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It is a measure of how central religion is to humanity's confrontation with reality that attempts to explain it provoke so much controversy. Since the nineteenth century, thinkers have repeatedly tried to explain religion as a natural phenomenon. Since science is our name for how we study nature, these were attempts to naturalize religion employing the science of the time. In his book on the classical theories of religion, James Thrower (1999) categorizes naturalistic theories: religion as human construct, or as primitive error, or as psychological or social construct. The views of Marx and Freud, the classical sociologists Durkheim and Weber and the classical anthropologists Tyler and Malinowski, broadly fit these categories.

Since the late 1960s, there has been a revolution in the human sciences. A stance has emerged based on the new cognitive sciences of the mind and brain; an explosive inter-disciplinary approach that tells us as a species new things about who we are. The research paradigm now brings together linguistics, philosophy, psychology, computing, anthropology, archaeology, neuroscience, biology and evolutionary theory. Rightly, this is having an impact on how we can think about cultural forms of life and the social order. Whole new fields have emerged such as consciousness studies and computational psychology. With respect to religion, this has taken diverse forms. Most recently, the new research programme of evolutionary psychology has tried to show how religion, viewed in terms of certain cognitive processes, could have emerged from the evolution of the human mind and brain. This object of study is now sometimes referred to as the mind/brain. We can think of the mind as an abstract characterization of properties of the brain; sometimes presenting itself to consciousness, sometimes not. If a process is available to consciousness, it is mind as personal, phenomenal experience; otherwise the mental process is unconscious, or sub-personal. I shall use the mind/brain compound as a reminder of this meaning.

This approach has grown rapidly. The 'cognitive science of religion' was reviewed by Justin Barrett (2000), and new research appears almost daily. Three major books by cognitive anthropologists are Pascal Boyer's (2001) *Religion Explained*, Scott Atran's (2002) *In Gods We Trust* and Barrett's

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Why Would Anyone Believe in God? (2004). A key topic is the evolutionary psychology of religion. There are studies of religion focused on the brain, including new research paradigms within neuroscience by scholars such as Andrew Newberg and Eugene D'Aquili (2001) and Ramachandran *et al.* (1998a, 1998b). There have been studies of the neural correlates of religious experience; for example, Saver and Rabin (1997). And there are popular books like Dean Hamer's (2004) *The God Gene*. All this material is properly assembled as a research area in religious studies and will surely be the seedbed for new theologies within the religious traditions. (A theology makes religious pre-suppositions: a science does not.)

From this ferment, a public debate about what religion is and how it has affected the species has emerged with such books as Daniel Dennett's (2006) *Breaking the Spell: Religion as a Natural Phenomenon* and Richard Dawkins' (2006) *The God Delusion*. John Lennox's (2007) *God's Undertaker: Has Science Buried God?* is a riposte to Dawkins from within science. There has been a re-opening of the historic debate about science and religion, the scientific study of religion, about religion in our culture and politics. Many had assumed that religion would wither away within modernity. Instead, it remains as incorrigibly present and difficult to explain as ever. This book is intended as a contribution to this inquiry.

Our topic is language and religion, but I need to be more precise about just what we are going to investigate and why. Agreeing with Noam Chomsky that linguistics is a branch of cognitive psychology, my approach can be termed "cognitive pragmatics", where pragmatics refers to the theory of language use. Both "language" and "religion" are general terms covering a multitude of sins. Language includes not only specific historical languages, not only the universal principles of phonology, syntax and the lexicon, not only how these principles arise and are used within the mind/brain, but how language is used to communicate messages and to perform actions within various registers: to pray, to engage with a sermon, to study scripture, to participate in liturgy or discuss theology, and so on. (A register is a variety of language determined by the functions it serves in a situation type.)

