Current Approaches in the Cognitive Science of Religion

Edited by Ilkka Pyysiäinen and Veikko Anttonen
Social and cultural theorists have long struggled with the problem of how to characterize the types of knowledge involved in the performance of rituals. Eighteenth- and nineteenth-century scholars of religion mostly envisaged ritual as an enactment of consciously formulated rules, transmitted verbally. As Robertson-Smith (1907: 16) astutely observed, with respect to this scholarship: 'the study of religion has meant mainly the study of Christian beliefs, and instruction in religion has habitually begun with the creed, religious duties being presented to the learner as flowing from the dogmatic truths he is taught to accept. All this seems to us so much a matter of course that, when we approach some new or antique religion, we naturally assume that here also our first business is to search for a creed, and find in it the key to ritual and practice.' But Robertson-Smith argued, with regard to the earliest religions, that procedural knowledge preceded declarative, exegetical knowledge, rather than the other way around. As he put it: 'in ancient religion ... practice preceded doctrinal theory. Men form general rules of conduct before they begin to express general principles in words' (Robertson-Smith 1907: 20).

Despite Robertson-Smith's suggestions, the development of religious anthropology in the early to mid-twentieth century continued to envisage ritual procedures as an application of declarative knowledge. As Leach noted towards the end of this period: 'the classic doctrine in English social anthropology is that the rite is a dramatisation of the myth, the myth is the sanction or charter for the rite' (1954: 13). In the 1960s and 1970s, however, the eclipse of functionalism by structuralist, symbolic and interpretive approaches in religious anthropology generated a wealth of new models, suggesting that rituals are governed by implicit rules, unavailable for verbal report. Not all of these approaches, however, were psychologically plausible.

For instance, Lévi-Strauss's argument that cognitive processing of
concepts is unconsciously guided by the principle of binary opposition finds little support from experimental studies of implicit concept-formation and categorization (Boyer 1993: 16–17). Similarly, those pulling against the tide of structuralism seldom did so with reference to precise and well-supported cognitive assumptions. Theories of ‘multi-vocality’ (Turner 1967; Munn 1973) and ‘analogic codification’ (Bateson 1972; Barth 1975) challenged the notion of arbitrary structures of signification by focusing instead on the iconic and connotative qualities of ritual symbols. The resulting analyses sometimes invoked psychoanalytic principles of unconscious processing (e.g. condensation, displacement, primary association, symbolization, etc.), which were neither testable experimentally nor verifiable via standard procedures of ethnographic research.

Contemporary religious anthropology has done less than it might to advance our understanding of unconscious knowledge in the domain of ritual. Often inspired more by obscure philosophical writing than by clearly formulated and well-supported assumptions, many recent theoretical trends have entertained notions of procedural memory that are crude and, in some cases, demonstrably false. For instance, Bourdieu’s (1977; 1990) notion of habitus as unconscious knowledge that is widely shared and automatically learned is substantially transcended by the precision, subtlety and empirical productivity of schema theory and connectionist models in psychology and neuroscience (see Strauss and Quinn 1997: ch. 2). Nevertheless, anthropologists writing about ritual are much more inclined to invoke the concept of habitus, with all its associated limitations, than the sort of cognitive architecture painstakingly constructed through rigorous experimental research. Or, to take another example, Connerton’s discussion of the role of ‘habit memory’ in ritual performance, often cited by anthropologists, is founded upon a host of dubious claims about sensorimotor intelligence, such as the insistence that manual dexterity consists, not in conditioned reflexes, but in ‘knowledge and remembering in the hands and the body’ (Connerton 1989: 95), despite a wealth of neuropsychological evidence to the contrary (see Luria 1973 and Edelman 1992).

Anthropology has produced many superb ethnographic descriptions of religious rituals, but it has so far been unable to specify and demysticate in detail the types of knowledge entailed by ritual performances, and the ways in which these forms of knowledge are transmitted and learned.

The questions posed in this chapter derive from my own experience of ethnographic research, but they are also based on models and
findings in cognitive science. Specifically, I will be asking why some ritual practices are associated with an abundance of widely recognized and stateable meanings, whereas others are not publicly accorded exegesis and their meanings (if they have any) appear to be restricted to elders and ritual experts. My answers to these questions may seem counter-intuitive or, at any rate, paradoxical.

