

This is the penultimate draft of the essay published in *Philosophical Explorations*, 7 (3): 281-297 (2004). Please cite the published text.

The Limits of Cognitive Theory in Anthropology

Dr. Mark Risjord

1. The epidemiological project

The cognitive revolution in psychology was a significant advance in our thinking about the mind. A number of philosophers and social scientists have looked to the cognitive sciences hoping that similar explanatory strategies will illuminate the social world. Scott Atran, for example, has offered interesting cognitive explanations for the origin, distribution, and function of religious concepts. Thomas Lawson and Robert McCauley have argued that there are important cognitive preconditions of ritual structure. In *Explaining Culture*, Dan Sperber expresses programmatic ambitions for this kind of theorizing. He makes the provocative suggestion that the entire domain of cultural inquiry needs to be reconceptualized in "epidemiological" terms. An epidemiological approach would explain cultural phenomena in terms of the distribution and psychological transformation of representations. Sperber thus takes all proper theorizing in cultural anthropology to be cognitive theorizing.

The first two chapters of *Explaining Culture* argue against the dominant forms of theorizing in anthropology. The scope and character of Sperber's program can best be appreciated, perhaps, by considering his arguments against interpretive anthropology. The central metaphor of this paradigm is that cultures are texts. Like texts that need to be read, understanding a culture consists in apprehending how the parts fit together into a meaningful

whole. Sperber begins his critique by highlighting a peculiar feature of anthropology's theoretical terms. Terms of art like "taboo," "totemism," or "marriage" are intractably vague. Articulating necessary and sufficient conditions renders them either too broad, and thus empty, or too narrow, and thus useless. Theoretical terms in anthropology are best understood as family-resemblance, or polythetic, terms. There are no necessary and sufficient conditions for their application. Rather, in any particular application, the object possesses some subset of the features associated with the term. Each object labeled by the term resembles the others in some respect, but there is no feature that all denoted objects share. There is a difference, Sperber argues, between this kind of *descriptive* resemblance and *interpretive* resemblance (1996: 17). A descriptive resemblance holds between the objects described. In anthropological theory, however, the incest taboo of the Trobriand Islanders and the food taboos of the Karam bear little descriptive similarity. Rather, the similarity is between the meaning of the Trobriand conception of how sexual intercourse must be restricted and the Karam conception of what foods may not be eaten. The family resemblance structure of anthropological concepts is a resemblance among representations, not among things.

Sperber argues that this feature of anthropological theorizing has important ontological implications. Descriptive family resemblances carry ontological commitment, but interpretive resemblances do not (Sperber 1996: 17, 21-22). Descriptive family resemblance concepts commit their user to the existence of the objects described and their similarities. When anthropologists compare witches in the Sudan with witches in highland Central America, however, they are not thereby committed to the existence of witches. Only the representations need to be similar. Hence, anthropologists are committed to the existence of representations and *their* similarities. The ontology of interpretive anthropologists thus already includes

representations, and presumably it includes the people who have the representations, psychological mechanisms for storing and transmitting such representations, and an environment within which it all takes place. This set of ontological commitments raises a body of questions that ought to be interesting to anthropologists, regardless of their theoretical orientation.

To frame the questions of anthropological theory, Sperber introduces the epidemiological metaphor:

Just as one can say that a human population is inhabited by a much larger population of viruses, so one can say that it is inhabited by a much larger population of mental representations. Most of these representations are found in only one individual. Some, however, get communicated: that is, first transformed by the communicator into public representations, and then re-transformed by the audience into mental representations. A very small proportion of these communicated representations get communicated repeatedly. Through communication, ... some representations spread out in a human population. ... Such widespread and enduring representations are paradigmatic cases of cultural representations. (Sperber 1996: 25)

An interest in cultural representations is an interest in those mental representations that are widespread and enduring. The distribution of representations in a population is explained by the mechanisms of reproduction and transmission. There must be, therefore, a deep alliance between anthropology and the cognitive sciences. Only by understanding the cognitive mechanisms that produce, store, and transmit representations can we hope to understand cultural representations.

The primary questions of an epidemiological approach concern why some representations are more successful in a given population than others (Sperber 1996: 50, 58). Because the mechanisms of storage and transmission will explain the distribution of representations, epidemiological explanations will be causal explanations: "An epidemiology of representations will attempt to explain cultural macro-phenomena as the cumulative effect of two types of micro-mechanisms: individual mechanisms that bring about the formation and transformation of mental representations, and inter-individual mechanisms that, through alterations of the environment,

bring about the transmission of representations” (Sperber 1996: 50). Sperber’s epidemiological program is thus a proposal for a fully causal, explanatory anthropological theory.