But underlying all these uses, there is the principle that language is used to make thought manifest, either publicly within communities or privately within consciousness, in inner speech. Religious terms like "God", "*Karma*", "spirit travel", "prophet", "*Sufism*", etc. make manifest thoughts whose constituents are the concepts which the words expound. Thoughts are representations which have semantic *content*, functions from representations to states of affairs or worlds – they are *about* something. Until one has a theory of how this content fits into the structure of the mind/brain, is believed and communicated, then the analysis of religious registers like prayer must be superficial. It is limited to the social functioning of language. It takes for granted just how

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those utterances hook up with the world, communicate contents to other users or are produced by mind/brains. Furthermore, to study religious reasoning and thinking, one has to study language in psychological terms. This is to engage in cognitive pragmatics; to study language and communication as part of cognitive psychology. There are deep questions that can only be considered within this framework. What is it about religious concepts, and hence thoughts, that makes them religious? Hence the key question of this book: what is religion in conceptual terms? How does it emerge from and relate to the structure and functioning of the modern human mind/brain? How are religious thoughts, many of which are unclear and mysterious, actually grasped and used? Why are these representations so widespread within mind/brains throughout history as to be practically universal, but at the same time so various? Finally, we will ask why communities of mind/brains collectively accept religious beliefs, purportedly about mysterious realities, and pose the question whether these semi-understood beliefs could be true in some sense, actually have a rational warrant as a basis for action. Only then would we have a cognitive basis from which to understand religious practices.

Although I have posed these questions in terms of 'thought', we shall see that our languages are the means by which religious thinking is made manifest and disseminated. Again, to approach this we need a cognitively grounded linguistic pragmatics. For the purposes of this book, I consider pragmatics as that sub-discipline within linguistics that develops theories of how language is used to make manifest and communicate thoughts within communities and in doing so conceptualizes the world individually and collectively. I have adopted and adapted relevance theory, the pragmatic theory of Dan Sperber and Dierdre Wilson as outlined in their ground-breaking book, Relevance: Communication and Cognition (1995). Relevance theory also takes pragmatics to be a part of cognitive psychology and employs the general methodological and theoretical framework of modularity of mind, mental representation and natural language developed by Jerry Fodor (1975, 1983) and Noam Chomsky (1986, 2000). Relevance theory is therefore a form of cognitive pragmatics needed to explore the questions outlined above. This work is at the philosophical end of the explanation of language and its role in the mind/brain, but answerable to the norms of scientific inquiry. The second body of theory I have adopted and adapted is that of the cognitive approach to culture, in particular Dan Sperber's (1996) epidemiology of representations. The question is how the mental representations that we call "culture" become widespread. Culture emerges through the way certain types of thought spread from mind to mind, individual mind/brains in communication with other mind/brains and so its study is properly a cognitive science. I will introduce the necessary ideas from cognitive psychology and pragmatics gradually as my story needs them.

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As an aside, it is worth noting that I have *not* employed another prominent approach to mind and language, one that proposes that both are projections of the body, the *cognitive linguistics or cognitive stylistics* theory developed from the original insights of Mark Johnson and George Lakoff: see Lakoff and Johnson (1980; 1999), Johnson (1987), Lakoff (1987). Although I find these views fruitful in thinking about religious ritual and artefacts and underlying metaphors used throughout religions, I haven't used this approach in the present project. Instead, this study is conducted within the computational cognitive science/relevance theory paradigm which I find more useful for my analysis of the nature and epistemic status of religious mysteries within human culture.

My examples are mainly drawn from the "world religions" - a term commonly used in religious studies. Religion has both conceptual and nonconceptual aspects. But this book is concerned only with religious thought. The examination of non-conceptual aspects of religion, its linguistic practices, its affective states, are the subjects of another inquiry (see Downes, 2000). Naturalistic theories of religion *must* be reductive. If science is the theorization of nature, and religion is the object of inquiry, the theory must explain how religious thinking and its forms of life emerge through natural processes. Science assumes we are part of nature, and as religious thinking arises in our mind/brains, it is part of nature too. This sort of reduction is neutral in itself. But a crisis arises for the religion viewpoint if the scientific explanation is then taken to imply that religious thought is *merely* that natural process, offering no insight into reality, including the possible reality of moral obligation. If the term "nature" is construed metaphysically as the totality of being, all there is or could possibly be, and that what is explained by natural science exhausts reality, then aspects of the religious world picture might be eliminatively reduced, depending on one's philosophy of science. If so, it would simply follow that religious thinkers, to the degree they think that what is *real* differs from science *must* be wrong. Eliminative reduction claims that epistemologically, scientific inquiry provides the *only* reliable foundation for knowledge, and therefore religions must be founded on systematic illusions, which cannot be rationally held under any realistic interpretations. Whether eliminative reduction takes place or not depends on the philosophy of science one adopts and on the theory of meaning it assumes. The most extreme eliminative position is the logical positivism of the Vienna circle. One can see this most clearly in Rudolf Carnap's (1932/1959: 61-81) 'The elimination of metaphysics through logical analysis of language', or A. J. Ayer's (1936/ 1990) account of religion in terms of emotion. Today, echoing Weber, Marx and Durkheim, we might formulate the attraction of religion in dealing with cognitive distress in the face of death and grief or being of use in the unconscious manipulations of power in exploiting and maintaining social