In the case of frequently repeated rituals, much of the procedural knowledge available to participants is implicit, taking the form of automatized or 'embodied' habits. Habituated ritual actions are capable of being reproduced on 'autopilot', in the absence of exegetical reflection. Paradoxically, these are precisely the sorts of rituals that tend to be accorded elaborate and widely disseminated exegesis. The explanation is that routinized rituals provide cognitively optimal conditions for the attribution of meanings from outside, for instance by religious authorities (the guardians of orthodoxy). On the one hand, because long-term participation in highly repetitive rituals does not automatically result in exegetical reflexivity, authoritative interpretations are not at great risk of distortion or corruption by internally generated, speculative exegesis. On the other hand, routinization provides ideal conditions for the rote-learning and stable reproduction of a standard, centrally formulated exegetical tradition.

In the case of rare and climactic rituals, the situation is very different. Procedural knowledge does not take the form of automatized habits but constitutes a form of explicit knowledge, largely organized in episodic memory. The reproduction of such rituals cannot be achieved on the basis of implicit knowledge. It requires explicit, off-line processing which, in turn, makes a reflexive stance on questions of symbolic motivation and exegesis virtually inevitable. And yet, traditions founded upon infrequent, climactic rituals also furnish the main examples, in the ethnographic record, of rites that seem to lack extensive exegesis. Here is a second paradox. The solution advanced in this chapter is that exegetical knowledge, in such cases, is internally generated only very gradually, due to the infrequency of ritual performances. The reason why exegesis is commonly restricted to elders and ritual experts is that it takes a long time for the clustering and sequencing of metonymical features, and thus the 'inner' meanings of rituals, to become inductively generated. Exegetical knowledge, in such traditions, is not simply secret or unspoken; in a very real sense, it can only be acquired through a lifetime's experience.
Implicit and explicit memory

Within cognitive psychology, studies of unconscious knowledge and learning attach considerable importance to a distinction between ‘knowing how’ to do something and ‘knowing that’ something is the case. Cohen and Squire (1980) suggest that ‘knowing how’ and ‘knowing that’ are functions of ‘procedural’ and ‘declarative’ memory respectively. In the case of procedural memory, recollection is unconscious – that is, we may know ‘how to do’ a particular thing, such as riding a bicycle, without being aware of what it is we are remembering. By contrast, declarative memory entails conscious acts of recollection (see Figure 7.1). Semantic memory, consisting of general, encyclopaedic knowledge (e.g. that Penny Farthings are an old-fashioned type of bicycle), and episodic memory, consisting of knowledge of specific episodes in one’s experience (e.g. a particular occasion when one’s bicycle toppled over), are both forms of declarative memory. In such cases, we are conscious of the act of remembering, and capable of stating what it is we remember. The distinctiveness of these memory systems is supported by evidence from amnesic patients, many of whom display massive deficits with regard to declarative memory but whose procedural memory systems may be unimpaired.

Figure 7.1 A standard classification of long-term memory systems in cognitive psychology.
Graf and Schacter (1985) and Schacter (1987) propose a distinction between implicit and explicit memory, along lines closely resembling the procedural/declarative distinction. A problem with Cohen and Squire's model is that it merely describes, but does not explain, certain patterns of cognitive impairment associated with amnesia. One possibility is that amnesics suffer from encoding or 'activation' problems. Activation theory (e.g. Graf et al. 1984) suggests that implicit memory (but not explicit/declarative memory) is handled by dedicated neural structures that operate automatically and are relatively independent of other brain functions. Processing theory (e.g. Roediger and Blaxton 1987) meanwhile suggests that implicit and explicit memory systems, whether or not they also correspond to discrete neural architectures, have different proprietary inputs. In this view, implicit/procedural memory processes data presented by perceptual systems, whereas explicit/declarative memory is geared up to process the outputs of internal cognitive mechanisms (see Figure 7.2).

