Many of the contributors to this special issue of *Social Anthropology* are interested in a very special type of religious reflexivity – namely, the experience of doubt and disbelief with regard to religious assumptions. Nevertheless, religious scepticism seldom occurs in isolation from other forms of reflexivity. Indeed, the extent to which people engage in self-conscious reflection on religious representations generally provides a rough index of the prevalence of religious doubts and uncertainties.

This article will attempt to show that the incidence and nature of religious reflexivity, including experiences of doubt and disbelief, are closely linked to the frequency of religious transmission. Highly repetitive religious transmission can effectively inhibit reflexivity on the part of religious adherents. By contrast, rare or unique experiences of traumatic ritual episodes make a reflexive stance among participants more or less inevitable. The evidence I will present in support of these arguments comes from both cognitive science and ethnography.

**Religiosity and repetitive religious transmission**

Reflexivity is a conscious mental activity – in other words, it involves the construction of explicit representations. Whatever we are reflecting on may be knowledge that was initially implicit or it may be knowledge that has always been entertained explicitly but never questioned or interpreted. But the act of reflecting on something generates conceptual activity that is, in principle, available to self-report. Reflexivity, in short, generates stateable ideas. Now, a great deal of religious knowledge is definitely not explicit and, therefore, by definition, does not engage processes of reflexivity. In order to explain why, we need to take a brief detour into the field of cognitive science.

Within developmental and cognitive psychology, two contrasting (but potentially complementary) theories of the relationship between implicit and explicit knowledge are currently available. Anderson (1983) has argued that the learning of skills involves the transformation of declarative/explicit knowledge into procedural/implicit knowledge, which is fine-tuned through repeated practical applications. Anderson’s model, known as ACT* (pronounced ‘act-star’), predicts a steady increase in proficiency on the part of learners, as declarative knowledge is applied procedurally and each successful procedural application is carried out more efficiently than the last (until the learning process is complete).

Karmiloff-Smith (1992) has argued that learning may also proceed in the opposite direction – that declarative knowledge may be constructed out of repeated applications of procedural knowledge. In this view, learning begins with fine-tuning of
procedural skills resulting in proficiency at a given task, or what Karmiloff-Smith terms ‘behavioural mastery’. The knowledge undergirding such skills is implicit and inaccessible to other domains, but over time becomes consciously accessible and stateable.

Karmiloff-Smith describes the transformations leading from procedural to declarative knowledge as a process of representational redescription (RR). The RR model is supported by evidence in relation to a wide range of domains, that at least some forms of learning follow a U-shaped curve and are not simply a matter of steadily improving proficiency. A striking example is the apparent deterioration of object-manipulation skills between ages four and six. Four-year-olds, confronted with the task of balancing a set of bricks, approach the problem like little empiricists. Regardless of whether the bricks are asymmetrical or have visibly or invisibly unequal weight distribution, four-year-olds use them to construct viable towers. This task is performed using implicit procedural knowledge, encoded in the child’s input systems, which considers not whether the observable properties of a given block should make it balance in a particular position but only whether it does balance. With practice, the sensorimotor and perceptual skills of four-year-olds become sufficiently refined that they may be described as having achieved ‘behavioural mastery’ of the task of constructing towers out of building blocks.

At around age six, however, theoretical principles of weight distribution override empirical considerations (Karmiloff-Smith 1992: 82–7). Symmetrical blocks that have been invisibly and unevenly weighted so as to violate six-year-olds’ geometric-centre theory, are simply rejected by these children as ‘unbalanceable’, even though four-year-olds (unconstrained by the geometric-centre theory) can incorporate the blocks successfully. There is, in other words, a deterioration of behavioural mastery, attributable to the executive control of quasi-theoretical assumptions about weight distribution and gravity. At around age eight, the task of balancing blocks, including those with invisible uneven weight distribution becomes possible again, even though the geometric-centre theory can still be shown to be operative. Theory and empirical evidence are reconciled in the block-building performances of these older children. Karmiloff-Smith provides similarly persuasive evidence for the RR model in relation to the construction of knowledge in several other domains (including language, number, theory of mind and notation). Of course, learning in a given domain does not have to proceed unilineally. As predicted by Anderson’s ACT* model, explicit/declarative knowledge may provide a starting point for the development of skills in a particular domain or sub-domain, these rules being subsequently reinforced by experience.