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order. But the eliminative reduction of its conceptual content is the same. Scientific explanations of religion must then take on an ideological dimension. It can be said that religious thought is generated by a pre-modern lack of sophistication – primitive or unenlightened minds are steeped in ignorance – by psychological phenomena – it is a form of delusion – or generated by the social order itself as ideological mystifications for reasons of political manipulation by pharaohs and popes. But because of the conception of science behind the first move, the debate is one about the nature of reality, really about the metaphysics of science. The inquiry is no longer scientific. It is philosophical and political.

The logic of my project is naturalistic and therefore, by definition, reductive, but not eliminatively so. This needs to be understood in the context of the limits of naturalization. In Chapter 2, I employ a picture of the relation of naturalization and philosophy in Western thought presented by the philosopher, Wilfred Sellars (1963). He proposes a series of contemporaneous images of humanity, one emerging out of the other and enfolding it in a dialectic starting at the very first moments of self-conscious human cognition in the origin of modern humans. Arising from a primal original image of humanity, the first is the manifest image, humanity's making manifest to itself its self-conception. It begins to collectively represent the world and what it is to be human within it. This is higher-order reflection on the lower-level image, which is still ongoing and the very essence of philosophical reflection. Emerging from within and built upon the assumptions of the manifest image with its philosophical elaborations is the scientific image of humanity which is still being formed. This is abundantly clear in the emergence of the new sciences of the mind/brain on whose beginnings Sellars was reflecting. On the one hand, this is a more adequate, truer picture of what humanity is on multiple dimensions: it is an evolved species, individuals are physical systems, the mind/brain itself has evolved, culture 'runs' on individual mind/brains and is not determined by innate factors, and so on. A better, more accurate, image of humanity is the project.

In the slow development of a truer scientific image of humanity, inquiry demands we take care of its relationship with the inherited manifest image. Science is built on the manifest image and we lead our everyday moral, social and political lives within its terms, so the on-going vision of what humanity is has to be *stereoscopic*. Accordingly, although I'm not a 'believer' in any system of religious ideas, I was very concerned *not* to develop a theory of religion that eliminatively reduces the whole cultural complex; or proposes that the majority of human beings have lived their mental lives in a way that is too easily dismissed as illusory or pernicious. For example, if mind/brains have understood themselves as objectively bound by the very structure of reality to 'freely choose' to co-operate with others, I questioned any stance

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that specified that this was not possible. Nevertheless, it is possible that what language terms "freedom", although real, isn't how we consciously conceive it. The two images of humanity need to be held in a subtle dance. This further meant that I had to follow Sellars in the process of philosophical reflection on my attempts to reduce religion.

I needed a philosophical position that is both consistent with the new cognitive science as a science and yet doesn't inappropriately reduce religion in the eliminative sense. Appropriate is the key word. It is certainly necessary to eliminate many supernatural entities that populate thought in the world religions or the conceptual motivations for religious authoritarianism and violence and to understand them solely within the scientific image of humanity. But some of the metaphysical presuppositions behind 'ordinary' science within Western culture, may be more contingent and at issue than is usually thought, and get in the way of explaining religion. We need to reflect on the scientific image itself if its explanations imply an inappropriate eliminative reduction of religion within the manifest image of humanity. This stereoscopic requirement leads to the view that different kinds of understanding may reflect different properties of the mind/brain and its possible relationships to reality. Within recent cultural history, the scientific image has a rich complex of factors which when taken together provide its warrant for the species-mind. How these play out within the manifest image, the nonscientific self-conception of humanity with its mysteries, depend also on their relation to forms of life - just consider the problem of 'scientism' in economics and management. In most situations the most important representations treated as representing reality are semi-understood, accepted on faith, held as ideals, felt as binding obligations, which have it in common that they either motivate or are essential to action in practical matters.

