Spirituality:
How Evolutionary Psychology Can Enhance Our Understanding

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Abstract

The biologist E.O. Wilson suggested that spirituality can be understood as “just one more Darwinian enabling device”. In opposing this reductionism, the current enquiry develops a model of a relationship between spirituality and evolutionary theory which offers an understanding of spirituality based on evolutionary theory without reducing the former to the latter.

For the purposes of this enquiry, “spirituality” is taken to entail an awareness of and response both to a transcendent dimension to human existence, and to the ethical dimension. Its universality is suggested by the ubiquity of religion in human history and prehistory, although in contemporary Western society spirituality is no longer the prerogative of the specific canonical religions. From a theological perspective, an understanding of the universality of spirituality despite the diversity of religious traditions is provided by the approach of religious pluralism. The model also draws on Alvin Plantinga’s model of our being endowed with a \textit{sensus divinitatis}, but modifies it in two ways: i) rather than our having an inbuilt sense of the divine as \textit{God}, the current enquiry proposes that we have an inbuilt sense of the \textit{transcendent} (termed the \textit{sensus transcendentis}); ii) this \textit{sensus transcendentis} is a product of evolutionary processes.

The discipline of evolutionary psychology holds that the human mind is best understood as a suite of “mental modules”, psychological adaptations which evolved in response to the challenges posed by the total environment (physical, social and biotic) during the long reaches of human evolution. In the proposed model, the \textit{sensus transcendentis} is one such module, opening us to meaning, purpose and value which transcend the material environment whilst being embedded within it. Evidence is provided to support the contentions both that we possess a \textit{sensus transcendentis}, and that it has evolutionary origins. Possible implications for theology and for religious faith arising from the proposed model are discussed.

Key words: adaptation, altruism, evolution, evolutionary psychology, Hick, mental module, Plantinga, religious pluralism, \textit{sensus divinitatis}, \textit{sensus transcendentis}.
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Of course, as is always the case, I am responsible for any blunders that remain in what follows.

The biggest thanks, though, are reserved for my wife Betsy who has given unfailing support even when the dining room has become a de facto extension of my study with books, articles and notebooks scattered all over the place, and the front room has turned into an evolutionary and theological dumping ground. I could not have done it without her as cheer-leader.
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Abbreviations

ADD: see (H)ADD
AMH: Anatomically Modern Human
EEA Environment of Evolutionary Adaptedness
GSA Good Samaritan Altruism (S=Strong, W=Weak)
(H)ADD (Hypersensitive) Agency Detection Device
IIHS: Internal Instigation of the Holy Spirit
kya: thousands of years ago
LAD Language Acquisition Device
mya: millions of years ago
PCP Personal Construct Psychology
RERU: Religious Experience Research Unit (now the Religious Experience Research Centre)
Rose: “Religious or spiritual experience”
s-e-l-f: salvation-enlightenment-liberation-fulfilment
SGSA see GSA
ToM Theory of Mind
WEIRD Western, Educated, Industrialized, Rich, Democratic
WGSA see GSA
Introduction

1. On the Origins and Purpose of the Thesis


With my life-long involvement in the Protestant strand of the Christian church I find the religious/spiritual dimension of life important, and Wilson’s belittling “just” grates; but with my background in the natural sciences I find developments in evolutionary theory, particularly evolutionary psychology, both intriguing and exciting. Hence the current enquiry, the aim of which is, contra Wilson, to develop an understanding of how “spirituality” (and related phenomena such as “religious experience” and “religion”) can be integrated with the insights into human nature being developed and explored within the discipline of evolutionary psychology (itself a development from sociobiology), without spirituality being thereby reduced to “just” something else.

At the same time, I have no intention to (mis)use religious – or quasi-religious, or pseudo-religious – arguments to dismiss the claims of evolutionary theorists or to introduce a supernaturalist element into the naturalistic nexus of science – for I am a thorough-going evolutionist, accepting that mainstream neo-Darwinian theory is currently by far the best theory going to explain a wide range of phenomena, though also accepting that “[s]cience proceeds, not because it is always certain and complete, but precisely because it is corrigible” (Bowker 2005: xii). That corrigibility is very much in evidence with the rise of epigenetics (Carey 2011), evolutionary-developmental biology, also known as “evo-devo” (Carroll 2005), developmental systems theory (Oyama et al 2001) and niche construction theory (Odling-Smee et al 2003) which together will doubtless alter quite considerably the landscape of evolutionary theory in decades to come, and I am conscious that my focusing upon evolutionary psychology entails insights of considerable importance from these other disciplines being missed out. But lack of infinite time, space and competence render comprehensiveness, however desirable, impossible (and see McGrath [2011] for a discussion on the appropriateness and accuracy of referring to...
contemporary evolutionary theory as “Darwinian” or “neo-Darwinian” in the light of all these other developments).

The end point of the current enquiry, then, which should really be seen as a staging post for further enquiry, is the development of a model of human nature that fruitfully incorporates both spirituality and evolutionary psychology, and in brief I am arguing that:

_Through the processes of evolution, human beings have become endowed with a faculty by the operation of which we are predisposed to be aware of, open to and capable of responding to an aspect or characteristic of our total environment that is, or is experienced as being, transcendent. This faculty, termed the “sensus transcendentis”, is a mental module, a part of our psychological make-up, which in keeping with other mental modules evolved as an adaptation conferring enhanced fitness to our forebears in the ancestral environment, and which continues functioning today in response to the same aspect or characteristic of our total environment. Although the “sensus transcendentis” is a human psychological universal, its deliverances of transcendent experiences, being mediated through the interpretative concepts and categories pertaining to specific cultures, have historically been experienced and embodied variously in both theistic and non-theistic forms of religion, and increasingly in secular forms in the modern era. The operation of the “sensus transcendentis” constitutes what I term the “vertical dimension” or “diameter” of spirituality; and the “horizontal dimension” or “circumference” of spirituality is identified as being our capacity for moral awareness in general and altruism in particular. Since this latter is also an evolved faculty, spirituality in both its dimensions – the vertical dimension (its diameter), and the horizontal dimension (its circumference) – can be understood as a biologically-based aspect of human nature by which we experience and make sense of our world, both inner and outer._

This summary contains several concepts which will be explained as the current enquiry unfolds, and the proposal rests on a number of arguments, both theological and evolutionary, the explication and justification of which form the bulk of what follows.