Now, theories of the relationship between implicit and explicit knowledge have, so far, focused heavily on forms of learning that result gradually from behavioural repetition and habituation. Not only is this the means to procedural proficiency but, at least according to the RR model, further repetition is what drives the redescription of this knowledge as a set of quasi-theoretical principles. Whereas ‘behavioural mastery’ is the incorporation of procedural habits, its redescription appears to consist of the development of ‘schemas’ (initially implicit), based on recurrent confirmatory experiences. As such, both ACT* and RR models ought to be applicable to the learning and conceptualisation of ritual procedures that are subject to frequent repetition.

Karmiloff-Smith’s (1992) account of implicit knowledge (encoded in procedural form, specifying behavioural sequences that are bracketed off from other representa-
tions) reads almost like an attempt at defining routinised ritual. Her notion of ‘brack-et-ing’ is especially interesting. What she is referring to is the informational encapsulation of implicit knowledge, disallowing both intra- and inter-domain representational links. Consider the procedural knowledge entailed in weekly Christian church services. These may involve various alterations of posture, coordinated among worshippers in the congregation, as sequences of standing, sitting and kneeling. Although engaging the same sensorimotor and perceptual apparatus as more or less identical alterations of posture in secular contexts, the ritual setting provides invariable linkages between varied postures and particular context-dependent activities that are specified in advance. Thus, standing in the middle of a service may be invariably linked with the activity of singing, kneeling with praying and sitting with listening, even though there is no obvious instrumental connection between these specific activities and the bodily postures they require.

There is no technical reason why people should not be able to sing, pray and listen in any of the three stipulated postures. Infants and toddlers brought to church every week therefore have to learn the stipulated character of ritual bodily practices as something fundamentally different from instrumental uses of the body in everyday life (where bodily postures may be an instrument of communication or of modifying the material environment, or the conditions of bodily experience itself). In this sense, any given unit of ritual behaviour is bracketed off both from non-ritual behaviour and from other units of ritual behaviour; it is informationally encapsulated insofar as behavioural mastery operates independently from other more explicit considerations; it is automatic and mandatory, in that one stands, sits, and kneels without any need for conscious reflection and in swift (automatic) response to cues from the environment.

Now, although people who attend church regularly do not need to have quasi-theoretical knowledge of the links between standing and singing, kneeling and praying, and sitting and listening, such knowledge is bound to emerge over time. A developmental story might run like this. Pre-schoolers regularly attending church may rapidly learn to sit, stand, and kneel in response to some of the same cues that trigger automaticity in the behavioural repertoires of church-going adults (e.g. movement in the rest of the congregation). Around age six, this behaviour may have undergone representational redescription, so that the child’s behaviour reflects quasi-theoretical links between particular activities and ritual bodily postures (that is, standing up requires singing and vice-versa, whereas sitting down requires shutting up!). This might lead to a deterioration of behavioural mastery, as in experiments designed to test object-manipulation skills. It would be particularly interesting for instance, to test this intuition by putting regular church-going children of various ages through an unorthodox service wherein some singing occurs in a kneeling posture. Would six-year-old children describe the singing as ‘praying’, but four- and eight-year-olds not? By age eight, one might anticipate reconciliation of empirically driven and quasi-theoretical knowledge of Christian services, such that singing-while-kneeling was simply an unorthodox way of singing.

The RR model suggests that ‘routinised’ forms of ritual transmission, establishing behavioural mastery at the performative/procedural level, will gradually generate quasi-theoretical procedural knowledge. All this may well constitute learning only at an implicit level, however. It is possible in principle, and probably quite common in practice, for Christians to participate in liturgical rites on autopilot (so to speak), without actually reflecting on how they know what to do at any given stage. Nevertheless,
quasi-theoretical principles (such as the rule: ‘genuflect while praying’) are always potentially accessible to verbal report. It is the same with geometric-centre theory, which adults normally apply when balancing blocks without necessarily being conscious of doing so. But when asked why they do not try to balance a block on its edge, few people would have difficulty explaining that most of the weight of the higher block must be distributed across the surface of the lower one.