One might wonder whether epidemiology was meant to complement interpretive anthropology or replace it. There are some places in *Explaining Culture* where Sperber seems to take a pluralist line:

An epidemiology of representations, I insist, is intended not to replace existing means of comprehension, but to complement them. ... There is no theoretical conflict — or there should not be — between interpretive approaches which aim at making social phenomena intuitively intelligible and an epidemiological approach, which seeks causal explanations.” (Sperber 1996: 151, *cf.* 98)

The rapprochement that Sperber intends here must be understood in the context of what he says about interpretation and explanation elsewhere. An interpretation, according to Sperber, is “a representation of a representation by virtue of a similarity of content” (Sperber 1996: 34). An explanation shows how some phenomenon results from general mechanisms (Sperber 1996: 41). Interpretive anthropology tries to comprehend of a range of cultural phenomena by abstracting from specific interpretations of particular cultures. Sperber argues that this is a sterile enterprise. It would require abstracting what a group thinks from information about what individuals say and think. Ethnographic interpretations of cultural phenomena are often much more elaborate than the representations of any individual. Indeed, ethnographers often posit symbolic or functional relationships that are not expressed by the subjects themselves. Representations must be representations for someone. Yet the complex interpretations that the anthropologist devises are not supposed to be mirrored in the minds of the subjects, and probably could not be. It can be no more than a *façon de parler* to say that the Azande believe in witches. The elaborate ethnographic interpretations fail to represent anything, hence fail as interpretations at all. Moreover, interpretive generalizations are not explanatory, and thus they are not genuine

theoretical hypotheses. Conceived as a kind of anthropological theorizing, interpretive anthropology is impossible.

The complementary relationship between interpretation and explanation that Sperber intends does not involve interpretative anthropology as ordinarily understood. Sperber distinguishes between what he calls “interpretive generalizations” and a simpler form of interpretation. This sort of interpretation is what happens when a normal speaker hears an utterance in a language she understands. Without the benefit of a scientific theory, ethnographers have developed a number of successful techniques for coming to understand other ways of life (Sperber 1996: 38). He admits that different interpretations of a single utterance or text are possible, and that choice of interpretation may depend on background commitments. Nonetheless, we may trust the observations of ethnographers, especially where they are reporting commonsense beliefs in unproblematic contexts. This sort of interpretation is not explanatory, nor does it need to be. It is sufficiently reliable to provide the evidence for the proper theoretical work of epidemiology, and that is all it needs to do. When interpretation is understood in this way, there is no conflict between the epidemiological program and interpretation.

Sperber's epidemiological program is meant to be a framework for understanding the anthropological enterprise. It aims to revolutionize anthropological theory and build a bridge between anthropology and the cognitive sciences. The question of this essay is whether anthropological theory could really be reconceived in epidemiological terms. The strategy for answering that question will be to examine what, if anything, is left out of cognitive explanations of social phenomena. The success of Sperber's epidemiological program turns on this question. If cognitive explanations exclude nothing of importance, then the program is a success. But if there is something of enduring anthropological interest not touched by cognitive explanations,

then anthropological theory cannot be reconceived in epidemiological terms and the epidemiological program fails. While Sperber often makes suggestions about possible explanations or speculates on mechanisms, *Explaining Culture* is not in the empirical business of generating and testing cognitive theories. His program is supported by the success of cognitive explanations of social phenomena. To assess the program, then, we need to look at empirical work in cognitive anthropology. Section 2 will present and analyze two exemplary cognitive explanations of cultural phenomena. With this analysis in hand, we will be in a position to raise philosophical questions about the epidemiological program.

2. Explanations cognitive anthropology

In *Rethinking Religion* (1990) and *Bringing Ritual to Mind* (2002), Tom Lawson and Robert McCauley aim to explain pervasive patterns of ritual form in terms of cognitive mechanisms. The fundamental cognitive elements of their explanations derive from psychological research on action representation. There is psychological evidence that humans represent the actions of agents differently from other sorts of events. Lawson and McCauley develop this empirical work into the representational schema: AGENT + ACTION (+MEANS) (+ PATIENT). This form makes the common sense elements of an action explicit. "AGENT + ACTION" simply expresses the idea that an agent bringing about an action is necessary to any action representation. "(+MEANS)" indicates that the action sometimes requires an object used as means (I tickle you *with a feather*), and "(+PATIENT)" indicates that there is sometimes an object on which the agent acts (I chase *the cat*). Lawson and McCauley claim that normal humans represent all actions in terms of these categories. The representational schema is not the result of our language or other training. Rather, it is a feature of the human cognitive apparatus that makes language and other training possible at all.

The representational schema for action becomes interesting when it is used to capture the complex dependencies among actions. Each element in the representational schema may presuppose prior actions. For example, consider the routine action of making coffee. Making coffee requires both a coffee brewing apparatus and the coffee. In terms of the representational schema, the action is represented as:

[INSERT FIGURE 1]

Before I make my morning coffee, someone must have ground the coffee beans. The action of grinding the beans is represented in terms of the same schema, and its relationship to the action of making coffee can be represented as an iteration of the MEANS element of the original action.

[INSERT FIGURE 2]

Any of the elements of the action schema - agents, actions, means, or patients - may presuppose prior actions. Something may be a potential object for a particular action only after other actions have been performed (*e.g.* I can turn on the coffee pot only after it has been plugged in). Or the agent may require preparation of some kind (*e.g.* I may drive my car only after I have obtained a drivers license). This suggests that actions and their presuppositions can be represented by the kind of recursive structural representation familiar from linguistics. In *Rethinking Religion*, Lawson and McCauley develop such a representational system.