The general relationship between implicit and explicit memory presented by processing theory seems intuitively plausible, up to a point; but, clearly, the construction of implicit knowledge is not always empirically driven (i.e. driven by the outputs of input/perceptual systems). Some forms of implicit knowledge seem to result from the repeated application of explicit rules. For instance, learning to drive a car may begin by encoding a set of verbal instructions, such as 'press down on the clutch pedal before engaging the gear stick; then apply pressure to the accelerator while slowly releasing the clutch'. Anderson (1983) develops a detailed model, known as ACT*, to account for the processes by which declarative knowledge, of the above sort, is transformed through repeated rehearsal (i.e. by practising) into automatic,
habitual, and thus implicit skills. In its general outline, the ACT* model (Figure 7.3) contrasts starkly with the picture presented by processing theory (as depicted in Figure 7.2). Nevertheless, this contrast does not necessarily amount to a contradiction. The relationship between implicit and explicit memory is most profitably envisaged as a two-way street. Karmiloff-Smith’s recent theory of ‘representational redescription’ (or ‘RR’) may help to explain why.

According to Karmiloff-Smith (1992), learning is a recursive process in which input systems dynamically interact with internal cognitive processes, producing progressively more explicit, consciously accessible understandings. Karmiloff-Smith envisages learning as a four-phase process. In the first phase, procedural competence may develop through empirically driven experimentation or through the application of explicit instructions. Once a set of automatized skills and habits has been established, it takes the form of unconscious or implicit knowledge. As such, it is informationally encapsulated – it cannot be modified by information from other parts of the cognitive apparatus. A nice illustration of this feature of implicit knowledge is provided by Roy D’Andrade (1995: 144–5), who points out that Americans driving in England may be able to combine implicit driving skills with explicit knowledge of the ‘drive on the left’ rule but when suddenly presented with a risk of head-on collision will feel compelled to swerve to the right (with potentially disastrous consequences). Implicit knowledge is ‘informationally encapsulated’ in the sense that it cannot take into account explicit knowledge, even when this is a matter of life and death.

Thus, Karmiloff-Smith argues that implicit knowledge is bracketed off from knowledge in other domains, even (as in the car-driving
example) within the domain to which it becomes attached. Such knowledge constitutes a set of 'representational adjuncions' which 'neither alter existing stable representations nor are brought into relationship with them' (1992: 18). Encodings at this level are 'procedure-like' and 'sequentially specified' (1992: 20), giving rise to increasingly fluent behavioural repertoires and correspondingly rapid and automatic perceptual and sensorimotor adjustments. Phase one, in Karmiloff-Smith's model, thus culminates in 'behavioural mastery', which she refers to as 'level I' (i.e. Implicit).

The second phase consists of the formation of more explicit representations – the progressive reformulation of implicit knowledge as a set of inductively derived principles ('level E1'). This is a process by which the internal processing apparatus reformulates information encoded in the input systems as a set of essential elements or metonymical features. Nevertheless, this sort of internally processed, inductive knowledge is initially inaccessible to consciousness. As such, it cannot be brought into accordance with implicit representations contained in the input systems. Internally generated, explicit knowledge, however, exercises greater control over inferential processes than the implicit representations from which it was constructed. Expressed somewhat differently, theoretical considerations override purely empirical ones. In some domains, this can result in a marked, albeit temporary, deterioration of behavioural mastery.

The third phase in Karmiloff-Smith's model involves a sort of reconciliation of knowledge encoded in the input systems, on the one hand, and generated by internal, inter-domain computations, on the other. This is a process in which our representations become available to consciousness but, initially, cannot be verbalized ('level E2'). Further processing of such intuitive knowledge across domains can lead to its recodification as a 'cross-system code' (Karmiloff-Smith 1992: 23) capable of being verbally described ('level E3').

Karmiloff-Smith develops her argument through a series of fine-grained studies of learning in a wide range of domains (including language, number, physics and notation). For present purposes, it is not necessary to set out the details of her model, or the experimental data available to substantiate (and to challenge) it. Of interest here are the general features of Karmiloff-Smith's model and these can be illustrated by her favourite anecdotal example – how people learn to play the piano.