At the same time, however, not all quasi-theoretical knowledge of this kind is an outcome of implicit, empirically-driven procedural knowledge. There is considerable evidence that at least some intuitive ontological knowledge is underdetermined by experience, and therefore partly attributable to innate predispositions to represent the world in certain ways (Whitehouse 2001). Thus, although geometric-centre theory may develop through repetitive experiences (i.e. implicit procedural learning), other principles of naive physics upon which the geometric-centre theory depends, may be innately prespecified. For instance, the gravitational principle that unsupported objects fall downwards or the principle of solidity (that solid objects cannot pass through each other), appear to develop in infancy long before such principles could have been confirmed by experience. The same may be said of certain (normally implicit) quasi-theoretical knowledge undergirding religious ritual. For instance, as well as activating experientially-derived, implicit rules about the links between bodily postures and the distinct activities of singing, listening and praying, liturgical rites also activate intuitive ontological principles such as the notion that humans are animated by intentions that cannot be directly perceived. Such principles may be applied at an implicit level, even in the face of explicit, doctrinal rules that attribute to God the ability to ‘see into’ people’s minds. This point is of great importance theoretically, as we shall presently see.

Procedural knowledge of ritual, whether empirically-based or governed by quasi-theoretical principles, is only concerned with ‘how to do’ a ritual. It is not concerned with ‘why to do it’. The why-type question has to be answered at an explicit level – it is a request for declarative knowledge or exegesis. Repetitive rituals are commonly accorded extensive exegesis. In attempting to explain this in cognitive terms, it is tempting to hypothesise that explicit, why-type knowledge of rituals is reflexively derived from implicit how-type knowledge, for instance through an advanced process of representational redescription. This is extremely unlikely, however.

Firstly, spontaneous, internally-generated reflexivity is not automatic. Experienced worshippers often cannot say why they perform a particular habituated ritual action, even though they may suspect that it has some authoritative theological justification. Secondly, when worshippers are pressured to reflect on questions of symbolic motivation, in the absence of externally derived exegesis, they seem to do so, not with reference to implicit procedural knowledge, but with reference to thematically connected schemas entertained at an explicit level. For instance, a Catholic asked to explain why she crosses herself with holy water upon entering the church for mass, may have no idea at all. But, when pressed, she may associate it with the practice of removing one’s shoes upon entering a mosque, on the grounds that both represent an act of respect or a process of ‘cleansing’.

This sort of backwards justification can be examined most easily in relation to highly repetitive rituals for which official exegesis is systematically unavailable. Although comparatively rare, such cases do exist – indeed, they are particularly prominent in logocentric traditions that, on doctrinal grounds, entertain ambivalent attitudes towards ritualism. Such attitudes are readily apparent in early Protestantism,
particularly in its more puritanical manifestations (Collinson 1997). Similarly, the Judaic notion of a 'natural law' has led some Jewish theologians to doubt the explicability if not the efficacy of sacrifice (Herrenschmidt 1982: 33). In some cases, such ambivalence gives rise to ritual forms that lack a strong official justification and exegesis. A particularly clear example of this is the puja ritual, as recently described among Jains of Jaipur. Humphrey and Laidlaw (1994) explain that ritualism in general, and the puja in particular, occupy a dubious position in Jainism. Although a highly repetitive (often daily) ritual for practising Jains, the puja is not accorded official exegesis. Indeed, it is widely regarded as an 'empty ritual' which it is the responsibility of individual worshippers to 'endow' with meaning through highly personalised and largely private acts of reflexivity.

The puja ritual is performed in temples elaborately decorated with representations of ascetic renouncers, saints, and protector deities. The most important of these are marble, stone or metal statues of ascetic renouncers, invariably assuming postures of meditation. The puja consists of a wide range of acts in which these idols are bathed, presented with offerings, annointed and addressed in song, prayer, chants and acts of meditation. At a procedural level, the puja consists of numerous units of action, conceptualised sequentially and taxonomically. For instance, the pushpa puja is a unit of action in which flowers are placed on an idol; it is construed in sequential terms as the third stage in the performance of a complete puja ritual, but it is also envisaged taxonomically as a special type of anga (limbs) puja which, in turn, is a special type of dravya (material) puja. Humphrey and Laidlaw show that procedural knowledge of the puja consists of both implicit, experientially-driven performatve competence and quasi-theoretical principles relating to ritual sequence and taxonomy. Considerably less convergence is apparent, however, in relation to people’s reflexive representations of why the ritual actions entailed in the puja take the form that they do.