Ritual actions are actions; so ritual events are represented in the action schema. What makes rituals distinctive, according to Lawson and McCauley, is that at some level the representation of the action involves a "culturally postulated superhuman agent." A ritual action is one where a god, spirit, ancestor, etc., figures as the agent, patient, or means of the action, or where a prior action involving the superhuman agent is presupposed. These modest cognitive

hypotheses provide a powerful explanatory and predictive apparatus. For example, one of their explanations concerns the phenomenon that some rituals are reversible while others are not. In Christian practice, marriage may be undone, but it makes no sense to undo a communion. This difference is explained by the difference in the way the two rituals are represented. In a Christian marriage, a priest or minister performs the ritual action. To be a priest (etc.) is to be represented as having a special connection to God. The actions of God are represented as enabling the agent. A ritual is reversible when the superhuman agent is represented as the agent or as enabling the agent. What the god has been asked to do, he can be asked to undo. Where the ritual is not subject to reversal, the superhuman agent is represented either as the object of action (the patient) or as embedded in the means for the action. In communion, the agent acts on Jesus himself or an object that has a ritual connection to Jesus (depending on one's commitment to transubstantiation). Hence, it makes no sense to participants to think of "undoing" a communion ceremony. Lawson and McCauley thus explain pervasive, cross-cultural patterns of ritual form in terms of the representational capacities of agents.

Lawson and McCauley's work invokes representations of supernatural agents, but it does not attempt to provide a theory about how such representations are produced and distributed. Since representations of supernatural agents are virtually definitive of religiosity, much cognitive work on religious phenomena has been concerned with it. Scott Atran's *In Gods We Trust: The Evolutionary Landscape of Religion* (2002) is a systematic attempt to address the issues surrounding representations of the supernatural. Among the main questions of Atran's work are why agent concepts predominate in religion and why supernatural-agent concepts are culturally universal (Atran 2002: 7). Like Lawson and McCauley, Atran's answers to these questions begin with the way agency is represented. Atran thinks of this representational capacity as a

“mental module.” A mental module is “functionally specified to process, as input, a specific domain of recurrent stimuli in the world that was particularly relevant to hominid survival” (Atran 2002: 57). Atran takes a relatively modest stance with respect to such modules, requiring only that there are separate modules for agency and for essential kind-hood. Agents are those beings who act on the basis of internal motivations, not (only) external forces. An agent’s motions are goal-oriented. Their movements thus depend on internal representations of the environment and affective attitudes toward it. There is good evidence that humans have such a module, and that it is active very early in development.

Cognitive modules have both a *proper domain* and an *actual domain*. The proper domain of a module is the information that the module was naturally selected to process (Atran 2002: 60). The agency module was selected to recognize the behavior of animals and people, so its proper domain is stimuli caused by animals and people. The actual domain of a module is the information in the current environment that satisfies the input conditions of the module. The sighing of the wind and rustling of the leaves may satisfy the input conditions, and trigger the activation of the agency module. In such a case, the module registers a false positive, responding as if there were an agent in the environment when there is none. Evolutionarily, Atran speculates, the capacity to recognize agents is extremely valuable because it “primes us to anticipate intention in the unseen causes of uncertain situations that carry the risk of danger or the promise of opportunity, such as predators, protectors, and prey” (2002: 61). False positives are relatively harmless and false negatives are quite dangerous. Hence the agency module evolved a “hair trigger” that over-identifies agency under conditions of uncertainty.

When the agency module misidentifies a stimulus as an agent, the result is an idea that violates innate, modularized expectations about object kinds: shadows with evil intentions, trees

with desires. While some of these representations are short lived, others are communicated and have long lives in the community. Representations of souls, spirits, dreams, and shadows are particularly good candidates for survival and reproduction. They “readily lend themselves to common thematic associations” (2002: 79), such as death, disease, health, or life. This permits the ideas to be manipulated by people for their own ends. Second, because the ideas violate expectations about kind identity, they are attention-arresting and memorable. Hence, ideas of the supernatural have an intrinsic survival advantage and are more likely to be remembered and transmitted.

Atran’s answer to the questions of agent concepts predominate and why supernatural-agent concepts are culturally universal, then, is this. People spontaneously represent supernatural agents because their hypersensitive agency module responds to natural events as if they were intentional actions. These are invented and reinvented by individuals, and some representations are communicated to others. The convergence of these ideas is the result of similar mechanisms of transmission. In particular, successful representations must be interesting enough to be noticed and arresting enough to be remembered. Representations of supernatural agents violate expectations about kinds, and thus have a selective advantage in the processes of storage and communication. This makes them more likely to be preserved. What we see as the present ubiquity of supernatural-agent concepts is the result of innumerable acts of creation. Universal cognitive selective processes filtered these representations and created the pantheon of supernatural agent concepts familiar to students of world religious phenomena.

Atran’s explanations and Lawson and McCauley’s explanations exhibit a similar form. The explanandum of Lawson and McCauley’s explanation is a pattern of events. In the example presented above, they are explaining why some rituals are reversible and others are not. This is

both a pattern of actual behavior and a pattern of judgment. The actual behavior is the fact that some rituals are reversed while others are not. The pattern of judgment is the local intuitions that some rituals could, rightly, be reversed while others ought not. This pattern is explained by the way in which the human cognitive faculty represents ritual action. Underlying universal mechanisms of cognitive representation explain why the patterns of action and judgment occur. Similarly, Atran's why-questions ask about pervasive, cross-cultural patterns of representation. These patterns are explained by postulating the existence of mechanisms that produce and transform the representations.

