annual) practices embracing all members of the mainstream tradition.

Vial’s line of argument with regard to possible patterns of interaction between doctrinal and imagistic dynamics assumes that the doctrinal mode necessarily lacks motivational force, and requires for its survival the timely support of imagistic practices. As Alles points out in some detail, this is how the situation was presented in my discussion of Melanesian cases, particularly in my account of the Pomio Kivung tradition (Whitehouse 1995). In that study, the main triggers identified for sporadic imagistic outbursts were: (i) tedium and low morale occasioned by ritual routinization; (ii) increasingly impatient anticipation of the desired eschaton. Alles, however, develops an intriguing alternative explanation for the “boredom-plus-impatience” scenario, based on models from behavioral economics.

Alles distinguishes two kinds of religious transaction, by analogy with the market place: “repeated” and “term” exchange. In the case of repeated exchange, relations with the supernatural realm are maintained through the regularized offering of worship and supplication in return for the disbursement of ongoing benefits (temporary absolution,

blessings, good health etc.). By contrast, term exchange is based on the expectation that a period of investment will culminate in a one-off lump sum payment: in religious terms, the longed-for eschaton. In most religious traditions, according to Alles, we should expect adherents to regard the maturation of their spiritual investments as a distant prospect, to be hoped for in the murky future or afterlife but not in the here-and-now. The reason Alles gives for this is that people are more inclined to pay attention to risks than to gains (he cites the amusing, if baffling, statistic that “it is twice as painful to lose a euro as it is pleasurable to gain one”). Thus, fearing the failure of prophecy religious adherents would be less inclined to mark the eschaton in their diaries than to settle for the lesser rewards of repeated exchange.

All this is forcibly reminiscent of Peter Worsley’s famous distinction between “passivist” and “activist” religious ideologies (1957). Like Alles, Worsley sought to understand religion in terms of an economic (in Worsley’s case, specifically Marxist) framework, arguing that expectations of an imminent eschaton gave expression to revolutionary aspirations (activism) whereas resignation to a system of deferred gratification—typically the allocation of rewards only after death—was compliant with production relations based on economic exploitation and political domination. Interestingly, Alles also invokes Marx to illustrate his point that millenarism holds special appeal for deprived populations but he somewhat misses the point of the “opium-of-the-people” argument. The Marxist dogma is not, as Alles suggests, that poor people have greater interest in the eschaton than rich people but rather that the “ruling class” has a vested interest in the reproduction of passivist religious ideology. That is the “opium”, and *not* intensified interest in the approaching eschaton. Radical interpreters like Worsley regarded such interest as inherently subversive, a step towards class consciousness and militant nationalism (which, in turn according to the “triple progression hypothesis” (Smith 1979), was a passing phase in the eventual establishment of communist utopia).

The crunch question, of course, is what does Alles’s account “buy” us (to use a suitably capitalistic trope)? While I agree with him that an alliance of economic and cognitive theories promises to be very productive, I am not sure that the specific proposals advanced by Alles take us much further than *Inside the Cult*, at least in explaining doctrinal-imagistic oscillations. In his concluding remarks, Alles valiantly reframes his arguments as a series of “predictions” as follows (*italics added*):

Given the generality of loss aversion, most people most of the time who entertain expectations of an eschaton will endorse the considerably less risky view of the eschaton as an ill-defined, indefinite certainty rather than as an event predicted for a specific time . . . Given the possibility of reframing potential losses as potential gains, however, *it remains possible that* people will turn to the belief that the eschaton is imminent. Given that memories lose vividness and impact as they get older, under the proper conditions, such as appropriate cues, *it is possible that* an oscillating rhythm characterized by recurrent eschatological movements will be established.

The added italics highlight a failure of nerve on the question of prediction. Many things are possible, but real predictions declare what *will* happen under specified conditions. Why does tedium usually set in here and not there? Why does imagistic splintering occur more commonly under one set of circumstances than another? To the extent that Alles addresses such questions, it is largely with reference to matters of ideological content rather than to the shifting articulation of more generalizable variables. With hindsight, it seems to me that the impatience exhibited by my friends in the Pomio Kivung (palpable enough at the time of my fieldwork and thus of ethnographic interest) was beyond the explanatory scope of the modes theory. To understand why splinter groups in the Pomio Kivung utilized imagistic dynamics, the relative imminence of the proposed eschaton was a red herring—indeed, these splinter groups were modeled on traditional initiation cults in the region that did not entail any kind of activist eschatology. Moreover, periodic imagistic outbursts in the doctrinal mode more generally, for instance in other religious traditions at other times and places, may or may not incorporate expectations of imminent supernatural intervention. If we are to develop an adequate *general* explanation for doctrinal-imagistic oscillations we must jettison all talk of particular expectations of divine intervention (or any other ideological theme) and focus our attention elsewhere.