For instance, interviews with worshippers produced a startlingly wide variety of spontaneous reflexive commentaries on the pushpa (flower) puja. To one Jain, this action meant that her knowledge should blossom like a flower; to another, it meant that his feelings should be soft and gentle like a flower; to another, it meant that the scent of flowers should increase the pleasure of worship; to another, flowers encapsulated a notion of purity; and so on. Moreover, some interviewees seemed to lack reflexive knowledge in relation to the pushpa puja, and appeared to be operating only at the procedural/implicit level. As one informant observed: ‘I do not know the reason why I put flowers, I just do it’ (1994: 35).

In their discussion of reflexive commentaries on the Jain puja, Humphrey and Laidlaw observed: ‘the problem appears to be a superabundance of meanings – meaning untamed’ (1994: 36). Their solution to this problem hinged on a notion of ritual as a special type of action that lacks intrinsic intentional meaning. Non-ritual actions such as placing a lid on a pot of water suspended over a fire have an intrinsic intentional meaning. As long as we can reasonably attribute to the cook certain basic understandings about the physics of heating liquids, s/he is clearly intending to trap heat in the pot and hasten the process of boiling. In contrast, we cannot make such inferences about the intentions of ritual actors because their actions are stipulated in advance and lack intuitive relations between means and ends. Since intentional meaning is not contained in ritual actions themselves, the attribution of almost any meaning seems to be possible. In other words, ritual meaning appears to be up for grabs and so, in cases like
the Jain *puja* where tight control over the range of exegesis is not exercised by religious authorities, we find an apparently limitless range of meanings being bandied about.

Humphrey and Laidlaw’s data are highly instructive, and their theoretical arguments fundamentally persuasive. Nevertheless, if we are slightly more precise about the cognitive principles undergirding the *puja*, the forms of knowledge it sustains seem to be less mutable than Humphrey and Laidlaw suggest.

Procedural knowledge with regard to the *puja* is quite tightly constrained in that the varieties of habituated ritual action that count as *pujas* as well as the rules governing their sequential recurrence are quite widely shared and finite. For most people, that is probably all you need to know in order to participate fully and competently in the *puja*. On the whole, Jains probably do not speculate to any great extent on why they perform the *puja*, or why it takes the various specific forms that it does. But insofar as people do engage in this sort of reflexivity, for instance as a result of direct questioning by ethnographers, they come up with conceptually simple exegetical commentaries. For instance, those who say that flowers are placed on the idol because they have a pleasant aroma appear to be offering a technical motivation for this type of *puja*. Exegesis of this sort is often derived from closely-related cultural schemas and idioms, for instance that might conceive of inner states (such as serenity) as capable of ‘blossoming’. In principle, the potential repertoire of such interpretations is quite wide but, from the viewpoint of the individual worshipper, this repertoire is constrained by the limitations of semantic memory and the cognitive resources invested in exegetical speculation. Presumably, most Jains do not try to memorise lists of possible meanings of the *puja* and, in practice, are only able to remember a few exegetical possibilities at any given time, if they are entertained at all. The only conceptually complex exegetical commentaries cited by Humphrey and Laidlaw appeared to derive from written sources or the verbally-transmitted teachings of ascetics. But in order for such representations to have a significant impact on lay religious sensibilities, they would need to be both widely and frequently transmitted. Since they are neither, the exegetical meanings of the *puja* for most Jains are, far from being fecund and ‘untamed’, somewhat limited.