Both explanations thus correspond to a species of causal explanation known as "structural explanation" (*cf.* Lawson and McCauley 1990: 177-179). Like all explanations, structural explanations may be understood as answers to why-questions. Atran explicitly frames his explanations in this way (2002: 7), asking "Why do *agent* concepts predominate in religion?" and "Why are *supernatural-agent* concepts culturally universal?" As is well known, why-questions may be analyzed into a *topic*, *foil*, and *relevance criterion* (Van Fraassen 1980, Risjord 2000). In Atran's first question, the topic is the proposition that agent concepts predominate in religion. The foil contrasts with the topic and gives a partial indication of what aspects of the topic are to be explained. Atran makes the contrasts explicit in his questions by italicizing key concepts. Hence, the first question is asking why agent concepts, rather than non-agent concepts, predominate in religion. Finally, the relevance criterion is a specification of the kind of answer sought. A potential answer to a why-question must satisfy its relevance criterion. It might be possible to answer Atran's questions, for example, from within a religious tradition. Concepts of supernatural agents are culturally universal, one might argue, because God is a supernatural agent, and God has spoken to all peoples. While this would be an answer to the question, it is

not the sort of answer Atran is seeking. It is clear that Atran and Lawson and McCauley are seeking answers that specify underlying mechanisms, and this is the relevance criterion for their why-questions.

There are two distinguishing features of structural explanations: the topic describes a stable pattern of events or objects, and the relevant answers specify underlying mechanisms that would produce that pattern. It follows that a crucial presupposition of any structural explanation is that the pattern to be explained is robust and relatively independent of context. The explanans is a mechanism that exists across a variety of contexts. Hence, in the absence of interference, the mechanism must produce the effect in the whole domain. If the pattern is not robust in this sense, the why-question cannot even arise, much less be answered. Patterns and correlations that are not robust across the domain thus cannot be explained with structural explanations. In their work, Atran and Lawson and McCauley are clearly sensitive to this presupposition. Both take pains to show that the patterns they explain are stable cross-culturally. Sperber's discussion of epidemiological explanation shows that he too presupposes that the explanandum of cognitive explanation is a cross-cultural pattern, and that it is to be explained by appeal to underlying mechanisms. As discussed in Section 1, the distribution of representations in a population is to be explained by individual and inter-individual mechanisms. This is exactly what Atran and Lawson and McCauley are attempting to do.

In the light of the foregoing analysis, it is possible to interpret Sperber's argument for an epidemiology of representations as an argument that the only proper form of anthropological explanation is structural explanation. Anthropological concepts are interpretive family resemblance concepts, and thus commit anthropologists to an ontology of representations. Given such an ontology, why-questions about the production, transmission, and distribution of

representations must be answered. Since interpretive, structuralist, and functionalist explanations all fail (Sperber 1996: 41-49), the only viable answers appeal to mechanisms of production and transmission. These would be structural explanations. If a proper theorizing must be explanatory, then all anthropological theorizing must use structural explanations.

3. The limits of epidemiological theorizing.

The character of structural explanations entails that there is an important limit to epidemiological theorizing. Patterns are the explananda of structural explanations. Because the patterns are explained by an underlying mechanism, the patterns must be manifest wherever the mechanism is present (unless something prevents it from operating). Cognitive anthropology appeals to a universally shared cognitive apparatus to explain cultural phenomena. Therefore, cognitive explanations presuppose that the patterns of action or representation to be explained are cross-cultural. It follows, however, that a pattern of action or representation that was unique to a single culture could not be the topic of a structural explanation. Thus, while cross-cultural similarities are possible subjects of structural explanation, cross-cultural differences are not.

A structural explanation will not be able to account for the ways in which one culture differs from another. While this is not a problem for structural explanation itself, it is a serious difficulty for any program, like Sperber's epidemiology, that holds structural explanations to be the only legitimate kind of explanation in anthropological theory. One of the longstanding aims of anthropological theory is to explain differences in technology, economy, political structure, and religion. Without the possibility of explaining phenomena that are unique to a culture, anthropology would be unrecognizable. It appears, therefore, that something of enduring anthropological interest is excluded by Sperber's epidemiological program. Conceived as the

only proper form of anthropological theorizing, epidemiology is inadequate as a framework for anthropological theory.

There is a response that Sperber might make to the foregoing argument. Consider what an analogous argument would show about disease transmission. While mechanisms of transmission will explain why insect-borne diseases exhibit certain patterns of distribution, those mechanisms will not explain why this population has plague symptoms and that population has symptoms of malaria. The mechanisms of transmission do not explain similarities among individuals within a particular population nor the differences between populations. Of course, the explanation of these facts is rather obvious. Individuals in the group with the plague have similar symptoms because they are all infected by the plague bacterium. They differ from the malarial population because the latter is infected by a different bacterium. Analogously, while differences among cultures and the similarity of individuals within a culture are not to be explained by cognitive mechanisms, they can be explained in a way that is fully consistent with epidemiological theorizing. Members of a given culture are inhabited by a distinct set of representations. One culture differs from another insofar as the representations are different between the two populations. The culturally specific patterns of behavior that are central to anthropology will thus be explained by locally shared representations.

