Part I

Cognitive processes and cultural representations
In these introductory essays, the issues treated in the volume are placed in the wider framework of anthropological research. The first chapter considers the various questions a cognitively oriented framework is supposed to deal with, and the differences in methods and concepts between cognitive theories, on the one hand, and other types of anthropological models, on the other. Atran’s paper describes in detail the contribution of past cognitive anthropology (‘ethnosemantics’) to the understanding of symbolism. In his view, early studies in cognitive anthropology did not produce satisfactory models of cultural knowledge and its transmission, mainly because it was based on inadequate psychological models. Atran’s essay also outlines the research programme of a more sophisticated approach to cultural representations, which would integrate recent advances in theories of cognitive development.
1 Cognitive aspects of religious symbolism

Pascal Boyer

In the vast anthropological literature devoted to religious behaviour and discourse, one particular domain is relatively neglected: that of the psychological, more precisely of the cognitive dimensions of religious behaviour. This is particularly surprising now, in view of the enormous development and complexification of 'cognitive' science, that is, the heterogeneous cross-breeding of theories and hypotheses put forward in linguistics, psychology, artificial intelligence and philosophy. The aim of this introductory essay is both to account for this state of affairs and to suggest some directions of investigation in the cognitive study of religious symbolism.

The term ‘symbolism’ is particularly difficult to define. As Sperber points out (1975b: 2), the domain is construed either as the mental minus the rational or the semiotic minus language. A theoretical difficulty is thus reified as a real domain of thought and action, which justifies Gellner’s wry comment (1987: 163), that ‘in social anthropology . . . if a native says something sensible it is primitive technology, but if it sounds very odd then it is symbolic’. I will deal presently with the important problems involved in delineating the domain of ‘religious symbolism’, more specifically with the ambiguities of the very notion of ‘symbolism’. At this stage, however, the term should be understood, in a fairly straightforward way, to denote the ideas, beliefs, actions and interaction patterns which concern extra-human entities and processes. In this domain of cultural interaction, certain conceptual domains, concerning for example, ancestors, spirits, gods, sacrifice, etc., stand out as especially difficult to describe in a precise and explanatory way.

The main point of a cognitive framework is to explain the recurrent properties of religious symbolism by giving a precise answer to the following questions: what are the mental representations and processes involved in religious beliefs, discourse and actions? How are these representations acquired and transmitted? As we will see, there are few satisfactory answers to these questions in cultural anthropology. The aim of this introduction is to explain this state of affairs, describe the problems
involved and suggest some possible directions for research. I will start with a description of the strategic position of a cognitive study of religion, that is, a review of the general assumptions upon which such a study is based (part I). As will become obvious, most of these assumptions are of a ‘reactive’ nature. They are the outcome of a dissatisfaction with the hypotheses and theories put forward in non-cognitive frameworks. This is why part I includes a very brief, and slightly polemical account of the state of the art in non-cognitive frameworks. The conclusion is that treating the cognitive aspects of religions as immaterial, or considering that a few ad hoc principles are all that is required in this domain, can lead to serious problems, notably to rather implausible anthropological descriptions. This is why we will have to examine in more detail, in part II, a framework which does see cognitive processes as crucial to the understanding of cultural knowledge, namely the sub-discipline called ‘cognitive anthropology’, which grew out of American ‘ethnosemantics’ and ‘ethnosience’. Modern cognitive anthropology makes use of psychological findings and hypotheses in its descriptions, and therefore represents a step in the right direction. Cognitive anthropology, however, has seldom ventured into the complicated problems posed by traditional religion. It is therefore legitimate to ask to what extent cognitive-anthropological methods and hypotheses are equipped to deal with religious symbolism (part II). It is necessary, in particular, to understand exactly what makes the domain of symbolism special, what cognitive processes make it particularly difficult to describe in the terms of cognitive anthropology, before developing a renewed, psychologically plausible description of religious symbolism. Part III will identify the main domains on which such a renewed anthropology of religion should focus. These can be summarised as a series of three crucial problems concerning (1) the representation of knowledge in religious matters, (2) the acquisition of religious knowledge and (3) the representation of ritual action and interaction. This final section will go beyond present areas of research and suggest some directions of research.