The *puja* ritual, although it is not unique, is something of an odd case. Its theoretical importance, as far as the present argument is concerned, is that it demonstrates the unconnectedness of procedural and exegetical knowledge in relation to highly repetitive rituals. This is most clearly seen where official exegetical discourses are lacking, and cannot therefore be causally connected to the reproduction of implicit ritual knowledge. But routinised religion is seldom this short of official exegesis with respect to its rituals. In most cases, children are told from an early age various explicit meanings of the liturgical rituals in which they participate. For instance, most Catholic children who regularly attend mass would probably have little difficulty providing quite elaborate and convergent commentaries on the significance of Holy Communion. Now, this kind of official exegetical knowledge tends to be much more conceptually complex and difficult-to-remember than the sorts of reflexive, internally-generated interpretations proffered by Jains in relation to the *puja*. Returning to the example of Holy Communion, this involves hard-to-grasp notions of omniscient agency, transubstantiation, redemption and so on. Such representations are clearly not the outcome of spontaneous reflexivity, and they require considerable time and energy to transmit and reproduce. Only in conditions of quite regular reiteration or review could such representations exercise an ongoing and stable influence over the religious imagination (Whitehouse 1992). Where such concepts are found, they are not only
unconnected with varieties of procedural knowledge but may even conflict with them. This is suggested by recent experimental research by Justin Barrett and others.

In his early experiments, Barrett demonstrated a tendency for official representations of god as omniscient and omnipresent (‘theologically correct’ or TC concepts) to be represented on-line in more down-to-earth, anthropomorphic ways. For instance, people may know that god is everywhere at all times (because this information has been explicitly transmitted in religious discourse) but, whenever such processing of god-concepts has to be fast and efficient, people actually represent god as having to deal with people’s problems one at a time (Barrett and Keil 1996). On-line god-concepts are not transmitted as explicit rules, in the way that TC concepts of an omnipresent deity clearly are. Anthropomorphic representations of god are derived from implicit, quasi-theoretical knowledge, both experientially driven and derived from intuitive ontological knowledge. Thus, violations of explicitly transmitted TC concepts, when the cognitive system is under pressure, are not at all random. They result from the application of rules that are richly encoded, because derived from extensive experience and probably also from innate cognitive biases.

Barrett has recently turned his attention to representations of religious ritual. In current experiments, he is trying to establish whether the intentional states of ritual participants are judged to be more important to the success of rituals in cases where supernatural agents are attributed the power to read people’s minds (‘smartgods’) than in rituals where such agents lack this power (‘dumbgods’). Barrett is now investigating the possibility that dumbgod concepts are activated on-line in ritual performances, even where smartgod concepts prevail in TC discourse. If that turns out to be the case, then it further supports a distinction between explicit, off-line representations of routinised ritual, transmitted verbally (for instance as official exegesis) and on-line procedural knowledge.

Additional evidence comes from my ethnographic research on a religious movement called the Pomio Kivung, in Papua New Guinea (Whitehouse 1995). The Pomio Kivung imports from Catholic and Methodist missions a Judeo-Christian ‘smartgod’ with mind-reading capabilities. Pomio Kivung rituals are deemed efficacious only if the correct internal states are observed by participants, and these are closely scrutinised by god. Among the many routinised rituals of the Pomio Kivung is a version of confession, in which followers seek absolution for their own sins and those of their ancestors. This ritual, like all others, is explicitly regarded as ineffective if the correct internal states are not observed by participants. That is the official, TC view among Pomio Kivung adherents, according to which god is able to observe directly what participants in the ritual feel and think.

Now, as with most communal activities in the Pomio Kivung, absolution rituals have to be performed at the same time as carrying or nursing infants. When the entire village is engaged in a ritual, there is nowhere for parents to leave dependent infants, and no particular desire or need to establish such facilities. That being so, some parents are inclined to guide their infants through the absolution rituals as if they were actors in their own right. Nobody ever objects to this, but nor is it considered necessary or desirable. At the same time, everybody agrees that babies are incapable of observing the correct internal states necessary to merit absolution. If this knowledge were deeply encoded and on-line we should not expect participation in absolution rituals to be extended to babes-in-arms. Such behaviour is probably guided by inter-
nally-generated, quasi-theoretical principles operating on the basis of a ‘dumbgod’ model. In other words, standard agentive characteristics are attributed to God in the absence of conscious reflection on the matter. This is further evidence that reflexive stances are not automatically generated in relation to highly repetitive rituals.

To summarise so far, there appear to be five levels of knowledge in relation to frequently-repeated rituals, as follows.