A novice pianist has to laboriously practice sequences of individual notes before being able to remember them as discrete strings, capable
of being reproduced automatically and fluently. Such fluency amounts to behavioural mastery and, as such, constitutes learning only at an implicit level, engaging on-line cognitive functions. Processing of such knowledge is fast, mandatory, informationally encapsulated, and so on (see above). Anyone, like myself, who has failed to advance much beyond this level in learning to play an instrument, will recognize the difficulty of remembering a piece that one has not played for a long time. Strings of notes and chords, internally fluent, are often hard to combine into an integrated piece. The cues that allow sudden recollection of the links between one musical string and another, or the reactivation of whole strings that were temporarily forgotten, elicit irreducible and automatic units of knowledge. Starting again within a string is extremely difficult, and changing the sequential, procedural features of a string in accordance with a conscious plan proves virtually impossible during the on-line experience of playing. More advanced musicianship requires representational redescription, such that:

the knowledge of the different notes and chords (rather than simply their run-off sequence) becomes available as manipulable data . . . The end result is representational flexibility and control, which allows for creativity. Also important is the fact that the earlier proceduralized capacity is not lost: for certain goals, the pianist can call on the automated skill; for others, he or she calls on the more explicit representations that allow for flexibility and creativity. 

(Karmiloff-Smith 1992: 16)

The development of explicit theoretical musical knowledge, unlike the achievement of behavioural mastery at the piano, allows the transfer of knowledge within the domain of music (encompassing many instruments), but also between domains (such as mathematics and musical notation). At the most explicit level (E3), such knowledge can be verbalized as advanced musical theory, capable of informing and being informed by similarly explicit knowledge in any domain. It follows, of course, that learning in a given domain does not have to proceed unilinearly. The development of new forms of behavioural mastery are driven by explicit knowledge. But the reverse is also true: continually developing forms of performative competence are the motor driving new forms of explicit knowledge. Nevertheless, intra-domain learning cannot proceed downwards (i.e. E3–E2–E1 . . . etc.). As with any two-way street, traffic on each side must proceed in one direction only (see Figure 7.4).
Memory and frequently repeated rituals

Psychological accounts of the relationship between implicit and explicit memory, outlined in the last section, concern themselves with forms of learning that involve procedural rehearsal and the repetitive application of skills. Explicit knowledge with respect to such skills is organized in semantic memory, for instance in the form of a musician's stateable knowledge about melodic sequences, chords, rhythms and so on. These psychological principles ought to be applicable, not only to automatized skills applied in secular life, but also to frequently repeated religious rituals.

A particularly simple example of a frequently repeated ritual action is the Catholic practice of crossing oneself. This behaviour may be initiated in childhood by spontaneous imitation, by explicit instruction, by being guided/manipulated through the motions, or by a combination of the above. It requires a certain amount of procedural rehearsal to achieve fluency with respect to this body practice. Achievement of 'behavioural mastery', however, does not necessarily imply explicit knowledge of the wider procedural context for acts of crossing oneself. An experienced churchgoer in Spain, for instance, may know that a salient trigger for the act of crossing oneself is the sight of the receptacle containing the Eucharistic Host, which in turn may be attributed certain agentic characteristics (e.g. sight and hearing) possessed by God. Thus, the act of crossing oneself is felt to be observed directly by God and directed towards Him. From the viewpoint of a young child, by contrast, the act of crossing oneself and any attendant behavioural
proscriptions (e.g. not speaking loudly), may be mastered as a set of body practices before explicit knowledge of the religious procedural context has become fully established. Level E1 representatons are likely to develop rapidly with the achievement of behavioural mastery, in the form of inductively derived principles such as: 'cross oneself when solemnity is required'. Principles of this sort are applied with the same automaticity as ones that are widespread in secular contexts, such as 'wipe your feet on the doormat when entering the house' or 'shake hands when greeting a stranger'. As such, these behaviours are highly susceptible to overgeneralization.

For instance, Catholics may cross themselves in solemn but non-religious contexts without being aware of doing so. Similarly, people sometimes go through the motions of wiping their feet in the absence of doormats or initiate handshaking with persons who are incapable of participating. A higher level of conscious access to procedural schemas is necessary in order to avoid such overgeneralization (although the need for avoidance varies greatly with the cultural setting). Only by representing automatic actions at a stateable (E2/3) level can a balance be struck between habitual impulses and inductively derived principles, such that one can discriminate readily between situations in which particular body practices are obligatory, optional or simply inappropriate.