The background: cognition in classical theories of religion

Let me begin with a general description of what a cognitive study of religion aims to do. The main differences between a cognitive theory and other anthropological frameworks concern not only the repertoire of specific answers given to anthropological questions, but also the manner in which these questions are posed, and what sort of evidence counts as relevant towards their solution. In other words, we are dealing here with different axioms as much as different theorems. The easiest way to explain
exactly how cognitive frameworks, at least in an ideal intellectual world, differ from the rest, is to use a series of nested disjunctions. At each disjunctive point, we will see that having a cognitive framework implies making a choice that some other anthropological framework has either refused or neglected. In the following sections, however, the skeleton will be fleshed out with illustrations taken from actual anthropological theories.

The type of framework that is put forward in this volume can be characterised by the answers given to a series of five crucial questions, concerning the nature of the enterprise, the nature of the data and the type of generalisations it tries to capture,1 as follows:

1 An account of religious phenomena is either of an interpretative or of an explanatory nature. In other words, it aims either at giving an intuitively satisfactory rendering of religious phenomena, or else at relating their recurrent properties to some general, explanatory principles. In this case the second alternative is chosen, which leads to another question:

2 The theory may postulate that cultural phenomena belong to a special level of reality, quite autonomous from their realisation in individual people’s minds, discourse or action. Or alternatively, as in this book, the theory is based on the premise that religious phenomena consist of nothing other than special configurations and distributions of people’s ideas, discourse and actions. This leads to a third choice:

3 In providing a repertoire of explanatory principles which account for the recurrent properties of religious phenomena, the framework must determine whether these recurrent features have anything to do with universal properties of the mind–brain. Many anthropological frameworks are founded on the idea that cognitive properties are irrelevant. Our framework, being based on the opposite stance, is then faced with a simple methodological question:

4 The relevant properties of human minds can be approached either, in a somewhat speculative and ad hoc manner, by just formulating what seems to emerge from cultural data, or else by confronting such data with independent hypotheses formulated in other disciplines concerned with the human mind, notably in psychology. The choice is between the optimistic assumption that cultural data are firm enough to be the basis of specific psychological hypotheses, and the more sober idea that they provide a series of interesting problems, in which general psychological hypotheses can be tested, and which they can in turn illuminate. Choosing the latter
Cognitive aspects of religious symbolism

Interpretation  
\[ \text{Culture as a level of reality} \]
\[ \text{Cognitive constraints irrelevant} \]
\[ \text{Ad hoc hypotheses} \]
\[ \text{Cognitive anthropology sufficient} \]

Explanation  
\[ \text{Culture not a level of reality} \]
\[ \text{Cognitive constraints relevant} \]
\[ \text{Independent hypotheses} \]
\[ \text{Cognitive anthropology insufficient} \]

Figure 1.1 Five choices in the study of religious symbolism

option leads us to a new choice, this time elicited by the existence of a specific sub-discipline in cultural anthropology:

5 The choice is whether the models and hypotheses developed in ‘cognitive anthropology’ are relevant to the description of religious symbolism. Cognitive-anthropological models were developed in order to account for people’s representations of practical domains of knowledge, such as animal and plant species or other observable features of the everyday world. The problem, then, is to understand to what extent the type of knowledge structures encompassed under the vague term ‘religious symbolism’ are fundamentally different from those relevant in everyday knowledge. The answer given in this volume is a qualified one, although most authors tend to insist on the differences, and therefore on the need for special models of religious symbolism.

The series of choices can be represented as a disjunctive tree (see fig. 1.1). In the following pages, I will provide a more detailed justification for these choices, in a brief presentation and evaluation of alternative anthro-
ological accounts of religion. I should stress again that what follows is in no sense a classification of theories of religion. The point of the presentation is purely pragmatic, to serve as a clear presentation of what cognitive theories are about, by showing what background they stand up against.2 Also, I must indicate that the point of such explanations is not to suggest that the cognitive framework is the only rational option, but to show more precisely what this option consists of, why it is worth pursuing and in what ways it is different from other frameworks.