A secondary objective emerged as the enquiry proceeded. It became evident that the concept of religion which evolutionary theorists adopt tends to be extremely “thin”, often reduced to the single dimension of supernatural
agency with only lip service being paid, if at all, to the other dimensions (Smart 1996). Hence this thesis also contributes to evolutionary discourse by challenging (albeit somewhat indirectly) the uni-dimensional view of spirituality/religion that many evolutionary theorists claim to explain (away).

2. Method
The process by which the model I am presenting has been developed is literature-based. It has entailed identifying key texts both in the field of evolutionary psychology (including those inimical to the discipline) and in the relevant areas of theology, particularly those relating to spirituality and to religious experience, along with a number of “cross-over” texts which already address the issue of a scientific, and particularly a biological, perspective on religion and spirituality.

Growing familiarity with the texts allowed an interplay between the disciplines, and a gradual identification of overlapping concerns. It became apparent that the work of John Hick (1989; 1999) and the thesis of religious pluralism which I was already aware of and had long found attractive, could prove helpful in providing an understanding of how the bewildering range of religious traditions, both theistic and non-theistic, potentially constitutes a “human universal” of the kind that evolutionary psychology concerns itself with. Arguments for and against religious pluralism were considered at length, and an initial, somewhat uncritical, enthusiasm for that position was tempered by theological and philosophical arguments to a slightly more nuanced position, as will (I trust) become clear.

Various references in the literature, and one or two fortuitous conversations, led me to the work of theologian-philosopher Alvin Plantinga, and in particular to his development of John Calvin’s notion of the sensus divinitatis (Plantinga 2000). Ironically, for Plantinga is avowedly anti-naturalistic, this came close to providing the link I required between evolutionary psychology and spirituality, but it required adapting in the light of religious pluralism, resulting in my proposal that it is a sensus transcendentis that has an evolutionary grounding rather than a sensus divinitatis, and Plantinga’s rigorous treatment of the sensus divinitatis has proved helpful in clarifying the characteristics of the proposed sensus transcendentis.
The possibility of applying principles and insights derived from evolutionary psychology required a far greater immersion in the discipline than I had yet ventured, and the process was daunting but fruitful. As with religious pluralism, close reading of the literature led to a modified position in favour of “strong-ish” (rather than “strong”) evolutionary psychology, as will be described at the relevant point. It became evident, though, that a complete acceptance of all the pronouncements of evolutionary psychologists was not necessary for the core ideas to contribute greatly to an understanding of the spirituality of human beings.

3. Definitions (or not)
How do you define “religion”? Is Buddhism a religion? How do you define “species”? Are *Homo habilis* and *Homo ergaster* the same or different species? In the realms both of religion/theology/spirituality and of evolutionary theory, there are a number of concepts which cannot be defined and applied precisely and unambiguously. “Religious experience” is a fuzzy concept (Swinburne 1991 [1979]), and “gene” has a number of different, albeit closely related, uses (Ridley 2003). Spirituality, mysticism, transcendence, faith, morality, ethics, altruism, species and human nature are likewise fuzzy concepts, though each has a “focus of convenience”, or more than one foci of convenience, where they are maximally applicable, and a “range of convenience” where they are usefully applicable.

Regarding “spirituality” itself, one of the twin foci of the enquiry, I decided to allow the concept to clarify as the enquiry proceeded, knowing the general area with which I was concerned being that epitomised by but not confined to the work of William James with his exploration of religious experience (1902), and Alister Hardy (1979). and David Hay (2006) with their researches into “spiritual awareness.” In effect, I allowed not only the subject of the enquiry to shape the process of the enquiry, but also for the process of enquiry itself to shape what was being identified as the subject of the enquiry.

In due course, although the potentially relevant literature for exploring these issues is vast and cannot conceivably all be read, let alone assimilated, sufficient had eventually been taken into consideration to allow a tentative

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1 “focus of convenience” and “range of convenience” are terms employed in PCP (Kelly 1955). See appendix 1.
definition – albeit a stipulative one – to be advanced for “spirituality”, and will be found in the discussion concluding chapter 1.

4. Preliminaries
4a. What is truth?

If jesting Pilate had really wanted an answer he could have consulted the *Oxford Companion to Philosophy* and chosen from among more than half-a-dozen theories (Honderich 1995), the three main contenders being the correspondence theory, the coherence theory and the pragmatic theory.

The correspondence theory of truth refers to the commonsense understanding that truth is whatever corresponds to that which is the case, and propositions are true “if and only if they correspond with the facts” (Honderich 1995: 166). The aim of science is to encapsulate reality such that there is a one-to-one correspondence between what is expressed in its formulae and equations, and the aspect of reality to which they relate: “[the] theories must agree with data” (Barbour 2007: 37). But this is problematic, for there is no way of knowing whether correspondence between the equation and the underlying reality has actually been achieved, there being “no theory-free data with which a theory can be compared. Many theories postulate unobservable entities only indirectly related to observable data. We have no direct access to reality to compare it with our theories” (Barbour, 2007: 37-8 – emphasis added).

Since we can never be certain that we have obtained ultimate truth, that correspondence has been reached between a statement of alleged fact and the underlying reality to which it purportedly refers, we need alternative ways of addressing the truth or otherwise of statements and propositions.

One alternative is the pragmatic theory of truth. This asserts that “truth, like other concepts, is to be understood in terms of practice” with the important rider that “[t]he notion of truth as a relation of correspondence is not rejected but clarified by reference to actions, future experiences, etc….” (Honderich, 1995: 709-10 – emphasis added). On this understanding, what is true is determined by what works, and those scientific theories that survive “survive because they ‘work’ better than the others” (Ruse 1986: 50).

The pragmatic theory is applicable to the areas of particular interest in the current enquiry. To what extent can the theory of evolution by natural selection be said to correspond to that which is the case? We cannot be certain. But truth
claims are made for evolutionary theory on the basis of how well it works as an explanatory system – and it works extremely well, its pragmatic credentials are remarkable (Dawkins 2009; Ruse 2006). And to the extent that it does work, it is taken to correspond (more or less) to the reality about which it is a theory; but nevertheless it is being assessed on pragmatic criteria.

The pragmatic theory of truth is also relevant in religious and theological discourse. As will be argued in the section on religious pluralism, our contact with ultimate reality is mediated by and through (inter alia) our conceptual and psychological categories and concepts of thought and cognition. So how do we tell whether a religious theory, a religious belief, is “true”? Hick puts forward the “soteriological” criterion for assessing the validity of a religious tradition – does it promote a re-orientation away from self-centredness and towards Reality-centredness, is it successful in addressing the unsatisfactory aspects of human existence? (Hick 1989). In other words, does it work?