This natural response serves to focus the issue on two related issues, one about explanation and another about confirmation. First, even if we grant the hypothesis that members of a culture share similar representations, and that culturally specific behavior is to be explained by these shared representations, something important remains to be explained. Why do they share *these* representations rather than *those*? When considering diseases, we might want to know why this population has malaria and that one has the plague. In the cultural context, we

might want to know why, in the Vedic *Darsapurnamaseshti* ritual, the fire is (or instantiates) the god *Agni* (cf. Lawson and McCauley 1990: 105). Why does fire instantiate *Agni*, not another god? And why is *Agni* instantiated in fire, not some other ritual object? Asserting that the ritual participants represent the fire as instantiating *Agni* does not answer these questions, and no other cognitive explanation seems to be forthcoming. Nonetheless, any anthropologist would take these questions to be important. There remains, it seems, a lacuna in epidemiological theorizing.

The second issue is epistemic. How does the anthropologist know what the local representations are? How does she know that the fire instantiates the god *Agni*? When studying disease, the epidemiologist begins with the fact that a population has malaria. Only then can she begin to explain the patterns of disease distribution. Analogously, the cognitive anthropologist begins with the fact that a population shares a particular representation. In both cases, there is a pattern to be explained, and there is an important epistemic issue about how the inquirer knows what the pattern is. In neither case is the epistemic issue trivial. That a population has malaria is a defeasible empirical hypothesis. The evidence for the hypothesis is a pattern of symptoms in the population. That a population shares a representation is the same kind of hypothesis, and it is supported by a pattern of utterance and behavior. Epidemiological theorizing thus requires epistemic support from another theory. In epidemiology proper, the required theory is a theory of disease. In an anthropological epidemiology, the required theory would be a theory of representational content, usually called an interpretation. So, we may conclude that epidemiological theorizing in anthropology requires epistemic support from an interpretation.

There is a link between the epistemic and explanatory problems that permits the argument against Sperber's epidemiology to be pressed deeper. The explanatory problem is that certain questions are outside the purview of cognitive explanations. These are questions about

the content of the representations, *e.g.* why fire, not water, instantiates *Agni*. The epistemic problem is that cognitive explanations presuppose knowledge of a pattern of representation. That this pattern exists is a defeasible empirical hypothesis based on the evidence of utterance and behavior. It is natural to take empirical hypotheses to be explanations of the evidence (*cf.* Harman 1986, Lycan 1988, and Risjord 2000). In ethnography, hypotheses about the content of native representation explain the natives' utterances and actions, *e.g.* the hypothesis that the locals represent the fire as instantiating *Agni* explains why they address the fire as "*Agni*." There is no pattern explained by an underlying cognitive mechanism here. Explanations of representational content are therefore excluded from epidemiological theorizing. But epidemiological theory needs such explanations if it is to identify the patterns of representation that are the grist for its mill. Epidemiological theorizing excludes exactly those explanations needed to support the empirical hypotheses on which it is based. So, if epidemiological theorizing were the only legitimate form of anthropological theory, it could not be empirically well supported.

One might think that this problem is resolved once we remember that Sperber distinguishes between interpretation and explanation. He agrees that interpretation provides the evidence on which epidemiology can build its theories. As discussed in Section 1, Sperber takes an ethnographic interpretation to be a representation of the native representations. By living in a community and learning the language, ethnographers learn to represent what their interlocutors say. Ethnographic translations thus provide evidence for the existence of a pattern of representation that is the topic of a structural explanation. Rather than bifurcating interpretation and explanation as different forms of theorizing, Sperber assimilates the representations of the

ethnographer with the representations of those she studies, and subjects both to epidemiological analysis:

The epidemiological approach renders manageable the methodological problem raised by the fact that our access to the content of representations is unavoidably interpretive. The solution to this methodological problem of ethnography is not to devise some special hermeneutics giving us access to representations belonging to a culture.... The solution is to render more reliable our ordinary ability to understand what people like you...or me say and think. ...the relevant representations are at the same concrete level as those that daily social intercourse causes us to interpret. (Sperber 1996: 53)

Interpretation thus provides the evidential basis for epidemiology without standing as a distinct form of theorizing.

There is reason to be dissatisfied with Sperber's understanding of interpretation. Sperber and Wilson argue (1986), correctly, that humans spontaneously decode speech. When someone is speaking a language I understand, I cannot fail to hear it as words and to associate some meaning with it. At this level, the question of justification does not arise. It does not follow that questions of justification do not arise at all. When I hear speech, I spontaneously associate a meaning with it, but not all such associations are equal. Suppose someone at my table utters the sound "Please pass the salt." I may spontaneously understand her as requesting pepper. This would be *incorrect* under ordinary circumstances. How do I know that it is incorrect? If spontaneous associations of meaning were all that I had to use, then I could never break out of the circle of representations. But there is no skeptical puzzle here. If I pass my guest the pepper and get a puzzled look, I have some evidence that I have misunderstood. The justification of an interpretation, even one so simple as this, is that it is coherent with the actions and utterance of the community of language users.

The problem raised by the earlier argument is epistemic: how does the ethnographer *know* what the local representations mean? To answer this question, one must be able to

distinguish between those ethnographic interpretations that are justified and those that are unjustified. The problem of justifying an interpretation, which can arise even at the level of everyday discourse, is pressing for Sperber's epidemiology. Cognitive anthropology of the kind pursued by Atran or by Lawson and McCauley relies on knowledge of sophisticated and arcane representations. They need to understand the differences among the many gods of Hinduism or the various properties of witches and sorcerers in Zandeland. For these more elaborate representations, the question of how ethnographic interpretations are justified must arise. To have an adequate evidence base, cognitive anthropology needs information about the content of representations that is based on a broad and thorough understanding of the culture.