2. *Strengths and Limitations of the Doctrinal Mode*

Two defects in my original formulation of the modes theory were, arguably: (i) its portrayal of the “tedium effect” as a necessary outcome of routinization; (ii) its appeal to “impatience” as a generalizable feature of doctrinal-imagistic oscillations. The arguments proposed by Vial and Alles tend to reproduce and compound those defects. Both scholars take it as read that the doctrinal mode necessarily gives rise to boredom and thus to problems of motivation. Where the tedium effect is indeed apparent, both assume that this will elicit an

“imagistic-like” response: revivalism, pietism, and (what shall we call it?) “commemorationism”¹ in the case of Vial; periodic commitment to high-risk (but potentially high-gain) religious investment in the case of Alles. As a result, Vial is drawn to a seemingly generalizable solution but one that degrades the boundaries between doctrinal and imagistic modes. Alles’s strategy produces a theory more narrowly pertaining to millenarian ideologies but that preserves a theoretical dichotomy of sorts. I would favor a rather different approach to the challenges of historical and ethnographic generalization, as follows.

In responding to a substantial body of new data on divergent modes of religiosity across great expanses of time and space (Whitehouse and Laidlaw 2004, Whitehouse and Martin 2004), I have recently attempted to revise and extend the modes theory’s predictions with regard to the degeneration of doctrinal dynamics and the periodic resurfacing of imagistic ones (Whitehouse 2004a, 2004b, 2004c). Unlike Vial, I do not think that the evidence currently available calls into question the ubiquity of doctrinal and imagistic modes as discrete domains of operation within the world’s diverse religious traditions—if anything, I think it has added weight to the claim that the two modes are globally widespread and ancient. But it has also revealed that there are, as Vial suspects, not one but *many* ways in which doctrinal and imagistic modes can interact. There is also rather more to religious transmission than the modes theory is able to explain, and thus there are significant limits to the *scope* of the original theory. Let us take each of these issues in turn.

As noted above, my earlier work emphasized the role of the tedium effect in triggering imagistic splintering within the mainstream Pomio Kivung. Although we now have a wealth of evidence that tedium is a widely recurrent problem for the doctrinal mode, and not merely a feature of routinized Melanesian traditions, we also have increasingly robust evidence that tedium can be averted in the doctrinal mode *without* recourse to the mechanisms of imagistic transmission. The evidence is of two main types.² The first type pertains to cases in which the

¹ I refer here to Vial’s discussion of periodic (typically annual) commemorative rites in medieval Christianity, more broadly discussed by Paden (this volume) in terms of what he calls “festival cycle memory”.

² This evidence is distributed through a range of ethnographic and historiographical writings on the modes theory, too numerous to cite individually in this context (see in particular Whitehouse and Laidlaw 2004, Whitehouse and Martin 2004).

doctrinal mode achieves stability in the absence of imagistic dynamics. The second type is to be seen in situations of doctrinal mode degeneration, resulting not in the extinction of the tradition but in the mutation of its concepts and practices in the direction of increasingly easy-to-transmit variants. The latter process raises issues (alluded to briefly above) about the scope of the modes theory, to which we shall attend in a moment.

For a clear example of a robust religious tradition, dominated by the doctrinal mode and yet entirely lacking an imagistic domain of operation, we need look no further than Kimmo Ketola's discussion of ISKCON, otherwise known as the Hare Krishna movement. Ketola argues that ISKCON displays all the main features of the doctrinal mode but shows no signs of developing patterns of imagistic splintering as observed in the Pomio Kivung. One should not infer from this that the movement is immune to the 'tedium effect', for Ketola argues that the high rate of turnover in ISKCON's membership may well be due heavy routinization, boredom, and thus lowered motivation. According to Ketola, lack of strong sanctions for defection coupled with healthy rates of recruitment may enable the tradition to reproduce itself despite the tedium effect. But Ketola also emphasizes another factor that may offset tedium—namely, the relatively high levels of emotional arousal that ISKCON's rituals evince, despite their repetitiveness.