But a pragmatic approach to truth inevitably has its problems too. It is possible for a belief that is false (in a correspondence understanding of truth) still to work, to have utility. Thus the utility of a belief is no guarantee of its (correspondence) truth; and the pragmatic theory of truth if divorced from the correspondence theory of truth, is potentially highly misleading.

The third main truth theory is that of coherence, which asserts that “a statement is true if it ‘coheres’ with other statements – false if it does not” (Honderich 1995: 140) – that is, if you have a belief system (religious or scientific) that you accept as true, another statement or proposition is true if and only if it coheres with, is consistent with, the already-accepted propositions and statements.

Coherence is significant in science. The truth revealed by one area of science is required to cohere with the “truths” revealed by other sciences, and a new scientific theory that does not cohere with prevailing scientific orthodoxy is given a rough ride (Milton 1994). The theory of evolution as propounded by Darwin was assisted by its coherence with the emerging understanding of geology as propounded by Charles Lyell (1830), in that the former required vast tracts of time for evolution to occur, and Lyell’s theory (arrived at independently from Darwin’s thinking) provided such vast tracts. The two separate theories each provided, by their coherence, support for the other.

Coherence has its part to play in the religious domain. One of the criteria for testing the authenticity of purported truths revealed to mystics is that of “consist-
ency with orthodox doctrine” (Davis 1989: 71), a criterion which, for example, creates a tension in the writings of Julian of Norwich as she strains to stay within orthodox Catholic teaching that there is no salvation outside the church, whilst herself advancing a universalistic thesis (Harries 1985).

But of course the principle of coherence has its problems. It is logically possible for a set of statements to be coherent in being consistent with each other, but which taken in toto are false; for coherence to be a valid principle, “some statements must be assigned a truth-value independently if others are to be assessed by way of their coherence” (Honderich 1995: 140).

In light of all this, I am assuming that although correspondence is the core meaning of truth, truth is unattainable, or perhaps it is more accurate to say that even if it is attained we can never be certain of the fact. At successive refinements our theories, statements, beliefs and propositions might well approach objective reality asymptotically, or even attain it, but there is no guarantee. Hence the necessity of relying on pragmatic and coherent considerations as proxies for or signposts to truth as understood in a correspondence sense.

This assumption is important for the current enquiry since my aim is to develop a model in which a religious/theological perspective and an evolutionary psychological perspective both cohere and work together, fulfilling the criteria of the two “proxies” to truth. But the degree to which such a model corresponds to that which is the underlying reality will, regrettably, remain unknown. Hence, in what follows I am looking for coherence and pragmatism with the expectation that if I achieve that, it is at least plausible that some degree of “correspondence” with that which is the case has been reached. That is the most to be hoped for.

4b. Critical Realism

The current enquiry adopts the stance of “critical realism”. This starts from the acceptance that there is a real, external world existing independently of the human individual, but that our knowledge of it arises as the product of an interaction between objective reality and the human mind, as the latter “attempts to express and accommodate that reality as best it can with the tools at its disposal – such as mathematical formulae or mental models… [There is an] active involvement of the knower in the process of knowing” (McGrath: 2002:195-6). In summary, critical realism has been described as:
"a way of describing the process of 'knowing' that acknowledges the reality of the thing known, as something other than the knower (hence 'realism'), while also fully acknowledging that the only access we have to this reality lies along the spiralling path of appropriate dialogue or conversation between the knower and the thing known (hence 'critical'). This path leads to critical reflection on the products of our enquiry into 'reality', so that our assertions about 'reality' acknowledge their own provisionality. Knowledge, in other words, although in principle concerning realities independent of the knower, is never itself independent of the knower" (Wright, quoted in McGrath 2002: 196 – emphasis in original).

This understanding thus differs from naïve realism which considers that reality “impacts directly on the human mind, without any reflection on the part of the human knower”, and from post-modern anti-realism which claims that there is no such thing as objective reality, and that the human mind is responsible for constructing its ideas “without any reference to an alleged external world” (2002: 195).

A critical realist approach undermines reductionism, since it allows for a "stratified" reality where emergent properties manifest themselves at different levels, and those properties cannot be reduced to the laws which govern the lower levels: “One cannot ‘reduce’ biology to chemistry and physics, precisely because the biological stratum possesses characteristics which go beyond those in which it is rooted” (2002: 216), though phenomena at one level – such as the biological – do not contravene the laws that operate at the lower levels (such as those of physics and chemistry), but neither are they fully deducible from them.

Since, according to critical realism, our experience of the external world is the product of that world interacting with our mind’s constructive activity, all knowledge is provisional or corrigible. The provisionality and corrigibility of scientific theories are givens (Bowker 2005) but the critical realist approach also entails the acceptance that religious propositions are likewise provisional and corrigible. Within theological circles, critical realism has come to designate “a style of realism which is sensitive to the historically situated and personally involved character of theological knowledge, while resolutely declining to let go of the ideals of truth, objectivity and rationality” (McGrath 2002: 195).

Thus, to return to Julian of Norwich and her sixteen “sheweings” or revelations of divine love (Julian of Norwich 1966 [1393]), whereas from Julian’s own perspective of naïve realism she interpreted her experiences as being literally
of Christ revealing himself to her, from a critical realism perspective the understanding is that “she had become so open to the transcendent, within her and beyond her, that it flooded into her consciousness in the particular form provided by her Christian faith. She was aware of the goodness – from our human point of view – of the Real as the unconditional love of a personal God, expressed in the characteristic fourteenth-century form of the bodily agonies of Jesus on the cross. Her experience was thus a genuine contact with the Transcendent, but clothed in her case in a Christian rather than a Hindu, Buddhist, Islamic or other form” (Hick 1999: 42).

The active contribution to our experiences of the mind, with its culturally acquired categories and concepts of thought, is considered further when the views of Katz (1978) in chapter 3 and Hick (1989) in chapter 4 are discussed. For now, it is sufficient to acknowledge that the current enquiry is pursued from the perspective of critical realism with its understanding of the provisionality and corrigibility of all purported knowledge, religious or scientific.

4c. Construing
As the current enquiry proceeds, I will on occasions also draw upon the ideas and terminology of personal construct psychology (PCP) as developed by the psychologist George Kelly (1955) and further elaborated by, inter alia, Bannister and Fransella (1986), and Procter (1985; 2008). With the same basic premise as critical realism of the real existence of the extra-mental world but that it is not directly accessible, PCP not only provides a coherent theory base but also has given rise to a range of practical techniques and strategies for those involved with counselling and psychotherapy, the context in which I encountered and used it as a member of a psychotherapeutic team under the guidance of Harry Procter (1985). In particular, when it comes to discussing the operation of the sensus transcendentis, I make use of the notion of “construing” being an activity of the whole person (thinking, feeling and doing), not just an act of intellectual interpretation or inference. Appendix 1 gives an outline of PCP.