Interpretation is an empirical enterprise in the sense that an interpretation is justified by evidence about what the subjects say and do. Interpretations are like other empirical theories insofar as they are systematic. A choice for the translation of one word has ramifications for the translation of others. The object is to make the best overall sense of the evidence (Quine 1960). Since the evidence includes not only native utterance, but also the complex actions and interactions of the speakers, an interpretation needs to be closely tied to other theories about the speakers' culture. Words for political or social roles, economic practices, gods and spirits, agricultural practices, and so on are impossible to understand in the absence of some knowledge of the cultural practices in which they have a home. Claims about the content of representations, then, are justified insofar as they both make sense of what the subjects say and cohere with the larger understanding of the cultural context (Risjord 2000).

Another way to see the point is to notice that Sperber takes ethnographic interpretation to be analogous to perceptual reports. They are the products of a functionally normal perceptual (interpretive) apparatus. As such, they provide the evidential basis for the theory. The products

of ethnographic interpretation, however, are less like perceptual reports and more like results obtained from a complex measuring instrument. Before we can use the results of the instrument, we have to be sure that it is reliable. In modern science, the construction of such instruments requires very sophisticated theories, often from domains unrelated to the theory to be tested by the measurements. We are justified in relying on the results of the instrument only if we can be confident that the theories involved in its construction are well justified. Similarly, good ethnographic interpretations require an understanding of the economy, social structure, history, religious ideology, and more. Questions about the justification of an interpretation thus cannot be elided.

Sperber is correct to conclude that the methodological problems of interpretation do not require a "special hermeneutics," if this is to be understood as something different from the ordinary methods of empirical confirmation. Epistemically, an ethnographer knows the content of her subjects' representations in the same way that she knows about aspects of their material culture. It does not follow, however, that an epidemiological approach can resolve the problem of how an ethnographer knows the content of the subjects' representations. Understanding cognitive mechanisms for the transformation and transmission of representations will help us understand how both the ethnographer and her subjects communicate. But a theory of communicative mechanisms will not show how choices about the translation of a word are justified by evidence about the speakers' utterances or facts about their culture.

We must conclude that Sperber's epidemiology does not have the resources to provide for its own epistemic foundation. Epidemiology requires support from theories of content that provide the evidence to be explained by epidemiological theorizing. The question of justification must arise for theories of content. An ethnographer's claims about the contents of native

representation are justified insofar as they provide a systematic and coherent explanation of the local behavior and speech. These ethnographic explanations of content cannot be structural explanations. Therefore, if structural explanations were the only form of theorizing in anthropology, epidemiological theory would be unfalsifiable.

4. Triangulating interpretive and cognitive explanations

We must conclude, then, that Sperber's epidemiological program overreaches the boundaries of cognitive theorizing in anthropology. Sperber's suggestion that all anthropological theory be reconceived in epidemiological terms would preclude an understanding of the content of the representations, and without knowledge of robust patterns of representation, cognitive explanations have nothing to explain. Cognitive explanations thus must exist along side of other sorts of anthropological theorizing. In particular, they require traditional ethnographic interpretations. Lawson and McCauley take this more modest approach and develop a position they call "interactionism." They describe it in this way:

Explanation and interpretation ... are different cognitive tasks. They supplement and support one another in the pursuit of knowledge. Specifically, interpretations presuppose (and reorganize) our systematic empirical knowledge, whereas successful explanatory theories both winnow and increase it. Interpretations uncover unexpected connections in the knowledge we already possess; the success of new explanatory theories establishes new vistas. (Lawson and McCauley 1990: 30)

Interactionism apparently provides what is lacking in Sperber's epidemiological conception of anthropological theorizing. It recognizes interpretation as an autonomous, but not completely independent, domain of inquiry. A closer look at the way in which Lawson and McCauley draw the distinction between interpretation and explanation, however, undermines the usefulness of their interactionist position.

Lawson and McCauley contrast interpretation with "scientific explanation."

Explanations are scientific, according to them, insofar as they proceed from systematically related general principles, employ abstract concepts, and are testable outside of their original domain (Lawson and McCauley 1990: 27). As the quotation above illustrates, they understand interpretation as reorganizing the results of scientific explanation. Interpretation is thus a conceptual inquiry, refining the relationships among the theoretical commitments required by scientific explanation. Lawson and McCauley draw the conclusion that interpretations are not falsifiable, at least not directly (Lawson and McCauley 1990: 30). Interpretations stand and fall with the explanatory theories they articulate, and they provide no independent support for the "scientific" theorizing.

The points about ethnographic interpretation in Section 3 show that this picture of the relationship between explanation and interpretation is upside down. Cognitive explanations are possible only if the anthropologist already knows the content of the representations that the cognitive mechanism explains. For instance, they have to know that *Agni* is a culturally postulated superhuman agent with a specific relationship to the fire in the *Darsapurnamaseshti* ritual. The empirical justification of an ethnographer's claims about meaning is therefore necessary for the empirical justification of any particular cognitive explanation in anthropology. If an interpretation of the speech and action of the local culture were not testable independently of the cognitive theorizing, the latter would be empirically empty. Interpretation, as Lawson and McCauley conceive of it, is incapable of providing independent evidence for cognitive explanations; but this is exactly what they need it to do.