Hermeneutics and naturalised anthropology

Let me first consider the interpretative or hermeneutic viewpoint. It is based on the idea that cultural phenomena are of a special kind, and cannot be subjected to the type of causal explanation that is manifestly successful in the natural sciences. The explanatory point of view, on the other hand, starts from the idea that social and cultural phenomena are firmly grounded in natural properties, such as the properties of human minds, those of the ecological milieus in which human groups live and so on. The main tenet of the interpretative stance is the idea that meaning, understood here in a very general sense, is not amenable to the same descriptions as physical phenomena. Geertz, for instance, argues that the study of cultural systems should be ‘not an experimental science in search of law but an interpretive one in search of meaning’ (1973: 5). The general study of religion, then, should be nothing other than an attempt to make the general feature of religious phenomena understandable, that is, intuitively ‘meaningful’ to readers.3

The hermeneutic stance is based on the fundamental premise that phenomena of meaning cannot be the object of explanation because they cannot be causally related to other, notably physical phenomena (Lawson & McCauley 1990: 17). Against this framework, the ‘naturalised’ view of cultural phenomena is based, precisely, on the assumption that ‘meanings’, or in less metaphysical terms, thought events and processes, are the consequence and manifestation of physical phenomena. They are therefore amenable to causal descriptions. Obviously, there is nothing new in this assumption, which is at the basis of most anthropological theories, from Durkheimian symbolism or Tylorian intellectualism to Marxist analyses of ideology or cultural ‘superstructures’. What is special about the cognitive framework is that it introduces new arguments in defence of that assumption. The cognitive study of cultural phenomena is only a distant echo, in the field of anthropology, of the greater changes introduced by cognitive science in the domains of philosophy and psychology. It may be of help to indicate, very briefly, in
Cognitive aspects of religious symbolism 9

what manner these changes make it possible to reconsider questions of cultural ‘meaning’.

That human thought is ruled by general principles, that it does not consist in a random succession of chaotic mental events, has always been a truism of psychology. The connection, however, between such regularities or principles and the properties of human brains was incomprehensible, not only in its specific details, but also in principle. It therefore led to the quasi-mystical assumption of a special ‘essence’ for thought processes. What is new about the cognitive science ‘paradigm’ is that it makes at least the principle of the connection intelligible, by observing that the rule-directed manipulation of tokens of abstract symbols by machines of whatever nature (mechanical, electronic or biological) can simulate some regularities of thought processes. In other words, the shift to a ‘physicalist’ or materialist interpretation of cognition is made possible, because cognitive science has at least a minimal ‘causal story’ to explain how thought processes can be actualised in material processes, as well as some practical implementations of that story.4

The development of cognitive science has a practical moral for anthropologists. It shows that there is no reason to think that phenomena of ‘meaning’ should require a special essence, a special domain in which causal laws are irrelevant. If thought processes in general are rooted in physical brain processes, this should apply equally well to the special sub-category of thought processes, studied by anthropologists. However, making this inference seems to imply that the cultural phenomena are indeed just a special category of cognitive processes, that they consist in thoughts. This is where anthropologists may argue that the phenomena they deal with are not just a sub-class of cognitive processes, that they comprise a special domain, that of ‘cultural’ realities, which are not of a psychological nature; in other words, that cultural meaning is not cognitive meaning. This is why we must discuss the second ‘choice’ of the disjunctive tree, namely the idea that the study of cultural objects does not need a special ‘level of reality’.

Cultural objects and their psychological ‘reduction’

There are two main arguments against the idea of ‘psychologising’ culture, of considering cultural phenomena as a sub-category of psychological phenomena. The first one is the true observation that the ‘cultural’ realities studied by anthropologists include many objects and processes which are not at all of a psychological nature. For instance, the fact that rice crops have a certain yield, given ecological conditions and the techniques used, certainly has important effects on local ‘cultural’
phenomena, although the constraints here are clearly not psychological. This, of course, is trivially true; no reasonable anthropological paradigm has ever tried to deny or even minimise such effects.