4d. Models of the science-religion relationship
Since the current enquiry offers a contribution to the never-ending science-and-religion debate, a few words are in order about the range of possible relationships that obtain, or could obtain, between the two disciplines. Barbour (2000)
identifies a number of typologies on offer, including his own four-fold scheme with which I am best acquainted.

In Barbour’s typology there is the conflict model in which science and religion are considered incompatible with proponents on each side making “rival literal statements about the same domain... so a person must choose between them” (2000: 11); the independence model with variations on the theme that the two disciplines address separate compartments of life, science being concerned with questions about how things are and the formulation of laws to explain and predict phenomena, and religion being concerned with issues of meaning, purpose and value; the dialogue model, which, while acknowledging major differences between them, “emphasizes similarities in presuppositions, methods and concepts” of the two disciplines (2000: 23), allowing each to inform the other by way of conceptual models and analogies; and finally there is the integration model.

This last, which is important for the current enquiry, comes in three flavours: natural theology, a theology of nature, and a systematic synthesis. Natural theology claims “that the existence of God can be inferred from (or is supported by) the evidence of design in nature, of which science has made us more aware” (2000: 27). By contrast, the “theology of nature” variant (2000: 31) does not lead from science to God, but starts from a religious tradition which then needs to be modified, perhaps extensively, in the light of scientific knowledge. Thus the biblical account of creation cannot be taken literally if scientific knowledge is accepted. According to this model, theology is not simply in dialogue with science, but has to take science on board and alter accordingly.

Finally, there is a systematic synthesis version of the integration model which draws on process theology and entails science and religion each contributing to “a coherent worldview elaborated in a comprehensive metaphysics” (2000: 34).

From a theological/religious perspective, there are potential problems with all four models. Adopting the conflict model requires implausibly dismissing a huge body of evidence about how the universe works; adopting the independence model leaves unresolved such issues as which of science and religion has jurisdiction over a topic such as “creation”; adopting the dialogue model carries the risk of flirting with a beguiling “god-of-the-gaps” (Coulson 1958); and adopting the integration model could result in its advocates, having reformulated
religious/theological understanding in the light of particular scientific theories, being left high and dry and looking pretty stupid if and when those theories change.

None is therefore foolproof, but a stance needs to be taken. The assumption on which the current enquiry is based falls under the banner of the integration model, second variant (“theology of nature”) in that it takes a topic (spirituality) which is conventionally considered to belong to the religious/theological sphere of human activity, and examines it in the light of a current scientific theory (evolutionary psychology) to offer an explanation couched, at least in part, in the terminology of that theory. This is in keeping with Barbour’s view of integration, in that “scientific theories may strongly affect the reformulation of certain doctrines, particularly the doctrines of creation and human nature” (2000: 27-8 – emphasis added). There is, however, one tweak to make: Barbour is referring to “theology”, but as the current enquiry encompasses non-theistic as well as theistic traditions a term such as “theology and atheology” should perhaps be employed. As this is a clumsy locution, I stretch the term “theology” to cover non-theistic as well as theistic traditions, beliefs and experiences.

4e The personal equation
Though a cradle Baptist, I have been a member of the Anglican church for many years situated – if we have to use labels – in the liberal/radical wing, and experiencing (as will become obvious in the course of this enquiry) a strong pull towards religious pluralism. Even if a “view from nowhere” (Nagel 1986) were desirable (and I’m not convinced it is) I think it is impossible to attain – we all stand somewhere, and where we stand influences what we see, interpret and report to others. Which is to say, there is bound to be bias in what follows even though I attempt to take a non-confessional stance, and if there weren’t bias, then I probably wouldn’t have been interested in pursuing the topic in the first place. But the bias needs to be acknowledged even if it can’t be eliminated.

5. Chapter outline
In chapter 1, a discussion of the use of the term “spirituality”, from its origins in Christianity to refer to living a life in accordance to the Holy Spirit, to contemporary manifestations of developing and enriching one’s inner life in ways not necessarily related to traditional religions, leads to a characterization of its two
dimensions as being a (metaphorically) “vertical” relationship with God/ transcendence/Ultimate Reality, and a (metaphorically) “horizontal” relationship with others (both human and non-human). In chapter 2 the vertical dimension is explored through a brief account of primal religion and a range of accounts purportedly of religious experiences and instances of spiritual awareness collected and collated principally by James (1902), Hardy (1979) and Hay (2006); and the term “Rose” is introduced as an acronym for “religious or spiritual experience”. Chapter 3 critiques a number of views from the literature as to the epistemological status of such experiences, whether they can be accepted as evidence for “Something There” (Hay 2006) or whether they should be construed as creations of human preconceptions. In chapter 4 the approach known as religious pluralism is discussed, drawing principally but not exclusively on Hick (1989), and offered as a way of understanding how the plurality of religious traditions can nevertheless be understood as manifesting a human universal capacity to be open to and respond to Ultimate Reality (“the Real”) by drawing upon a Kantian-type of epistemology. This proposed human universal capacity is the subject of chapter 5 in which Plantinga’s (2000) concept of the sensus divinitatis is outlined, by the operation of which all humans purportedly have an awareness of God, though with both religious pluralism and evolutionary principles in mind this is offered as a template for the later development of the sensus transcendentis model.

In chapter 6, the focus is on evolutionary matters with an outline first of evolutionary theory in general, and then of human evolution, included the role of culture and of the potential for gene-culture co-evolution; this providing the context for chapter 7, in which evolutionary psychology is specifically described with its contention that the human mind consists of a suite of “mental modules” which evolved in response to various selection pressures in the ancestral environment. The operation of several relevant modules is described, including intuitive psychology, or the “Theory of Mind” module, by which we are able to attribute mental states to other people, and respond accordingly. One mental module of particular significance for the current enquiry, that of intuitive morality and the capacity for altruism, is the subject of chapter 8, in which a distinction between “evolutionary altruism” and “moral altruism” is outlined, with the parable of the Good Samaritan being invoked to discuss the latter.
Chapter 9 discusses a number of explanations already advanced by evolutionary theorists for the origin and function of religion/spirituality, and finds that although their conception of religion is “thin”, they usefully identify a number of mechanisms and functions to be incorporated into the sensus transcendentis model, which is then proposed, explained and defended in chapter 10. This is the chapter towards which the others have been leading, as it contains the original contribution I have to offer. With insights taken from religious pluralism, from Plantinga’s sensus divinitatis model and from evolutionary psychology, I put forward a model to explain that human beings have come to possess a faculty which is the product of evolutionary processes, and which delivers experiences of transcendence, of meaning, purpose and value, resulting in the wide range of faith traditions. Evidence is given supporting the contention that we have such a faculty, and coupled with our capacity for altruism the argument is advanced that together these two evolved faculties – the sensus transcendentis and altruism – constitute human spirituality.