What cognitive anthropology needs, but has not been provided by its leading theorists, is an understanding of how the cognitive and the interpretive aspects of inquiry work together to

empirically support a unified body of knowledge. Lawson and McCauley's interactionism and Sperber's epidemiology have the same flaw. Both conceive of proper scientific knowledge as utterly distinct from interpretation. In this respect, both continue to adhere to the tradition of drawing a stark distinction between explanation and understanding (interpretation). Sperber's remark, above, about a "special hermeneutics" is telling. The cognitive theorists see their explanations as different in kind from interpretation. They implicitly agree with the *verstehen* tradition that insight into meaning cannot be understood in the same way as empirical inquiry. Epidemiology and interactionism differ only in their attitude toward interpretation. The arguments above show that neither position is tenable.

To resolve the difficulty facing cognitive anthropology, we need a more radical position than that adopted by Sperber. Sperber and the other proponents of cognitive explanation in anthropology adhere to the old-fashioned distinction between interpretation and explanation. To move forward, we need to root out the mistaken idea that the knowledge of content is not explanatory. In *Woodcutters and Witchcraft* (Risjord 2000), I argued that interpretation and explanation were not epistemically distinct forms of inquiry. The mistake has been to misunderstand what is involved in explanation. The erotetic model recognizes a variety of forms of explanation. Ethnography uses several distinctive forms of explanation, including intentional action explanation, symbolic explanation, normative explanation, and even structural explanation. *Woodcutters and Witchcraft* analyzes the forms of these explanations and shows how their use is demanded by both cultural phenomena and the interests of ethnographers. In particular, an ethnographer's hypotheses about what a word means are important parts of the overall understanding of speech and action. On the erotetic analysis of explanation, claims about representational content are fully explanatory.

Peter Lipton (1991) and I have argued that the erotetic analysis of explanation is well suited to an explanatory coherence view of theory structure and confirmation. Analyzing explanations as answers to why-questions exhibits the logical form common to all explanations while permitting an explanatory pluralism. According to an explanatory coherence view of theory structure and confirmation, theories are interrelated bodies of propositions. A proposition is related to others in the theory by either explaining them or being explained by them. This means that each proposition of the theory will figure either as the topic of a why-question, the presupposition of a why-question, or as the answer to a why-question. As evidence is gathered, the theory is adjusted to maximize coherence. Roughly, this means that more propositions (including observational propositions) are explained. A theory is confirmed by evidence insofar as it is the most coherent theory available to explain the evidence.

If the various claims of an interpretation are taken to be explanatory, then there is no epistemic difference between interpretations and other sorts of theories. When trying to interpret the speech and action of persons in another culture, an ethnographer is making hypotheses that explain why her subjects speak and act as they do. Among these will be hypotheses about what words mean and hypotheses about how the agent understands the significance of an action. An ethnographer's interpretive schemes are confirmed by their coherence with the evidence of speech and action. In this respect, ethnographic interpretations are supported in the same way that all empirical inquiry is supported. Interpretation is thus not epistemically distinct from cognitive theorizing, or for that matter, from psychology or physics. These areas of inquiry are distinguished by the character of the domain in which they are interested and the cluster of explanatory forms that are brought to bear on it. In this way, ethnographic interpretation can be understood as a fully explanatory enterprise without assimilating it to the natural sciences.

An advantage that the explanatory coherence view has over both Sperber's conception of interpretation and Lawson and McCauley's interactionism is that it can show how understanding representational content is related to understanding the rest of the culture. Claims about representational contents explain why the subjects utter certain words under specific conditions. These claims about word meaning will themselves stand in need of explanation. Appeal to the social structure, religious beliefs, or institutions of a culture are obvious candidates for explanantia. For example, there will be an increase in explanatory coherence where theories of social structure can answer questions arising from the interpretation of speech and action, or where appeal to concepts or word meaning can help explain institutional phenomena. Bringing together different domains thus yields confirmation, and it is an important source of confirmation in the interpretive disciplines.

The problem for epidemiology with which Section 3 ended was that, conceived as a framework for all theorizing in anthropology, epidemiology undercut its own empirical basis. To provide the evidence on which cognitive theorizing depends, interpretation must be recognized as an epistemically legitimate enterprise that complements cognitive theorizing. Where Lawson and McCauley's interactionism fails to give a role to interpretation that can resolve the problem, an explanatory coherence understanding of interpretation can do so. An explanatory coherence account of interpretation provides the link between representational content and the evidence of speech and behavior. It shows how claims about representational content can be justified. Interpretive claims are explanations of the patterns of speech and action within a particular culture. They are confirmed by their ability to explain such speech and action, and by their explanatory relationship to claims about other aspects of the culture. When

compared cross-culturally, patterns of representation can serve as the explananda of cognitive theorizing, thus serving as the data required by cognitive explanations.