Ketola is not alone in his observation that routinized practices are often richly colored both sensually and affectively. Indeed, if there is one issue in my work that has attracted particularly widespread criticism it is that the doctrinal mode is far from being "emotionless".³ In fairness, I have never argued that it is. But I have proposed that there is generally an inverse correlation between levels of ritual frequency and arousal. Certainly, the most arousing rituals in the ethnographic record are invariably low in frequency (and low-arousal/low-frequency rituals are exceedingly rare). By contrast, highly repetitive rituals can become (but do not always become) somewhat boring. The fact that they may also elicit a range of notable sensations and feelings, albeit not at the levels of intensity found in most low-frequency rituals, is not a problem for the modes theory. But Ketola, among others, is drawing attention to an even more important point, concerning the caveat in parentheses above: *routinized rituals do not automatically trigger tedium*. In fact, we now have a significant variety of cases showing that tedium

³ For an early critique along these lines, see Judy-Ballini 1998.

can be averted in the doctrinal mode through a range of mechanisms. One is *regularized arousal*, which is possibly a factor in ISKCON (perhaps especially for new recruits, of whom there is always an abundance).⁴ Another mechanism is the use of forms of narrative and rhetoric that maximize the *relevance* of ritually transmitted semantic knowledge in everyday settings (see especially Malley 2004, Whitehouse 2004a). Another mechanism is *periodic arousal*, noted in Christianity (e.g. Clark 2004), Jainism (Laidlaw 2004), Hinduism (Howe 2004), and many other traditions. What makes this crucially different from arousing rituals in the imagistic mode, however, is that these arousing experiences are typically subjected to extensive narrative rehearsal afterwards, prompted by orthodox interpretative concerns. Thus the potential for long-term impact of episodic encodings on religious thinking is greatly reduced, and we find instead highly stereotyped and standardized accounts of such experiences. It is also rare for such episodes to be undertaken by a group of participants, as for instance in the splinter-group rituals of the Pomio Kivung or the initiation sets of Melanesian fertility cults. So not only do we not find the patterns of codification and transmission characteristic of the imagistic mode in such situations, we also typically lack the group cohesion effects. The point, then, is that although the doctrinal mode depended upon periodic reinvigoration by the imagistic mode in my Melanesian examples, the “need” for such reinvigoration is a variable feature of the doctrinal mode.⁵

In addition, scrutiny of a wide range of religious traditions, past and present, has revealed circumstances in which the policing of orthodox teaching and practice can fail. This is different from the tedium effect, which (if it occurs at all) is generally a result of over-zealous policing, rather than the failure of supervisory controls (see especially Pyysiäinen 2004 and Whitehouse 2004c). Policing can break down for a range of reasons. If the frequency of transmission is significantly reduced, if the authority of the tradition’s leaders deteriorates, if the sanctions for innovation and heresy are minimized, then the doctrinal mode may face

⁴ A close comparison might be drawn here between the early stages of Melanesian cults, such as the Paliau Movement, Yali Movement, and Pomio Kivung all of which were dominated by the doctrinal mode and yet which succeeded in stimulating very high levels of motivation (Whitehouse 2000).

⁵ In using the word “need” in this context I mean to imply, not that the imagistic outbursts are generated in response to demands of the doctrinal mode, but that there are circumstances where the lack of such adaptation would lead to the extinction of the doctrinal tradition—and other circumstances in which it would not.

extinction. But, until modern times, such processes have seldom threatened the survival of *religion*. It is patently clear that religious beliefs can flourish in the absence of modes dynamics—that is, in the absence of highly elaborate rituals, orthodoxies, exegetical mysteries, and distinctive sociopolitical dynamics of the doctrinal and imagistic modes. What remains of religion when it is stripped of all these things must be capable of being easily learned and passed on. Religious representations cannot be so counter-intuitively constructed or elaborately interconnected that they would require systematic teaching or deep personal rumination to reproduce. In the absence of modes dynamics, religious concepts must be immediately intelligible and attractive, clustered around the “cognitive optimum position”.