In Chapter 11 I suggest what contribution the proposed model could make to the gaiety of nations – or at least to the gaiety of theologians – proposing that it offers an understanding of human nature which is relevant in the continuing debates over the two theological issues on which it draws, namely religious pluralism (which it supports) and the sensus divinitatis model (which it challenges). Also included is a brief discussion about the possible impact on the practice of a proponent of a given faith (or lack of faith) tradition. Chapter 12 offers a few final comments on what the thesis has covered and failed to cover.
SECTION ONE
SPIRITUALITY
Chapter 1: Of spirituality

Introduction

Ideally, since the aim of the present enquiry is to develop a model by which spirituality can be understood as an integral part of our evolved human nature, a user-friendly definition of “spirituality” on which all interested parties could agree would start the proceedings with a swing. However, it seems to be a term which, as has been said of the word “reality”, “refuses to lie down and be stunned to death by definition” (Bowker 1973: 15), a situation exacerbated by the developing split between current uses and practices of “spirituality” and its traditional location within religion (Heelas and Woodhead 2005).

In this chapter, therefore, rather than attempting to fashion a definition of “spirituality” that stuns, I survey a number of uses of the term, including its origin in Christianity, from which I identify two factors or dimensions of human existence that I take to be central to what most people, if not all, mean by “spirituality”: an experiential dimension (that of transcendence) and a practical dimension (that of ethical engagement) which, using the traditional spatial metaphor, I refer to as the “vertical” and “horizontal” dimensions respectively (Underhill 1933). It is our capacity to be aware of and respond to these dimensions of existence which, I will be arguing as the enquiry proceeds, is conferred on us by the proper functioning of evolved “mental modules” of which evolutionary psychology speaks (Buss 2005).

Spirituality: clarifying the term

Before we can get there, though, some clarification is required, for spirituality is a concept which, as theologian and parish priest Kenneth Leech wrote, has increasingly been used “in so general and vague a way that its continued usefulness needs to be questioned” (Leech 1992: 3), as illustrated by William Stringfellow’s (1984) caustic comments that use of the term spirituality “may indicate stoic attitudes, occult phenomena, the practice of so-called mind control, yoga discipline, escapist fantasies, interior journeys, an appreciation of eastern religions, multifarious pious exercises, superstitious imaginations, intensive journals, dynamic muscle tension, assorted dietary regimens, meditation, jogging cults, monastic rigours, mortification of the flesh, wilderness sojourns, political resistance, contemplation, abstinence, hospitality, a vocation of poverty, non-violence, silence, the efforts of prayer, obedience, generosity, exhibiting
stigmata, entering solitude, or, I suppose, among these and many other things, squatting on top of a pillar” (quoted in Leech 1992: 3).

Stringfellow’s verbal attack on a whole range of practices for which spirituality claims are frequently made is all good fun, but there is another, positive, side to this diversification of spirituality. David Tacey, who runs university courses on spirituality, describes what he terms “the Spirituality Revolution” as “…a spontaneous movement in society, a new interest in the reality of spirit and its healing effects on life, health, community and well-being. It is our secular society realising that it has been running on empty, and has to restore itself at a deep, primal source, a source which is beyond humanity and yet paradoxically at the very core of our experience” (Tacey 2004: 1). This spontaneous movement involves “finding the sacred everywhere, and not just where religious traditions have asked us to find it. Things previously considered worldly or even unholy are being invested with new spiritual significance, such as the body, nature, the feminine, sexuality, and the physical environment…” (2004: 4).

There is a touch of wheel-reinvention in this claim, in that the sacredness of “the body, nature, the feminine, sexuality, and the physical environment” is already inherent in the Judaeo-Christian tradition (Fox 1983) among others; nevertheless Tacey’s point is that a common perception of the main religious traditions, Christianity in particular, is that they suppress or deny these areas of the sacred, and that in response a spirituality has arisen outside the confines of the mainstream faith traditions.

Tacey, however, is not advocating some wacky, anything goes New Ageism, for like Stringfellow he sees that “ersatz formulas, escapisms, parodies, fakes, phony gurus, false prophets, and frauds surround us. It is hard for the earnest seeker to steer a successful course through the pitfalls and dangers of the spiritual landscape” (2004: 5), and his warning later continues that “[p]opular spirituality is… one-sided with its tendency to celebrate the good and ignore evil or sin. Its spiritual optimism and romantic attitude need to be complimented (sic) by religious ‘realism’ and a deeper understanding of the conflict between good and evil” (2004: 85).

Another one-sided tendency that has been perceived is in the favouring of the individual’s inner quest for personal change and wholeness over the need for social transformation and the "larger context of globalization and the now global quest for spirituality,” with the danger that “a spirituality exclusively
focused on personal concerns such as finding inner peace, one’s true self, or a purpose in life – however valuable for an individual – can produce a rather escapist attitude” (King 2009: x, 11). There has also arisen a commodification of spirituality, with its becoming an add-on extra to life: Karen Armstrong in a magazine interview bemoans the fact that “we’ve lost the sense that spirituality is hard work. It is often turned into a commodity to make us feel good. But it isn’t just wandering lonely as a cloud and hoping you’ll see a clump of daffodils to enthuse about. I believe the Dalai Lama was reduced to tears when an American audience asked him how they could get instant enlightenment. He hadn’t realized things were that bad…” (Roemsicher 2005: n.p.). A spirituality app for your i-pad is doubtless being devised even as I type (googling “spirituality app” has just registered 31 million hits).

Themes are already emerging of spirituality not being confined to institutional religion, of its having a social as well as personal dimension, of its entailing hard work; but what actually is “spirituality”? To what does it refer, if not to the collection of activities that Stringfellow lampoons?