Loyalist gaugs of youths in Belfast are accustomed to stopping strangers on the street to enquire about their religious identities. I once heard a joke about a Catholic who, having almost succeeded in bluffing his way past, crossed himself in relief, with consequences no less disastrous than for the American driver (above) who swerved to the right. The joke worked (up to a point) because crossing oneself is obviously an automatized habit. Other examples of crossing oneself are clearly optional, rather than inappropriate. But, for most Catholics, crossing oneself with holy water is obligatory when entering or leaving the church, and procedural schemas may incorporate a supernatural agent (God) towards whom the self-crossing is directed. Such knowledge is potentially stateable and helps to distinguish the act of crossing oneself in church from the same action performed in most other settings. Note, however, that the stateable knowledge available in semantic memory, with regard to the act of crossing oneself in church, does not have to be verbally transmitted. According to the RR model, it is perfectly possible in theory (and probably common in practice) for such knowledge to be acquired, without ever receiving rule-like instructions, simply through regular participation in rituals.
Participants in highly repetitive, liturgical rituals are normally capable of venturing exegetical commentaries on their activities, usually deriving from a body of publicly transmitted, official dogma (see Whitehouse 1992; 1994; 1995; 1996a; 1996b; 1998; 2000; 2001). But are these forms of stateable knowledge also capable of being internally generated, rather than verbally or textually transmitted, via processes of ‘representational redescription’? I think not. The RR model may help to explain the development of procedural (‘how-type’) knowledge in relation to repetitive rituals, but it is hard-pressed to explain the development of elaborate (‘why-type’) doctrinal discourse. Indeed, what the RR model shows is that the distinction between ‘knowing how’ and ‘knowing that’ does not, after all, adequately distinguish implicit and explicit forms of knowing. The RR model suggests that procedural memory (‘knowing how’) can take both implicit and explicit forms, the latter developing out of the former. Exegesis, on the other hand, is always entertained at an explicit level and is not reducible to procedural schemas.

The practice of crossing oneself with holy water is a good example of a repetitive ritual action that lacks official exegesis (or for which official exegesis is generally unknown). The process of representational redescription may generate simple procedural schemas such as ‘cross oneself when entering and leaving the church’, but the deeper: ‘why-type’ question, concerning possible exegetical meanings of the act, can only be generated through conscious, off-line reflection. For instance, one could argue that the mimed inscription of a crucifix is to be understood as a way of commemorating Christ’s suffering. But this exegetical possibility is not widely entertained, and there is no obvious reason why most Catholics should engage in this sort of speculative theologizing.

Frequently repeated rituals, exhibiting a high degree of automaticity, are eminently capable of being reproduced in the absence of exegetical reflection. Unless pressured to do so, people tend not to ask themselves the symbolic motivations or origins of their embodied habits, and this provides ecclesiastical authorities with a golden opportunity for the dissemination of orthodox exegesis. True, the case of self-crossing has been somewhat overlooked in the Roman Catholic Church, but the Vatican provides notably comprehensive and widely disseminated exegetical commentaries on most of its rituals. Thus, the fact that participation in frequently performed rituals does not, in itself, encourage exegetical theorizing opens a vacuum to be filled by the pronouncements of religious authorities. What motivates such
pronouncements has been the subject of much of my previous work on the topic (see especially Whitehouse 1995; 2000). But, from a cognitive viewpoint, it is crucial to note that the transmissive conditions of routinized rituals are ideally suited to verbal transmission of a stable and authoritative exegetical tradition. Repetition acts as a powerful mnemonic device. The exegetical richness we generally find in routinized traditions could not be reproduced in conditions of rare or sporadic transmission (Whitehouse 1992). What we have are congregations of people whose minds are relatively uncluttered by personal (internally generated) exegesis and, at the same time, highly susceptible to authoritative (externally generated and reiterated) pronouncements. It is quite a different matter where religious rituals are rarely enacted.