Cognitively optimal representations are ones that the human mind finds naturally easy to acquire and transmit, all else being equal. Whereas religious concepts in both doctrinal or imagistic traditions tend to be highly *unnatural*, in the sense of being costly to transmit (in terms of time, labour, cognitive effort, and so on), and thus highly variable from one tradition to the next, the more natural concepts of cognitively optimal religion are cheap to pick up and tend to be much the same the world over. Typical concepts of this sort include minimally counter-intuitive agents such as simple notions of ghosts, witches, animal spirits, and so on (Boyer 2001); magical rites in which actions matter more than intentional states (Fiske and Halsam 1997); or simple and mutable mythological narratives in which entertainment takes precedence over faithful reproduction and elaborate exegetical interpretation (Turner 1996). Of course, such concepts lurk in all religious traditions, even those heavily influenced by modes dynamics, but once the controls of doctrinal authorities and ritual experts fade, cognitively optimal concepts may be *all* that remains. As William E. Paden points out in this volume, such concepts were not attributed much importance in my original formulation of the modes theory. But, as Paden also observes, they should not be regarded as “peripheral” to processes of religious transmission taken in the round. It now seems to me that cognitively optimal religious concepts play an important role in the regulation of doctrinal-imagistic oscillations. Whenever the policing of a doctrinal orthodoxy becomes ineffective and cognitively optimal transmission becomes more prominent, the stage is set for movements of reform to assert themselves, reestablishing a doctrinal authority and its primary mechanisms of control.

Like Vial, I think there are a number of possible ways in which modes dynamics are implicated in patterns of historical transformation

and—also like Vial—I think that these transformative tendencies owe much to the inherent instability of the doctrinal mode.⁶ If it is to maintain itself intact, the doctrinal mode must somehow strike a balance between over-regulation (that could produce tedium and lowered motivation) and under-regulation (that would give rise to cognitively optimal mutations of the orthodoxy). To do so it must maximize its revelatory and sentimental appeals and we have noted that there are many ways in which this can be done, just as there are numerous ways in which religions can respond to problems of under-policing and excessive control. Thus, patterns of religious transformation are varied, but they are also finite and describable. And through a process of collaborative theory-building, we are now approaching a fuller understanding of which patterns are activated under which general sets of conditions.

3. *Implications for the Cognitive Science of Religion*

The above considerations may help us to tackle some of the complex theoretical and epistemological issues raised by Matthew Day. Day draws a rather stark contrast between the study of explicit religious knowledge, on the part of ethnographers and historians, and the study of implicit cognitive mechanisms that shape and constrain the transmission of that knowledge. Among cognitive scientists of religion it is common to portray all such implicit mechanisms as universal and immutable, as if ecological variables had no impact on their development and expression. As Day points out, this can be seriously misleading. In an insightful critique of Robert N. McCauley's (2000) arguments concerning the alleged "naturalness" of religion compared with the "unnaturalness" of science, Day observes that religion (like science) can generate clusters of concepts that are remote from natural, intuitive thinking and that cannot be explained with reference to fixed, universal cognitive architecture, viewed apart from the contexts of its activation. Paden makes a very similar point, emphasizing the socially situated character of human cognition. In Paden's case, the argument is advanced through a critical appraisal of a recent article (Whitehouse 2004) in which I had stressed the dangers of sociological theorizing that reifies cultural phenomena and accords agency to institutions. This

⁶ Imagistic practices are contrastingly stable, which is also partly why they are more ancient (see Whitehouse 2004a).

matter requires brief attention before the most important implications of Day's and Paden's arguments can be fully appreciated.

According to Paden, there has been something of an inconsistency in my writings on the ontological status of sociocultural phenomena. On the one hand, I have argued that "culture and society are reifications, not ontological things out there"—Paden calls this the "intrapyschic" position which holds that all the causes of human behavior are located inside their bodies (particularly their nervous systems). On the other hand, I have argued elsewhere (Whitehouse 2001) that cognition cannot be reduced to processes internal to organisms. To advance straight to the point, I have never intended to subscribe to an "intrapyschic" view of cognition. To warn against the dangers of reifying social institutions is *not* to say that environments (including distributed forms of knowledge and behavior, artifacts, and histories of transmission) are irrelevant to understanding mental processes. It is simply to say that institutions are not agentive forces out there in the world, capable of directly influencing each other. I agree with Day that cognition is not a process occurring entirely underneath the skin—rather, it is a complex array of processes that unfold through the development of organisms-in-environments. Day argues that we should pay particular attention to the role of material culture in the construction of cognitive environments, insofar as it provides extensions to internal processing. This is obviously true of writing systems, for instance, that allow us to store and manipulate chunks of information in ways that would be impossible if we were to rely on memory alone (see also Goody 1977).