1 Implicit, empirically-driven procedural knowledge, or what Karmiloff-Smith calls ‘behavioural mastery’. It is such knowledge that allows worshippers, at least in principle, to perform repetitive rituals without conscious reflection, in automatic response to environmental cues.

2 On-line, quasi-theoretical knowledge concerning ritual procedures. Such knowledge may redescribe Type 1 knowledge, according to the RR model, but it may also incorporate intuitive, perhaps innately specified, default assumptions from a number of domains. Unintended innovation in relation to repetitive rituals is likely to be heavily shaped by knowledge of this type. Although mostly implicit, such knowledge may also be available to verbal report, if, for instance, people are encouraged to reflect on the matter.

3 Verbally-transmitted procedural rules – e.g. kneel when praying or stand when singing (encoded in semantic memory). Such knowledge is most likely to be stated when instructing children/novices how to conduct worship. It may itself have been acquired verbally or be internally derived from implicit rules. In the ACT* model, such knowledge drives learning of Type 1, but (since it may also derive from Type-2 knowledge) it is not essential to the development of knowledge of Types 1 or 2.

4 Internally-generated, speculative exegesis concerning why rituals take the specific form that they do, and why they must be performed. This type of knowledge is off-line and explicit. It is not, however, automatically generated and is not caused by knowledge of Types 1, 2 and 3. If official exegesis is also available, people may refrain from producing speculative interpretations of their own, or at least be fearful or embarrassed about communicating them. Of course, people simply may not be bothered to reflect on their rituals in this way, unless encouraged to do so. At any rate, such reflexivity is likely to generate relatively simple exegetical observations.

5 Externally-derived exegesis, often regarded as authoritative, which is obviously also explicit and off-line. This type of knowledge is unconnected to knowledge of types 1, 2 and 3 and may conflict with it, without people noticing. Knowledge of Type 5 is often highly elaborate and hard-to-learn, requiring frequent and extensive transmission, and probably also systems of writing in order to be sustained in a stable form.

**Reflexivity and rare, climactic rituals**

Both ACT* and RR models were designed, like virtually all theories of learning in cognitive science, to describe and account for the acquisition of semantic and procedural knowledge. But where, in all of this, do we locate enduring memory for distinctive, rare (or one-off) events? Episodic or autobiographical memory seems to be left out of such models even though its role in various forms of learning is manifestly important.

Rare, climactic rituals often produce episodic memories for ritual performances
through a combination of sensory stimulation and cognitive shocks. This type of religious experience might in some cases be described as ‘ecstatic’, but often it is more traumatic than euphoric. In many systems of Melanesian initiation, for instance, novices are tortured so brutally as part of the ritual process that I have described such practices as ‘rites of terror’ (Whitehouse 1996a). The extreme affectivity and sensual arousal occasioned by such rituals, coupled with the surprising, unexpected nature of the objects, actions, and general environments encountered, trigger vivid episodic memories, encoding many details relating to actions actors’ identities and a variety of seemingly extraneous details (Whitehouse 1995, 1996a, 1996b, 2000).

In contrast with the knowledge people have for how to perform routinised rituals, which is largely implicit and procedural, episodic memory for rare, climatic rituals is explicit and largely non-sequential. For instance, having participated in a series of traumatic initiation rites, I may be able to recall many distinct ritual episodes with great clarity and in considerable detail, without necessarily remembering the order in which they occurred. Insofar as that order can be reconstructed from memory, it is likely to be on the basis of deductive reasoning rather than direct episodic recall. Thus, in attempting to work out whether a ritual episode involving incision of the forearms occurred before or after an episode of whipping with nettles, I may know that it came after only because I can recall the pain of nettle stings while waiting for the operation on my forearms to take place. Procedural knowledge concerning such practices is therefore constructed very differently from procedural knowledge of routinised rituals. In societies where ‘rites of terror’ are staged periodically, and an emphasis placed on faithful reproduction of past performances, those responsible for coordinating the rites often have to confirm in detail, not the meaning or content of ritual episodes, but the correct sequence (Barth 1987: 26). The first point, then, is that procedural knowledge for such rituals is processed at an explicit level, whereas, in routinised rituals, much of this is implicit.