The board of editors of the 25-volume “World Spirituality” series take spirituality to refer to “that inner dimension of the person called by certain traditions ‘the spirit’. This spiritual core is the deepest center of the person. It is here that the person is open to the transcendent dimension; it is here that the person experiences ultimate reality” (Cousins 1989: xii), that is to say, spirituality is concerned with the state of being of the individual; whereas theologian John Macquarrie, writing from a Christian existentialist perspective, does not refer at all to an “inner core” of a person but deems “spirituality” to be a “process of learning by which the disciple becomes more proficient in the Christian life and advances along the way of sanctification”, and anticipating the comments of both Armstrong and King he continues that this should not be perceived as a retreat into an inner world, “for spirit is precisely the capacity to go out, and the truly spiritual person is one who is able to go out or to exist in the full dynamic sense” and that “[o]nly a perverted spirituality is concerned with one’s own condition, and true sanctification comes as a gift to those who have been reaching out to God and their neighbors” (Macquarrie 1977: 497-8 – emphasis in original). Macquarrie, then, is not simply leaving it in a value-neutral state of “being open to the transcendent dimension….” as the World Spirituality editors have it, but includes what one might term (appropriately enough, given Jesus’
trade) a benchmark for one’s spirituality, namely “the Christian life”, which means a life lived “as modeled by Jesus Christ’s own manner of life as described in the Gospels” (Wiseman 2006: 3).

Another Christian theologian, Sandra M. Schneiders, expresses both the “inner core” and the “process” ideas. In an essay originally written in 1989, she documents how the Roman Catholic church, though suspicious of “spirituality” as entailing too emotional an approach to faith and being academically dubious because of its perceived subjectivism, has, post-Vatican II, had to “contend with an increasing interest in spirituality”, and has witnessed “(not without apprehension) the birth of a new discipline” (Schneiders 2000: 249). It is this new discipline that is the focus of Schneiders’ essay, and in her definition of the key term she acknowledges that “spirituality” is “unavoidably ambiguous” since it can refer to “(1) a fundamental dimension of a human being, (2) the lived experience which actualizes that dimension, and (3) the academic discipline which studies that experience” (2000: 250). She further defines the lived experience of spirituality (rather than the academic study of it) as “the experience of consciously striving to integrate one’s life in terms not of isolation and self-absorption but of self-transcendence toward the ultimate value one perceives” (2000: 254). Unlike Macquarrie, then, Schneiders does not explicitly tie “spirituality” to Christianity, citing with approval the anthropologist Jean-Claude Breton’s argument that spirituality “could be described as a way of engaging anthropological questions and preoccupations in order to arrive at an ever richer and more authentically human life” (quoted in Schneiders 2000: 253). Terms like “striving”, “richer” and “more authentic” suggest, if not quite a benchmark, at the very least the idea that spirituality as experienced is a process deriving from a fundamental aspect of being human, and this, for Schneiders, is not limited to Christian experience. Spirituality involves “engagement with the Absolute”, and if that engagement is through the person of Jesus Christ then it would indeed be Christian spirituality, but in principle “it is equally available to every human being who is seeking to live an authentically human life” (2000: 253). Spirituality in this formulation is not necessarily even explicitly “religious”, let alone Christian.

The broader-than-Christianity understanding of spirituality is echoed by the feminist theologian Joann Wolski Conn who identifies spirituality as “a general human capacity for self-transcendence, for movement beyond mere self-
maintenance or self-interest… [or to] a religious dimension of life, to a capacity for self-transcendence that is actualized by the holy, however that may be understood… [or to] a specific type of religious experience such as Jewish, Christian, Muslim, or Buddhist” (Conn 2000: 356 – emphasis added). The self-transcendence that she sees as the “core of any definition of spirituality” occurs “within the horizon of whatever one imagines or judges to be ultimate. Spirituality, then, depends on what is judged to be of ultimate value. Christian spirituality presupposes that ultimacy is God revealed in the death and resurrection of Jesus, known in the sanctifying power of the Holy Spirit poured out in the community. Humanistic spirituality derives from the ultimacy of the individuated self. The definition of spirituality in terms of self-transcendence fits the full range of spirituality, nonreligious as well as religious” (2000: 356). There is an implication here of being able consciously to choose what constitutes one’s ultimate value, that which one self-transcends towards, but it is debatable whether one can choose what to experience to be of value (cf James’ Will to Believe, 1917 [1896]), rather than choosing how to respond to whatever one experiences to be of ultimate value. Nevertheless, Conn’s inclusion of “humanistic spirituality” helpfully labels the category of “spirituality” applicable to the process of striving towards “an authentically human life” (Schneiders 2000: 253) outside a religious setting.

That “spirituality” is not confined to Catholic Christianity, Christianity in general, or indeed religion in general is emphasised by a number of other writers, and indeed “religion” and “spirituality” are perceived by some people to be opposites, identifying “religion primarily… with external, institutional aspects, while spirituality is reduced to something internal, a personal inwardness that has little bearing on social and institutional life” (King 2009: 2).

Tacey too notes that conventional religion is often perceived as being inimical to spirituality, but although the latter is no longer the exclusive province of the former, religion nevertheless provides valuable spiritual resources, for “if the dogma and doctrine are peeled away, religion can be an aid to spiritual journeying, and not just an external or extrinsic system of empty signifiers” (Tacey 2004: 103-4). Of course, contra Tacey, it can be argued that to “peel away” the dogma and the doctrine would be to throw the baby out with the bathwater, in that dogma and doctrine used wisely can themselves be valuable resources for developing a spiritual maturity; for example, “[t]he doctrine of the
Trinity fills out what it means to ‘participate’ in the divine wisdom” (Fiddes 2002: 55).

Two more voices of particular relevance to the current enquiry are those of Alister Hardy and David Hay, researchers into religious experience and spiritual awareness. Hardy argued in the Gifford lectures of 1963-4 for understanding “religious experience” as a biological phenomenon, arising through the processes of natural selection (Hardy 1965), and in 1969 he founded the Religious Experience Research Unit (RERU) at Oxford, and instigated a programme of inviting members of the general public to submit accounts of their own “religious experiences” that they might be compared, contrasted and analysed for common themes. Under his directorship RERU published a number of accounts of different aspects of their research (Beardsworth 1977; Hardy 1975, 1979; Robinson 1977), which has continued under the later directorship of David Hay (Hay 1982, 1990, 1994; 2006; Hay and Hunt 2000; Hay and Nye 2006; Hay and Socha 2005). Since this current enquiry explains and draws upon their work at some length later on, it is sufficient for now just to give an outline of their understanding of “spirituality”.