From this perspective, two modern philosophers whose positions most enable my project with respect to cognitive science and religion are Immanuel Kant from the eighteenth century and Charles Saunders Peirce from the nineteenth. A naturalized Kant is relevant to my interpretation of cognitive science; a naturalized Peirce to my interpretation of cognitive pragmatics. Like Peirce, I think that within philosophy a dialogue engaged with the living past with respect to our deepest problems is relevant in the constant play of manifest and scientific images of humanity. This inquiry is atemporal, gaining new insights by adjusting the insights of predecessors both to the gradual revelations of science and paradigm shifts like the cognitive science of culture. They will be introduced at various places in the text.

Chapter 1 develops a cognitive theory of religion as a cultural ensemble organized on four main dimensions. Chapter 2 develops one of these dimensions, the supernatural, and shows how it emerges as an automatic possibility given the way the mind is governed by principles of relevance. Chapter 3 uses

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the concept of the epidemiology of representations to explain the dissemination of religious mysteries. Chapter 4 naturalizes philosophical pragmatism by showing that this position is implied by the nature of processing according to the principles of relevance. This reveals why it is possible for it to be rational to believe some religious mysteries but with a critical stance. Chapter 5 relates this notion of critical rationality to authority and discusses the conditions under which authority is legitimate, leading to the examination of whether religion could represent what is 'real' in some sense. Chapter 6 analyses the nature of conceptual change and innovation, relating it to social factors in order to reveal the necessity of a critical stance, and concludes with an exploration of the 'revelatory', or 'poetic', in conceptual innovation within an inexhaustible process which, in spite of the rational warrants for beliefs in both aspects of the stereoscopic vision, requires humanity to live in a state of fundamental uncertainty with respect to its images of itself.

1 A cognitive theory of religion

1.1 Religion as a cultural ensemble

A mind/brain of many parts

Consider the contrast between two distinct ways of interacting with the environment. On the one hand, the mind/brain sees the world. It perceives colour, shape and movement, noticing just what is salient. On the other hand, the mind/brain comprehends speech. It grasps from sounds the content of what is uttered and just what the speaker meant in uttering it. Now reflect upon how different these are, how different the input and how differently they are presented to consciousness. The structures of the mind/brain that process language and process vision deal with two different kinds of input and perform two different functions. This isn't surprising. In any organism, we find the same pattern; a hierarchy of systems performing specialized jobs within larger containing systems right up to the level of how the whole organism is adapted to its environment.

This picture of the mind is an abstract characterization of properties of the brain. We hope and assume that these abstract accounts are ultimately reducible into less abstract descriptions of neuro-physiological functioning at the level of biology. But for an abstract explanation to be true as a theory in psychology, descriptions of the physical substrate which expounds it don't need to be in a one-to-one relation to the objects and processes in the abstract account. Nevertheless, most scientists assume that the system described by psychology is ultimately physical so that the mind and brain are the same phenomenon under different descriptions. As noted above, I will often use the term "mind/brain" to refer to that phenomenon.

Psychological systems like language and vision are called *modules of mind*. They have specialized ways to construe input and represent and manipulate information, resulting in specialized outputs which hand information on to other systems. For example, the language module consists of principles and parameters that at one interface accept articulatory and perceptual input and at the other interface, produce logical forms suitable for

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interpretation in terms of concepts and what people mean when they use them. The highly implausible empiricist alternative proposes that the mind/ brain isn't modular but instead consists of a single enormously versatile learning system that can extract what it needs to know in every domain solely from the environment: one big system suitable for all kind of information, as opposed to many little learning systems richly specialized for different domains. The implausibility of this was demonstrated by Noam Chomsky, who showed that linguistic competence could not be acquired this way. Instead, children bring to the task of language learning a rich innate knowledge which is specialized to grow their linguistic competence when it interacts with appropriate input. Linguists characterize this process abstractly, as knowledge. But Chomsky also interprets it biologically, as the development of an "organ" of the mind/brain; the cognitive capacity specialized to acquire a language. The specific mapping between interfaces is characterized abstractly by what is called "recursive syntax" - a formal system that can generate an infinite number of well-formed structures by successively re-applying a finite set of rules. This mapping system is one rather technical use of the word "language".