An explanatory coherence view of ethnographic interpretation also entails a stronger conclusion. Sperber sees that interpretations support epidemiological theorizing, but does not seem to think that cognitive explanations can confirm or disconfirm the original interpretations. On an explanatory coherence view, interpretation and cognitive explanation are integrated into a single body of theory. By contributing to the overall coherence of the theory, successful cognitive explanation can serve to confirm or disconfirm the interpretation of the local culture. Cognitive theories rely on psychological explanation and theorizing. Psychological theory and the evidence on which it relies are independent of ethnographic interpretation. Psychologists hypothesize universal cognitive mechanisms for the creation, storage, and transformation of representations. Cognitive theorists use these mechanisms to explain how local meanings will be stored and transformed. Lawson and McCauley's theory, for example, explains why some rituals of a particular religious system are reversible by claiming that the culturally postulated superhuman agents are related in a particular way to the ritual and its participants. If this is consistent with the ethnographer's interpretation, then it serves to confirm the interpretation. Two domains have been brought together by explanation, so the explanatory coherence of the whole is increased and the theory is more strongly justified. On the other hand, if the cognitive explanation is inconsistent with the interpretation, then coherence has been reduced. *Prima facie*, the interpretation has been disconfirmed to some degree and needs adjustment. On an explanatory coherence account, then, there is a relationship of mutual support between cognitive explanations and local ethnographic interpretations. Interpretations provide the patterns to be

explained by cognitive explanation, and successful cognitive explanations support ethnographic interpretation.

5. Conclusion

From the vantage provided by explanatory coherence theory, cognitive explanations such as those given by Atran or Lawson and McCauley are a salutary advance in our understanding of culture. The claim made problematic by this essay is that cognitivism is the only truly theoretical, explanatory, and scientific program in the human sciences. Such a commitment makes it impossible to see how claims about the content of representations could be empirically justified, and thus it undermines cognitive anthropology's claim to be a genuine empirical theory. To rescue cognitive anthropology, it needs to be freed from some misconceptions about interpretation. Foremost among these are (1) that claims about representational content are not explanatory and (2) that interpretations and cognitive theories have distinct structures. Both Sperber's epidemiology and Lawson and McCauley's interactionism make these mistakes. The consequences of correction, however, are different for the two. Lawson and McCauley's cognitive account of religious ritual is completely independent of their interactionist view about the relationship between interpretation and explanation. Their empirical work can therefore be embedded within an explanatory coherence conception of theory structure without loss or change. Sperber's epidemiology, however, fares differently because it is primarily a meta-anthropological program. It demands that cultural macro-phenomena be explained by psychological micro-phenomena (Sperber 1996: 50). It requires the reconceptualization of the entire social domain (Sperber 1996: 6, 61, 151) precisely because all proper explanation and theorizing needs to fit within its schema. The conclusion of this essay is that all proper explanation and theorizing could not fit within an epidemiological schema on pain of empirical

vacuity. The insights of cognitive anthropology are best understood within the framework of an explanatory coherence understanding of anthropological theory.

References

- Atran, Scott. 2002. *In Gods we Trust: The Evolutionary Landscape of Religion*. Oxford: Oxford University Press.
- Harman, Gilbert. 1986. *Change in View*. Cambridge: MIT Press.
- Lawson, Thomas, and Robert McCauley. 1990. *Rethinking Religion*. Cambridge: Cambridge University Press.
- Lawson, Thomas, and Robert McCauley. 2002. *Bringing Ritual to Mind*. Cambridge: Cambridge University Press.
- Lipton, Peter. 1991. *Inference to the Best Explanation*. London: Routledge.
- Lycan, William. 1988. *Judgment and Justification*. Cambridge: Cambridge University Press.
- Quine, Willard Van Orman. 1960. *Word and Object*. Cambridge: MIT Press.
- Risjord, Mark. 2000. *Woodcutters and Witchcraft*. Albany: SUNY Press.
- Sperber, Daniel. 1996. *Explaining Culture*. Oxford: Blackwell.
- Sperber, Daniel and Dirdre Wilson. 1986. *Relevance*. Oxford: Blackwell.
- Van Fraassen, Bas. 1980. *The Scientific Image*. Oxford: Clarendon Press.

Figure 1

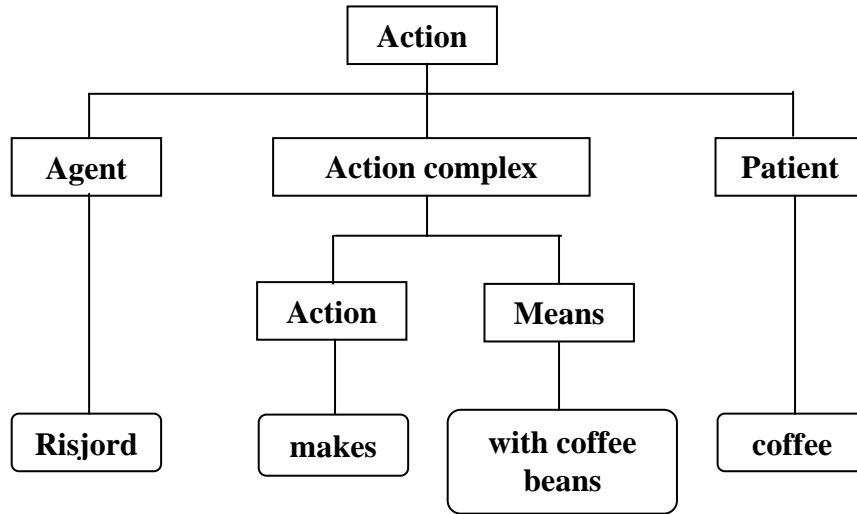


Figure 2