Paden, Day, and I are probably in broad agreement about the ecologically embedded character of cognition. Nevertheless, there is a risk of overstating the case, particularly in light of the polemical stances of some cognitive theorists. To take the example of McCauley's "naturalness of religion" hypothesis, this suggests that cognitive science is concerned with mechanisms that are not only the same everywhere but activated similarly in all known human environments, regardless of local ecological variation. According to such a view, religious systems are only superficially different, and largely reducible to fixed, generic architecture lurking beneath the surface of every normal human mind. True, such an argument has more to commend it than its converse—that cognitive architecture is fundamentally different everywhere being the outcome of locally distinctive environments. The notion that local cultural ecology determines cognition is still naïvely accepted by many social and cultural anthropologists, even when testable formulations of this notion have been convincingly falsified (e.g. Ekman 1989; Brown

1991; Shaver, Wu, and Schwartz 1992). As Benson Saler eloquently observes in his contribution to the discussion, such a stance requires those adopting it to ignore or deny an overwhelming mass of evidence for the basic psychic unity of our species and its evolutionary origins. But the McCauley line is also problematic in that it places a good deal of cultural/religious variation beyond our explanatory purview. At least two compromise positions suggest themselves. One is that both cognitive and cultural systems have some recurrent features and also some locally distinctive or variable ones and that this is because cognition and culture influence each other (the “two-way street” perspective, to which I think Paden and Day both subscribe). Another compromise position, that I find particularly alluring, proposes that cognitive machinery is fundamentally the same everywhere (local variations being relatively trivial although their cultural consequences might be considerable), but that some parts of the basic repertoire of cognitive capacities may be activated differently in different environments, with major institutional consequences.

The “modes theory” is concerned primarily with the way different memory systems are implicated in the transmission of various kinds of intrinsically hard-to-acquire concepts. Memory systems, unlike certain other aspects of cognition (e.g. intuitive ontological reasoning, mind-reading, application of syntactic rules, etc.) are exceedingly sensitive to contexts and prior histories of activation. Indeed, one cannot think about the distinction between episodic and semantic memory, for instance, without stipulating certain contextualizing features—e.g. whether the information recalled pertains to novel or familiar experiences. When distributed knowledge is reproduced in a population through socially regulated cycles of remembering, the cognitive processes involved are by their very nature embedded in environments as well as in brains. When ritual transmission becomes routinized, it becomes possible for many people to learn and share concepts that otherwise would have had little chance of occurring, let alone being passed on. This facilitates the reproduction of locally distinctive theological systems, traditions of exegesis, and other forms of elaborate religious knowledge—that is, the phenomena that historians and anthropologists of religion are primarily (and justifiably) interested in. Much the same may be said of forms of knowledge arising from long-term rumination set in train by the life-changing revelations of rare, climactic collective rituals. Both doctrinal and imagistic modes of religiosity generate elaborate bodies of explicit knowledge that are as mutable across space and time as they are inspiring and moving to those who acquire them. By contrast, there

are also forms of religious knowledge arising from cognitive processes that are less sensitive to ecological variation. We can describe such knowledge as “cognitively optimal” in the sense that it is easy to acquire and recall regardless of the cultural environment one happens to inhabit. Contrary to McCauley’s claims about the “naturalness of religion”, only certain aspects of religion are like that. Much religious ideology (at least its systemic properties if not its actual content), thanks to the mnemonic supports provided by doctrinal and imagistic regimes, is as variable, challenging, and mysterious as any student of culture, attracted by the lure of the exotic, could wish to discover.