Exegetical knowledge for rare, climactic rituals is not always available to verbal report. Participants may profess complete ignorance of such knowledge and, unlike the Jains interviewed by Humphrey and Laidlaw, appear unable to construct off-the-cuff symbolic motivations. Even in such cases, however, there is often indirect evidence that concrete properties of ritual choreography and paraphernalia are felt to ‘stand for’ more abstract properties, such as plant growth, spiritual transformation, mammalian gestation and so on. 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 symbolise or instantiate mystical 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. In other cases, no such corpus of secret but explicit verbal information appears to be available. 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.

Whereas procedural knowledge for rare, climactic rituals is explicit, exegetical knowledge seems to be implicit, at least in the early stages of its development. At any
rate, ethnographic studies of rare, climactic rituals provide some support for the view that intuitions about the well-formedness of such rituals and other forms of reflexive knowledge develop through long-term experience (Barth 1975). The challenge is to account for this in a precise cognitive model.

The first thing we must recognise is that, due to the infrequency of climactic rites, the discernment of recurrent patterns with regard to ritual actions and the materials they utilise cannot proceed rapidly. It may take many years of repeated involvement in such activities to become aware of the fact that the sacred substances used and actions performed have particular properties and not others. Among the Baktaman of inner New Guinea, for instance, the ritual uses of hair, fur, fat and dew are subject to similar taboos (Barth 1975), but this inference could only be drawn after repeated encounters with the relevant ritual actions, which in practice takes a very long time. The classification of ritual acts on the basis of such analogues is inhibited by the particularity of the episodic memories in which these acts are encoded. Although, in the Baktaman case, the ritual treatment of pork fat and hair is subject to similar taboos, these sacred substances are associated with discrete and incomparable ritual episodes. If fat and hair are felt to be alike, there is no reason to suppose that the analogue must be consciously entertained. Such knowledge could certainly develop at an implicit level, through the same inductive processes that lead to quasi-theoretical knowledge in the block-balancing task, discussed earlier.

The crucial question here, however, is why implicit inductive theorising in relation to rare, climactic rituals focuses on ritual meanings, whereas in the case of routinised rites, it seems to focus only on ritual procedures. The answer to this may lie in different processes of reflexivity involving thematic association. Since procedural knowledge of repetitive ritual actions is bracketed off from other types of knowledge (i.e. fast, automatic, obligatory and informationally encapsulated), thematic association between procedural schemas can only occur at an explicit level. In other words, if crossing oneself with holy water creates a link with other schemas, such as the schema for how to behave upon entering a mosque, then this link must be entertained consciously. Thematic associations of this sort are not in principle restricted to the ritual (or even the religious) arena. There is no reason why, for instance, the act of crossing oneself with holy water might not be thematically linked with the practice of removing one’s hat before entering a domestic home, or even washing one’s hands before dinner. Indeed, it is perfectly possible that such analogues have been pursued in sermons stressing the ideal seamlessness of conduct in church and everyday life.

By contrast, procedural knowledge concerning rare, climactic rites, is constructed around unique episodes and it is precisely the distinctiveness of episodic schemas that obstructs the production of thematic associations with domains of semantic knowledge. One’s memory of receiving incisions to the forearms, for instance, is not reminiscent of any everyday experience – if it is thematically linked to anything, it is to other traumatic ritual episodes. But such links may initially be implicitly formed, on the basis of sensory as well as conceptual connotations. In this way, the domain of exegetical theorising is demarcated and set apart from other domains of knowledge. As implicit, inductive theorising becomes increasingly explicit and off-line, as a result of long-term experience, cross-domain links may be entertained, but these can never assume the richness of sensory and affective associations established between the ritual episodes themselves.

Where analogic links between ritual acts, objects and sequences are explicitly
entertained, they may of course be reformulated in an oral format, for instance in a corpus of mythology or official exegesis. This does not necessarily happen, however, with regard to rare, climactic rituals, and where it does occur, the exegetical tradition tends to be very different from the sort found in routinised religions. If oral transmission of this type occurs at all, it generally does so quite rarely and in a piecemeal fashion (Juillerat 1980). In the absence of systems of writing and regular review, verbally transmitted exegetical knowledge is likely to be organised around mnemonic devices such as grand mythological narratives or song lyrics, rather than around coherent and logically-integrated theological principles. It is also likely to become a domain of expertise, monopolised by specialists and philosophers who have independently arrived at certain exegetical inferences and who organise their renditions of mythology around that knowledge. Such discourse often takes the form of a highly mutable and poorly shared esoteric tradition.