Memory and infrequently performed rituals

The RR model, as set out by Karmiloff-Smith, focuses exclusively on forms of learning that result from behavioural rehearsal/repetition. Not only is this the means to behavioural mastery, but further repetition is what drives the redescriptions of this knowledge at progressively more explicit levels. Whereas behavioural mastery is the incorporation of automatized habits, its more explicit redescriptions appear to consist of the development of schemas or scripts, culminating in ‘semantic memory’ – a body of encyclopaedic knowledge about the world, manipulable via higher-level, explicit, inter-domain principles of logical motivation, thematic association, and so on. But where, in all of this, do we locate enduring memory for distinctive, rare (or unique) events? Episodic or autobiographical memory seems to be left out of the RR model, even though its role in various forms of learning is manifestly important.

I have previously used the term ‘imagistic practices’ to refer to a complex set of interconnected features in Melanesian religions, which include rare, climactic rituals, the establishment of enduring episodic memories for ritual performances, and highly localized group cohesion (Whitehouse 1995). More recently, I have explored the implications of this model for debates and evidence from a range of disciplines (Whitehouse 2000). Although the latter research attempted to provide a richer description of the cognitive underpinnings of imagistic practices, it proved difficult to account precisely for characteristic features of codification with regard to such imagery. The RR model, somewhat modified to accommodate the phenomenon of long-term, vivid episodic
memory, allows a more precise explanation, at a cognitive level, for the ethnographic findings.

Religious systems indigenous to Melanesia, in common with many other 'tribal' religions around the world, are often founded around highly emotive 'life crisis' rituals, especially initiations, in contrast with the highly repetitive, liturgical, doctrinal religions originating in complex societies (Whitehouse 2000). The former, imagistic mode of religiosity is often incorporated into the world religions as a set of locally variable practices, focused around shrines, saints, minor deities and so on. Such practices tend to be found mainly in cohesive, rural, face-to-face communities, although they are also expressed in minor (albeit sometimes notorious) urban cults, usually of a millenarian and/or apocalyptic nature. Be that as it may, the pre-Christian religions of Melanesia were never of the doctrinal (large-scale, routinized) sort, and most tended towards the imagistic end of the spectrum. Such religions are notable for their lack of elaborate doctrine, or for the restriction of doctrine-like knowledge to small groups of ritual experts. Thus, for the majority of people engaged in imagistic practices, exegetical knowledge appears (on the whole) not to be at a level of explicitness that can be verbalized.

In many Melanesian systems of initiation, novices are tortured so brutally as part of the ritual process that I have described these practices as 'rites of terror' (Whitehouse 1996a). The extreme affectivity and sensual arousal occasioned by such rituals, coupled with the surprising, unexpectable nature of the objects, actions and general environments encountered, trigger vivid episodic memories, encoding many details relating to event sequence, actors' identities, and a variety of seemingly extraneous details (Whitehouse 1995; 1996a; 1996b; 2000). They also seem to give rise to loose and fluid thematic associations based on the principle of iconicity, where concrete properties of ritual choreography and paraphernalia are felt to 'stand for' more abstract processes such as plant growth, spiritual transformation, mammalian gestation, and so on. Nevertheless, it is sometimes only possible to infer these iconic processes on the basis of indirect evidence, since they may not be explicitly stated by participants. One such body of evidence might relate to the clustering of particular images in a ritual sequence, for instance images of substances that naturally increase in volume and thus appear to symbolize or instantiate mystically processes of natural fertility and growth (especially where people say that the ritual is 'good for the crops' even if they cannot tell you how or why). Another body of evidence might focus on the sequential occurrence of imagery as, for
instance, ritual choreography evoking images of physical death or decay followed by images of gestation and birth, may appear to express a notion of spiritual rebirth and regeneration. Sometimes, such interpretations are supported by esoteric mythology or explicit exegetical commentaries supplied by senior ritual experts (see Juillerat 1992; Poole 1982). In other Melanesian societies, no such corpus of secret but explicit verbal information appears to be available (see Gell 1975; Barth 1975). Either way, the majority of ritual participants (e.g. novices, observers and junior initiators) seem to be unable to supply verbal explications of the meanings of ritual imagery. How are we to make sense of all this in terms of available models of the relationship between implicit and explicit memory?