4. *Directions for Cross-Disciplinary Collaboration*

Saler persuasively advocates research in the humanities and social sciences that is relevant to theories and findings of evolutionary biology and the cognitive sciences. Another exceptionally eloquent contributor to this collection, Donald Wiebe, echoes the point, stressing that culture in general and religion in particular are not *sui generis* phenomena to be explained by approaches distinct from, or incommensurate with, those of the natural sciences. It goes without saying that I agree wholeheartedly with both Saler and Wiebe on these points, for (as Wiebe explains) the modes theory explicitly deploys the methods and theoretical strategies of those sciences and addresses itself to their findings. Nevertheless there is a danger here of underestimating the contributions that mainstream anthropology, historiography, comparative religion, and other humanistic modes of enquiry can make to a fuller understanding of religion. To argue that the latter should gear their theoretical agendas to those of evolutionary psychology, for instance, runs the risk of overlooking two important features of religion, however we define it (and Saler’s detailed discussion here of some of the main challenges of definition provides an authoritative survey). The first is that religion probably played little or no role in the cognitive evolution of our species. As Saler points out, archaeological evidence places the emergence of forms of cognitive fluidity necessary for the acquisition and spread of counter-intuitive agency concepts *at or after* the appearance of fully modern minds. Second, it follows that the study of religion cannot contribute importantly to the domain of scientific theory it is being asked here to address. By documenting in historical and ethnographic detail various instances of religious behavior, scholars of religion would be condemned to a fate of pointlessly confirming and

re-confirming what we already know about the affordances of evolved cognitive capacities. That is not how I would envisage the future of collaborative research in this area, however.

The study of religion, through ethnographic and historiographical research, as well as through experimental investigations, *can* make a significant contribution to scientific theory and in a way that is distinctively its own. The key to future cross-disciplinary collaboration in the real world sciences must lie in the establishment of an appropriate division of labor. While we are all engaged in the study of people—the complex ways in which they think and act—we are bound to address distinct (albeit interconnected) aspects of our humanity. Neurobiology and the cognitive sciences focus primarily on systems of implicit, intuitive mentation that have their origins in evolutionary time. Such traits, if correctly identified, would be the same in humans everywhere, plucked from any region or historical epoch. Anthropologists and historians might be able to play a limited role in testing the universality of certain hypothesized cognitive systems or capacities, but this could hardly be a sufficient *raison d'être* for their laborious investigations in the field and archive. Moreover, most of the data generated in that way would be the wrong kind, relating largely to people's statements rather than to their tacit judgments, inferences, and motivations. The best way to investigate the latter is of course through experimental research—the methodology of cognitive psychology rather than of the humanities and social sciences. Thus, in addressing the agendas of science, the potential contributions of humanistic enquiry might seem to be both minor and marginal. But what if we were to consider more positively the data that conventional ethnographic and archival research generates? One thing it provides is a rich source of information on people's *explicit* concepts. Like the data generated in psychology labs, this kind of information gleaned from the utterances and writings of people in real-world settings tells us a great deal about people's thoughts and actions. In some cases, what people tell you is a poor guide to their motives and construals—much of what passes as self appraisal may in fact be *post hoc* rationalization of attitudes and actions that originate in implicit mentation; but not all. In the domain of religion, for instance, people are clearly capable of acquiring concepts and patterns of behavior that run directly against their tacit, intuitive ideas and inclinations. These sorts of concepts and patterns of behavior clearly are not explainable purely in terms of universal cognitive mechanisms. They originate in processes located not just in evolutionary time but in *historical* time.

The modes theory is concerned with both implicit and explicit aspects of cognition, and with processes that are outcomes of both evolution and history. It is in new research areas like these that I think the potential for collaboration across the natural sciences and humanities reaches its zenith. For this kind of inter-disciplinary division of labor and dialogue plays to the theoretical, empirical, and methodological strengths of all research traditions, rather than surrendering all inspiration and authority to the men and women in white coats.

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

Whitehouse's work for this special issue was facilitated by a British Academy Research Readership, providing sabbatical leave from September 2003 to September 2005.