However, there are other aspects of language. Not only is there fine motor control specialized for articulation of speech, but speech perception also appears adapted to just those sounds. And not only are syntactic structures automatically and speedily retrieved and conceptually interpreted, but this process is part of the communication of intended messages conveyed either in gestural signs, speech or writing. The term "language" is also used for this entire *language complex*: consisting of an ensemble of modules and submodules which function together as a system specialized for language processing connected to communication (Downes, 1998: 453). Hauser, Chomsky and Fitch (2002: 1569–1578) refer to this ensemble as 'language in the broad sense', as opposed to recursive syntax, or 'language in the narrow sense'.

In terms of neurophysiology – its biological substrate – visual perception is perhaps the best understood modular system. It is also well characterized abstractly as information processing (Johnson-Laird, 1988: 57–106). The inevitability of a biological, evolutionary explanation for mammalian vision is clear. From the structure of the eye, with its specialized focusing lens, its lubricating tears, its arrays of light sensitive retinal cells that transduce environmental information to the primary visual processing area to which these cells project, it is clearly modular and sub-modular in structure. One strikingly counter-intuitive feature of vision is the possibility of *two* separate, although highly interconnected, systems or modes of seeing with different functions. Briefly, information travels to the primary area in two distinct streams which are referred to two distinct areas of the cortex; the ventral stream to the temporal cortex and the dorsal stream to the parietal cortex.

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Each stream has a different function: the ventral-temporal resulting in conscious and therefore slower object recognition – widely accessible for inference and affectivity – and the dorsal-parietal guiding action below the level of consciousness. Counter-intuitively, the mind/brain perceives without seeing anything. ("*Phenomenology*" is the term for what is presented to consciousness, so with the dorsal stream the mind/brain perceives but there is no phenomenal *experience* of seeing.) What both examples illustrate is the beautiful complexity of a modular *system of systems* (Carruthers, 2006: 84–95; Milner and Goodale, 1995).

The term "modular" and the hypothesis of the modularity of mind originate with Fodor (1983). There the term is restricted to peripheral systems whose function is to process the information flow that connects the mind/brain to its environment. Fodor-modules are processing systems which achieve their functions in a distinctive way. They are *domain specific*, specialized to extract information from a particular type of input, such as light of certain wave lengths. Given that input, they are mandatory and fast. They are innate. They have characteristic kinds of failure which reflect their structure, and are informationally encapsulated. For Fodor, a module functions to accept input only of a certain kind, to represent it, and to perform syntactic operations on those representations to yield output. To be encapsulated means that, although a module may have its own data-base memory, it can't access information from elsewhere in the mind/brain, nor do other systems have access to its internal operations, but only to its output. Fodor contrasts modules with nonmodular un-encapsulated central systems which accept input from various modules and use it to reason in theoretical, practical and analogical ways that integrate information from various sources; a form of informational demodularization. For Fodor, while modules deliver informational output which is semi-formed or shallow, the representations of central processes are more fully formed, concepts and thoughts in the medium of the language of thought.

In contrast to Fodor's bifurcated image of the mind/brain is the hypothesis of *massive modularity*, sometimes called The New Synthesis (Carruthers, 2006; Pinker, 1997; Sperber, 1994, 1996; Tooby and Cosmides, 1992). In this view, the mind/brain is organized on a modular basis through and through. The hypothesis is that the mind/brain has been richly differentiated by evolution in its intrinsic functional architecture. In Barkow, Cosmides and Tooby (1992) *The Adapted Mind* is pictured as an aggregate of specialisms, a highly differentiated system of systems. More and more domain-specific mechanisms are added to 'the elaborately sculpted product of the evolutionary process' (Cosmides, Tooby and Barkow, 1992: 3). There is 'a face-recognition module, a spatial relations module, a rigid object mechanics module, a tool-use module, a fear module, a social-exchange module, an emotion-perception