Even if this elementary point is granted, it is still possible to deny the relevance of cognitive considerations, on the assumption that even such phenomena as religious ideas or ritual systems are not psychological in nature. This is the essence of the second argument, to the effect that anthropological enquiries concern ‘cultural systems’ or ‘meaning systems’, independently of their realisation in actual minds. This idea is pervasive, though often in an implicit and vague form, in anthropological theories. There is no space here for a general survey of all frameworks based on such assumptions, the most prominent of which being, of course, the Durkheimian notion of ‘collective representations’. I will focus here on more recent exponents of the idea of ‘culture’ as an autonomous level of reality, for their ideas will lead us directly to a clear formulation of the cognitive stance. D. Schneider, for instance, has presented a clear and explicit formulation of a pervasive way of treating cultural data, in which their abstracted form, as presented in ethnographic descriptions, exists in its own right, as it were, on a specifically cultural level of reality. Schneider thus makes a distinction between objective ‘cultural’ levels of meaning and what he calls a ‘normative’ system, that is, people’s representations about the cultural meanings and rules (1972: 38). Schneider makes it very clear that in his opinion the anthropologist’s sole task is the description of the ‘cultural’ system in that narrow sense.

This question should not be treated as an abstruse philosophical one, but as a practical problem in the construction of theories. We are not concerned here with the question, whether the description of culture as an autonomous ‘level of reality’ is philosophically legitimate. More modestly, the point of this discussion is to examine whether this ontological assumption is of any heuristic advantage in the study of cultural realities, if it makes it possible to culture certain generalities that could not be expressed otherwise. Questions of ‘reduction’, however, are seldom treated in that way; they are often dealt with on the basis of metaphorical, and therefore misleading arguments. Take, for instance, Geertz’s statement, that ‘culture . . . is no more a psychological phenomenon . . . than the progressive form of the verb’ (1973: 13). At first sight, the analogy may seem convincing. Linguists describe abstract linguistic structures, and leave to another discipline (psycho-linguistics) the task of explaining how these structures happen to be realised by actual speakers, more precisely, what sort of mental representations are involved in producing utterances which display these structural features. In much the same way, anthropo-
Cognitive aspects of religious symbolism

logists may want to describe cultural systems, and leave to other disciplines, notably some form of ‘social’ or ‘cultural psychology’, the task of describing how people represent them. Two aspects, however, make the analogy rather inappropriate; they relate to the achievements of the disciplines compared, on the one hand, and to their relation to psychological factors, on the other.

Let me first consider the question of actual achievements. There are simple empirical reasons why one may be justified to build a non-psychological theory of the progressive form of the verb. The grammatical regularities involved, and people’s intuitions about them, are extraordinarily stable. On the other hand, cultural anthropology has not so far produced any account of any cultural phenomenon which would even approach the standards of certainty and stability which are familiar to linguists. The progressive form of the verb or the structure of nominalisation may well be adequate objects for ontological speculations; the Zande conception of witches or the American kinship system simply are not. This should lead the discipline to some measure of ontological modesty.6

A more important point, however, stems from the relationship between linguistic regularities described in a non-psychological way, and psychological realities. This is where Geertz’s statement is rather misleading, in that it would suggest to an inattentive reader that the progressive form of the verb is an object, the properties of which are totally unrelated to cognitive processes. Even for linguists with Platonic leanings, it would be absurd to make such a claim. The particular features of the class of functions studied by syntacticians are not independent from cognitive constraints; quite the contrary. A crucial assumption of modern linguistics is the idea that the class of possible grammars for natural languages is constrained by universal (possibly innate) properties of human minds—brains.7 Even if syntactic structures can be studied as Platonic entities, the limits to their variability are set by material (in this case biological) constraints.

This excursus into the ontology of linguistics should convey a twofold moral for anthropologists. Two conditions should be met, in order to posit an independent ‘level of reality’ without generating conceptual confusion:

1 positing that autonomous ‘level’ should make possible coherent explanatory schemes that could not be produced at a lower level,8
2 the theory should include a clear account of the constraints that can be imposed by the lower level, on the type of objects and processes one will find at the higher one.

Both requirements are met in the case of chemistry and physics, for