References

- Boyer, Pascal (2001). *Religion Explained: The Evolutionary Origins of Religious Thought*. New York: Basic Books.
- Brown, D. E. (1991). *Human Universals*. Philadelphia: Temple University Press.
- Clark, Anne (2004). Testing the two modes theory: Christian practice in the later middle ages. In Harvey Whitehouse and Luther H. Martin (eds.), *Theorizing Religions Past: Archaeology, History, and Cognition*, Walnut Creek, Calif.: AltaMira Press.
- Ekman, P. (1989). The argument and evidence about universals in facial expressions of emotion. In H. Wagner and A. Manstead (eds.), *Handbook of Social Psychophysiology*, 143-164. Chichester: Wiley.
- Fiske, A. P. and N. Haslam (1997). Is obsessive-compulsive disorder a pathology of the human disposition to perform socially meaningful rituals? Evidence of similar content. *Journal of Nervous and Mental Disease*, 185: 211-222.
- Goody, Jack (1977). *The Domestication of the Savage Mind*. Cambridge: Cambridge University Press.
- Howe, Leo (2004). The doctrinal mode of religiosity: Some ethnographic and theoretical problems. In Harvey Whitehouse and James Laidlaw (eds.), *Ritual and Memory: Toward a Comparative Anthropology of Religion*, Walnut Creek, Calif.: AltaMira Press.
- Laidlaw, James (2004). Embedded modes of religiosity in Indic renouncer religions. In Harvey Whitehouse and James Laidlaw (eds.), *Ritual and Memory: Toward a Comparative Anthropology of Religion*, Walnut Creek, Calif.: AltaMira Press.
- McCauley, Robert N. (2000). The naturalness of religion and the unnaturalness of science. In F. Keil and R. Wilson (eds.), *Explanation and Cognition*, 61-86. Cambridge, MA: MIT Press.
- Malley, Brian (2004). The doctrinal mode and evangelical Christianity in the United

- States. In Harvey Whitehouse and James Laidlaw (eds.), *Ritual and Memory: Toward a Comparative Anthropology of Religion*, Walnut Creek, Calif.: AltaMira Press.
- Pyysiäinen, Ilkka (2004). Corrupt doctrine and doctrinal revival: On the nature and limits of the modes theory. In Harvey Whitehouse and Luther H. Martin, (eds.), *Theorizing Religions Past: Archaeology, History, and Cognition*, Walnut Creek, Calif.: AltaMira Press.
- Shaver, P. R. Wu, S. and J. C. Schwartz (1992). Cross cultural similarities and differences in emotion and its representation. In M. S. Clark (ed.), *Review of Personality and Social Psychology, Vol. 13: Emotion*, 175-212. Newbury Park, CA: Sage.
- Smith, A. D. S. (1979). *Nationalism in the Twentieth Century*. Oxford: Martin Robertson.
- Turner, Mark (1996). *The Literary Mind: The Origins of Thought and Language*. Oxford: Oxford University Press.
- Whitehouse, Harvey (1995). *Inside the Cult: Religious Innovation and Transmission in Papua New Guinea*. Oxford: Oxford University Press.
- (2000). *Arguments and Icons: Divergent Modes of Religiosity*. Oxford: Oxford University Press.
- (2002). Modes of religiosity: a cognitive explanation of the sociopolitical dynamics of religion. *Method and Theory in the Study of Religion*, 14: 293-315.
- (2004). Why do we need cognitive theories of religion? In Timothy Light and Brian C. Wilson (eds.), *Religion as a Human Capacity: A Festschrift in Honor of E. Thomas Lawson*. Leiden: E. J. Brill.
- (2004a). *Modes of Religiosity: A Cognitive Theory of Religious Transmission*. Walnut Creek, CA: AltaMira Press.
- (2004b). Toward a comparative anthropology of religion. In Harvey Whitehouse and James Laidlaw (eds.), *Ritual and Memory: Toward a Comparative Anthropology of Religion*, Walnut Creek, Calif.: AltaMira Press.
- (2004c). Theorizing religions past. In Harvey Whitehouse and Luther H. Martin (eds.) *Theorizing Religions Past: Archaeology, History, and Cognition*. Walnut Creek, Calif.: AltaMira Press.
- Whitehouse, Harvey and James Laidlaw, eds. (2004). *Ritual and Memory: Toward a Comparative Anthropology of Religion*. Walnut Creek, CA: AltaMira Press.
- Whitehouse, Harvey and Luther H. Martin, eds. (2004). *Theorizing Religions Past: Archaeology, History, and Cognition*. Walnut Creek, Calif.: AltaMira Press.
- Worsley, P. (1957). *The Trumpet Shall Sound: A Study of 'Cargo' Cults in Melanesia*. London: MacGibbon & Kee.