Given the nature of Hardy’s original intention to explore the phenomenon of “religious experience”, a term he deliberately adopted from James’s (1902) classic exposition, his understanding inevitably focused on the experiential element. Since his early appeals in newspaper articles to the general public to submit their accounts had resulted in “examples of the more ecstatic, dramatic types of experience” (Hardy 1979: 18) he subsequently clarified his interest in “seemingly more ordinary but deeply felt experiences… [and]… accounts of that continuing sense of spiritual awareness which many people feel makes a difference to their lives” (1979: 19). His subsequent analysis of the first 4,000 accounts, including both the dramatic and the more ordinary, led him to describe what he conceived to be essential features of our spiritual nature:

“the main characteristics of man’s religious and spiritual experiences are shown in his feelings for a transcendental reality which frequently manifest themselves in early childhood; a feeling that ‘Something Other’ than the self can actually be sensed; a desire to personalize this presence into a deity and to have a private I-Thou relationship with it, communicating through prayer” (1979: 131).

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2 RERU is now renamed the “Religious Experience Research Centre”, and is based at the University of Wales, Lampeter.
There are several points to be noted here: the “feeling” element, the construal of the “transcendent” and “something other” being involved, the personalization of the “something other”, and the relational aspect, for which he uses the term “I-Thou”, taken from Buber (1987 [1937]). This relational characteristic is prominent in the continuing research subsequently conducted by Hay who, discussing the spirituality of children, describes how his research has identified three connotations of the term spirituality: “religious devotion; being fully aware of one’s ‘species-being’ [a term from Karl Marx – see below]; and being aesthetically or ethically aware”, with the key point being that “all refer to a heightening of awareness or attentiveness… Each of us has the potential to be much more deeply aware both of ourselves and of our intimate relationship with everything that is not ourselves” (Hay and Nye 2006: 21-2). Hay and Nye identified as the “core category” of children’s spirituality something they term “relational consciousness”. This reflects two patterns that emerged from the children’s conversations with the researchers, namely “[a]n unusual level of consciousness or perceptiveness, relative to other passages of conversation spoken by that child; [and] conversation expressed in a context of how the child related to things, other people, him/herself, and God” (2006: 109). And a further point Hay makes relating to his research in general, not just with children, is that “the most important single finding of my research over the past 30 years is the very strong connection there appears to be between spiritual awareness and ethical behaviour. Almost without exception, people link their spiritual or religious experience with a moral imperative” (2006: 29).

I will return to Hay’s work later in the enquiry; but for now I wish to note that, following Hardy’s lead, Hay has developed an understanding of spirituality which involves 1) being aware of “something other” which transcends the individual; 2) relational consciousness; and 3) a link between spiritual awareness and ethical behaviour. Moreover, this is within Hardy’s original context of the spiritual nature of man being a natural, evolved function (Hardy 1975).

Social scientist Brian Zinnbauer also notes that “the terms spirituality and religiousness have been used interchangeably and inconsistently” (Zinnbauer et al 1997: 550), and his research shows how the concepts of “spirituality” and “religion” are diverging in common understanding, and that spirituality “is now commonly regarded as an individual phenomenon and identified with such things as personal transcendence, supraconscious sensitivity, and meaningful-
ness... Religiousness, in contrast, is now often described narrowly as formally structured and identified with religious institutions and prescribed theology and rituals" (1997: 551). This is echoed in the work of Heelas and Woodhead (2005) who researched the emergence of non-institutional forms of spirituality, leading them to distinguish between “life-as” and “subjective life”. The former refers to living a life “in terms of external or ‘objective’ roles, duties and obligations”, and the latter refers to “life lived by reference to one’s own subjective experiences” (2005: 2). Religion is a “life-as” phenomenon, whereas according to an increasingly widespread understanding, spirituality (as epitomised by the “Mind, Body, Soul” section in all bookshops) is related to the “subjective life”. Put more crudely, this distinction sees religion as obedience to an external authority (God, creeds, the moral law), and spirituality as obedience to oneself, and is at the heart of the “spiritual revolution” which the authors are researching.

I could go on, for there are many other descriptions of spirituality both within and outside formal religious traditions (for example, the other essays in Collins 2000, in which Schneiders’ and Conn’s articles appear, and the contributions to *Spirituality and the Secular Quest* edited by Van Ness [1996]), but enough has been said to give a rough idea of the contemporary use(s) of the term. But contemporary uses of the term have not sprung out of nothing, they are developments or changes or variations on the original understanding, addressed in the following section:

**A brief history of spirituality**

A consideration of the origins of the term “spirituality” and tracking some of the mutations it has undergone over the centuries will help clarify what contribution the current enquiry can make to an understanding of human nature. According to William Principe, the concept of “spirituality” arose within a Christian context, deriving, unsurprisingly, from the Latin “spiritus” (a noun) and spiritualis/spiritualis (an adjective), which in Paul’s epistles referred specifically to a life lived according to the Holy Spirit. Paul, Principe notes, did not take the human spirit to be an independent entity inhabiting the physical body, but rather to refer to the human person as open to and influenced by the Holy Spirit. The human “spirit” is contrasted to “flesh” (caro), the latter term denoting not the fact that the body is a material entity, but the individual’s state of being when not open to the influence of the Holy Spirit: “the ‘spirit’ within the human person is
all that is ordered, led, or influenced by the *Pneuma Theou* or *Spiritus Dei*, whereas...‘flesh’ is everything in a person that is opposed to this influence of the Spirit of God... The ‘spiritual’ person is one whose life is guided by the Spirit of God” (Principe 2000: 44-5). The term “flesh” does not refer to the corporeal body, “but rather to creatureliness. To live ‘according to the flesh’ means to live according to purely self-centered inclinations” (Wiseman 2006: 2). Schneiders, citing Paul’s letter to the Corinthians, attributes to him the coining of the neologism “spiritual” precisely in order to distinguish “the ‘spiritual person’ (*pneumatikos*) from the ‘natural person’ (*psychikos anthropos*)” (Schneiders 2000: 252).

The first recorded instance of the term “spirituality” (rather than simply “spirit” or “spiritual”) occurs in a 5th century letter (once but no longer attributed to St Jerome) where the recipient is urged to “so act as to advance in spirituality”; the context making it clear that “the author is urging a life according to the Spirit of God” (Principe 2000: 45), that is, the Pauline sense is still primary. As the centuries passed, however, a new meaning started to be attributed to “spirit” whereby it came to refer to an alleged entity in its own right, foreshadowing “the confusion of spirituality with disdain for the body and matter” (2000: 45). This shift in meaning was under way with Thomas Aquinas, in a few of whose texts “spiritualitas... is set in opposition to corporeity or matter” (2000: 45).