These suggestions would need to be substantiated systematically by both ethnographic and experimental evidence. Nevertheless, data presently available suggest that rare, climactic rituals sustain four main types of religious knowledge, as follows.

1. Off-line explicit procedural knowledge in which the content of ritual actions is specified in episodic memory and their chronological sequence largely deduced from this content rather than remembered directly.

2. On-line exegetical knowledge, based on tentative and largely implicit associations between ritual acts or objects, on the grounds, for instance, that they elicit similar sensory or affective states or occur in the same structural positions within a sequence. Where such associations are implicit, evidence of their existence may be provided by convergent intuitive judgements concerning the well-formedness of rituals. Through long-term experience of periodic rites, knowledge of this sort is likely to become increasingly explicit, as associational links between ritual elements are strengthened through repetition.

3. Off-line, internally-generated exegetical knowledge, based on explicit classification of ritual actions and objects according to analogic principles. This sort of knowledge is likely to be available only to ritual experts and elders, whose extensive experience of periodic rites facilitates confident recognition of recurrent patterns, and the formation of exegetical schemas.

4. Off-line, verbally-transmitted exegetical knowledge. Not all climactic, periodic rituals are associated with knowledge of this sort and, if they are, it may be highly restricted (for instance, available only to experienced persons who have already acquired knowledge of Type 3). In principle, knowledge of Type 4 could have the same general character in both doctrinal and imagistic traditions but, in practice, this is seldom the case, due to the effects of variable transmissive frequency on representational complexity and stability.

**Epilogue**

I did warn at the outset that this article would focus more heavily on religious reflexivity in general than on the rather narrower topic of doubt and disbelief, which may be regarded as special forms of reflexivity. But, in closing, let me briefly try to relate what I have said on the question of religious scepticism.

I have argued that in highly routinised regimes, rituals are in a very real sense
'empty procedures', in relation to which a reflexive stance is not automatic. In such traditions, explicit religious knowledge typically takes the form of official dogma and exegesis, the reproduction of which does not necessarily entail processes of reflexivity. Less commonly, as in the case of the Jain puja, such official exegesis is lacking and repetitive rituals can, in the real world, appear to be empty procedures and nothing more. It follows that both Christians and Jains are capable of being profoundly unreflexive participants in their religions. As such, there may be little occasion for doubt. Contradictions between implicit and explicit forms of religious knowledge, as well as between disparate domains of explicit dogma, may never be subjected to conscious scrutiny, or trigger processes of critical evaluation. Paradoxically, it is the official purveyors of routinised religions (the gurus and the priests), dealing as heavily as they do in explicit forms of religious knowledge, who are most prone to reflexivity in general, and doubts or crises of faith more particularly. The more practice-based forms of lay participation may generate considerably fewer opportunities for reflexivity and scepticism.

Rare, climactic rituals produce a very different story. Such practices are never empty procedures because participants are forced into processes of reflexivity, through which all valued religious knowledge is generated. Even if such knowledge is verbally stateable, it is often only fully intelligible to those who have generated exegetical interpretations of their own, through personal experiences of participation in rituals. In view of this, native exegesis, where it exists, only ever scratches the surface of what people know about their rituals. A Barasana shaman once remarked to Stephen Hugh-Jones that ritual knowledge is not something that can be learned in the same way as western knowledge taught in schools. 'For that reason,' he added dismissively, 'you can go on writing down what I tell you for as long as you like but you will never make the grade' (Hugh-Jones 1994). Such forms of religious transmission, premised as they are on processes of reflexivity, are liable to generate doubts. Indeed, in religious traditions operating in this way, such as the initiatory ordeals of certain Melanesian fertility cults, the deliberate construction of veils of deceit, and the transmission of partial truths, are integral to the discovery of seemingly deeper insights, occult powers and mysteries. In such contexts, we might legitimately say that doubt and disbelief are as intrinsic to the construction of religious experience as faith or conviction.

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References
Collinson, P. 1997. 'From iconoclasm to iconophobia. The cultural impact of the second English