The first point to make is that procedural knowledge concerning rare and climactic rituals is consciously entertained. As indicated in Figure 7.1, episodic memory is a form of explicit memory. When people recall episodes of initiatory tortures or millenarian vigils, their memories are potentially stateable. Chains of events, specifying the procedural sequences of such rituals, are not habituated or automatic, and can only be entertained as explicit knowledge. It is true that even the rarest and most exceptional (e.g. innovative) rituals are likely to incorporate units of habituated action, but the overall form of such activities will be recalled episodically, and therefore available to self-report. From the viewpoint of a young man, recently initiated, his recent ritual ordeals take the form, in memory, of a series of extraordinary (and no doubt disturbing) episodes. He can remember what happened, who did what, where, when, and to whom, as well as all kinds of assorted minutiae (aromas, sounds, visual details, thoughts, feelings, and so on). Since most of these experiences are unique, there is little or no opportunity to organize procedural knowledge for such rituals according to quasi-theoretical, generalizable principles. It is only through subsequent experiences in the role of initiator that he will be able to pick out metonymical features and generate the sort of inductively driven principles characteristic of E1 knowledge. This process of ‘representational redescription’ is not, however, the same as that entailed in routinized rituals.

In the first place, the initiate-turned-initiator is not on a path of converting implicit procedural knowledge into increasingly explicit representations. On the contrary, he starts with explicit procedural knowledge, and subsequent experiences of the initiatory process result in knowledge of a rather less explicit sort (E1), as yet unavailable to verbal report. He may only gradually become fully aware of the way
imagery is consistently 'clustered' and its presentation 'sequenced' over a set of recurrent performances. Secondly, the RR process is retarded. Since the frequency of imagistic practices is low, it may not be until quite late in life that the initiate's understanding becomes largely stateable (E3/4), as is characteristic of ritual experts and elders in many Melanesian societies. Thirdly, the RR process in this case is not restricted to procedural schemas, but actively drives the production of exegetical knowledge. The reason for this is precisely that rituals, in the imagistic mode, cannot be reproduced as automatic, habituated actions but always require off-line, explicit processes of planning and implementation. Indeed, all recorded initiation rites in Melanesia are preceded by secret procedural discussion and conscious coordination. Because procedural knowledge in such cases is also explicit knowledge, it forms part of a cross-system code, by means of which exegesis is generated. Whereas routinized rituals can be (and often are) performed on 'autopilot', in the absence of any kind of reflexivity, imagistic practices must always be a locus of conscious thought, and it would be most surprising if participants did not, therefore, develop idiosyncratic (if tentative) exegetical notions.

These observations may help to explain the widespread lack (or relative paucity) of authoritative doctrinal discourse and exegesis with regard to imagistic practices. Unlike routinized rituals, imagistic practices do not present a vacuum (see above) for religious authorities to 'fill', nor do their elongated cycles of transmission facilitate the stable reproduction of an intricate doctrinal orthodoxy. On the other hand, a rich and revelatory religious experience is possible in the imagistic mode in the absence of authoritative dogma, since every participant is a potential exegete and, given time, a potential authority on religious matters. This explains why exegetical knowledge, with regard to imagistic practices, is highly restricted, available in its fullest form only to experienced experts. The fact that it may never be verbally transmitted, or communicated piecemeal in highly opaque, cryptic allusions and mythological narratives, should not be construed as the absence of exegetical knowledge.

Conclusion

What are the advantages of the above approach, compared with those of existing studies of the relationship between implicit and explicit knowledge in the domain of ritual? First, the approach adopted here promises a more precise and psychologically plausible account of the
acquisition, development and transmission of ritual knowledge. It is no surprise that Robertson-Smith’s distinction between ‘practise’ and ‘doctrinal theory’ now seems somewhat simplistic. Nevertheless, more contemporary dichotomies in social theory, for instance opposing ‘habit’ and ‘dogma’ (Bourdieu 1977), ‘habit memory’ and ‘cognitive memory’ (Connerton 1989), or ‘hegemonic practices’ and ‘ideology’ (Comaroff and Comaroff 1991), are scarcely more sensitive to the complex mechanisms by which cultural knowledge is reproduced ‘on the ground’. As Strauss and Quinn (1997: 39) have noted, in their fine critique of recent studies of ‘resistance consciousness’:

the Comaroffs correlate with hegemonic representations, those representations of the world that ‘are so habituated, so deeply inscribed in everyday routine, that they may no longer be seen as forms of control – or seen at all’ (Comaroff and Comaroff 1991: 25). At the other pole of this continuum – complete awareness – are ideological representations, the explicitly articulated values and beliefs of a particular social group (Comaroff and Comaroff 1991: 24) . . . Much like Bourdieu’s opposition between what is said and unsaid in society (dogma versus doxa) . . . several different cognitive states are lumped together at the hegemonic end where power is naturalised and in the ‘liminal space’ in between hegemony (uncontested) and ideology (contested ideas).

What the Comaroffs, Bourdieu and others fail to recognize is that: ‘at the hegemonic end, there is a clear difference between what is unsaid because it is unknown . . .; what is unsaid because it is very well known, but as a motor habit or image rather than as a set of propositions; and what is unsaid because it would require new connections among scattered bits of knowledge people have’ (Strauss and Quinn 1997: 39).

To this list could be added many more categories of unstated knowledge, including: that which is ‘unspeakable’ in the old-fashioned sense of being profoundly immoral and shameful; that which is secret or restricted; propositional knowledge (as opposed to motor habit) that is too widely known to be relevantly stated (e.g. principles of naïve physics such as gravity and solidity). The point is that implicit and explicit knowledge take a wide variety of forms that need to be distinguished. Moreover, as the RR model suggests, we need to discriminate between degrees of explicitness – for instance between knowledge capable of being transferred between domains but not necessarily stateable, and domain-general knowledge available to self-report. And, finally, the relationship between implicit and explicit knowledge is formed in different ways, and at different rates, in relation to different
cultural practices and regimes of social transmission. All these points are taken into consideration by the approach adopted here.

Secondly, the claims presented in this article are falsifiable in principle and are, for the most part, potentially testable in practice via replicable experiments. Can cases be found, in the ethnographic record, of habituated ritual actions that cannot, in principle, be performed without entertaining exegetical (why-type) knowledge? Are there cases of rare, climactic rites that can be reproduced purely on the basis of implicit motor habits? If the answer to these questions (and numerous others like them which could be posed) is ‘yes’, then a radical modification of the claims I have advanced would be required. Meanwhile, many of these claims can be formulated as hypotheses that, in principle at least, could be tested. For instance, one hypothesis suggested above is that the volume and frequency of internally generated speculations concerning the symbolic motivations of a ritual action performed once only will be greater than for the same ritual action that has become habituated through repetition. This hypothesis would need to be broken down into a series of more precise predictions and subjected to testing in ecologically sound and cross-culturally replicable experiments. Work of this sort is already underway (e.g. Boyer and Ramble 2001), and I am currently planning further experimental research. But the point is that we need to be pursuing empirically verifiable claims, and not simply promulgating ever more extravagant metaphors in the name of critical originality.

Finally, although our explanations should not (without persuasive justification) conflict with well-established findings in neighbouring disciplines, such as psychology, they must also contribute to the construction of distinctively anthropological knowledge, which includes making a contribution to general social/cultural theory. The arguments presented in this chapter are part of a broader, long-term project to describe and account for globally and historically recurrent correlations between patterns of codification and transmission, on the one hand, and of political structure and scale, on the other. This project goes to the heart of a long-standing tradition in social theory, beginning with Émile Durkheim and Max Weber, and providing some of the central concerns of (among others) Gregory Bateson, Victor Turner, Ernest Gellner, Jack Goody, Maurice Bloch and Fredrik Barth (see Whitehouse 1995: ch. 8; 2000). A cognitive approach can help to answer the most tantalizing questions posed by mainstream anthropology. Moreover, cognitive models can also help us to structure the questions we ask. We need, not only to produce more precise,
well-substantiated and empirically productive general theories, but also more reliable and systematic ethnographic data. When we look for something, it is useful to know why, but it is essential to know what to look for, and how.

In truth, we still have far more questions than answers, even in relation to the relatively narrow problems considered in this chapter. What is being advanced here is, at present, just an approach to understanding the nature of ritual knowledge, rather than an understanding of it.

References