Philip Sheldrake, director of the Institute of Spirituality, observes that as interest in interiority or subjective spiritual experience gradually developed, so “spirituality became separated from social praxis and ethics” (Sheldrake 2000: 32), a tendency illustrated by the life of hermit and poet Richard Rolle, for whom spirituality consisted of “‘urgent longing’, ‘interior sweetness’ that set the heart ‘aglow’, ‘infusion of comfort’ and ‘per fervid love’. Rolle heard heavenly music, inaudible to the outward ear, which released a flood of pleasurable feeling that he identified with the love of God...” All very fine, to be sure, but “Rolle regularly insulted anybody who uttered the slightest criticism of his eccentric way of life with a stridency that jars with his lush descriptions of the love of God” (Armstrong 2009: 149-50).

This tendency to chase after exotic experiences as being the essence of “spirituality” was warned against by Meister Eckhart, Rolle’s contemporary, who
preached that the attempt to practice special and exotic ways of experiencing 
God could result in God being missed:

“… if a man thinks he will get more of God by meditation, by devotion, by 
ecstasies or by special infusions of grace than by the fireside or in the 
stable – that is nothing but taking God, wrapping a cloak round his head 
and shoving Him under a bench. For whoever seeks God in a special 
way gets the way but misses God, who lies hidden in it. But whoever 
seeks God without any special way gets Him as He is in Himself…” 
(Eckhart 1987: 117-8).

This Eckhartian view of God to be found in the ordinary goings-on of life (by the 
fireside, in the stable) is also expressed by the 17th century poet and priest 
George Herbert in his poem *The Elixir*: “Who sweeps a room, as for thy laws/
makes that and th’action fine” (Herbert 1960: 32 – though it has been pointed 
out that Herbert probably had a maid servant to sweep *his* rooms…).

With the increasing development of both secularism and individualism from 
the 16th century onwards as the Enlightenment advanced, and the concomitant 
split between "logos" (reason, or the pragmatic mode of thought) and "mythos" 
(concerned with finding and making of meaning in life) (Armstrong 2005, 2009) 
spirituality became increasingly privatised, and by the 17th century “spirituality 
came to refer to the interior life of Christians, but often with suspicious over-
tones of enthusiasm or even heresy… by the nineteenth and mid-twentieth 
centuries, *spirituality* automatically meant the interior life of those striving for 
perfection” (Conn 2000: 356).

That, however, is perhaps putting it too strongly, for there continues to be a 
determined representation of the view that “spirituality” is not and cannot be 
understood purely in interior, subjective terms. For many years Kenneth Leech 
(referred to above) worked at the sharp end as a parish priest in the East End 
of London, where he continued to be a vocal and persuasive advocate of *social* 
spirituality, spirituality as inherently involving political and social action. 
Appalled at the way “in which ‘spirituality’ is being promoted as a way of 
avoiding and evading the demands of justice and of struggle for a more equal 
world” (Leech 1992: ix), he is suspicious of any claims that spirituality is a 
private, individual affair: “Christian spirituality is social spirituality. It is the 
spirituality of the Kingdom of God, of a pilgrim people, of the Body of Christ… 
There is very little in the New Testament about personal spirituality. The centre 
of gravity is always the body, the solidarity…” (Leech 1992: 150). Significantly 
however, despite his suspicion of “personal spirituality”, Leech considers that
critical to social spirituality is contemplative prayer, with the centrality of silence in his life as an activist: “silent waiting on God is the heart of prayer, a simple abiding in emptiness, weakness and attention, a recognition of the fact that it is the Spirit who prays within us in inarticulate groanings…” (1992: 194-5). That is to say, although Leech is suspicious of the notion of a “personal spirituality” in the sense of its being an individualistic enterprise where one is concerned for one’s own state of grace or otherwise, but not relating that to issues of social justice, he does not deny nor decry attention to the interior life as an aspect of Christian spirituality; it is more that he recognises that such interiority must not be an end in itself, but an essential concomitant of the social spirituality that he advocates. The latter needs the former, but the interiority on its own would result in “spirituality [becoming] separated from social praxis and ethics” (Sheldrake 1992: 32).

From the above considerations, I am taking it that there are two crucial dimensions to “spirituality” as understood within a Christian context: 1) awareness of and openness to God and to the influence of the Holy Spirit in all aspects of life; and 2) the social/ethical response to that influence. These are the “inner life and outer engagement, spiritual contemplation and social action” (Tacey 2004: 148). These two dimension are often referred to by the use of a spatial metaphor as relating “vertically to God...[and]... horizontally to other souls” (Underhill 1933: 19), and I will continue to use the terms “vertical” and “horizontal”, with the caveat that it does run the risk of implying that we are talking about two independent variables, rather than interdependent factors, for “[t]o recover one’s ‘vertical’ connection with the sacred other is at the same time to restore and renew our ‘horizontal’ connections with self, others and the world” (Tacey 2004: 122), and a focus purely on devotion “may even by itself be a form of self-indulgence, unless it issues in some costly and self-giving action... The spiritual life of any individual, therefore, has to be extended both vertically to God and horizontally to other souls; and the more it grows in both directions, the less merely individual and therefore the more truly personal it will be” (Underhil 1933: 19).

An alternative metaphor could draw upon the properties of a circle, with the diameter standing for one’s relationship with the transcendent and the circumference one’s relationship with self, others and the world. The diameter and circumference co-vary exactly for different sized circles, mathematically
expressed by the symbol $\pi$. To try changing one without changing the other destroys the circle. Similarly, perhaps, with spirituality. This metaphor inevitably has its own limitations, suggestive as it is of a quantitative relationship between transcendence and ethical action, which feels too mechanical and rigid; but since no metaphor can cover all possibilities (Soskice 1985), I will take the two metaphors to be complementary.

**Spirituality in action: Jesus of Nazareth**

The two dimensions of spirituality, vertical/diameter and horizontal/circumference, manifested in a human life can easily be illustrated, the obvious example from Christianity being the figure of Jesus of Nazareth, though it should be remembered that, Jesus being not a Christian but a Jew, his teaching and activity belong within the context of Judaism (Sanders 1985; Vermes 1983; Wright 1996). Yet since the accounts of his life, death, resurrection and teaching are the basis of Christianity, however much they might have become distorted over the past 2,000 years, it is still appropriate to consider his attitude as being normative for (Christian) spirituality.

In the gospel according to St Matthew, Jesus is recorded as saying that “You must love the Lord your God with all your heart, with all your soul, and with all your mind... and... you must love your neighbour as yourself” (Matt 22: 37-39), and in Luke’s gospel Jesus commended the lawyer who summarised the Law in identical fashion (Luke 10: 25-28). “Loving the Lord your God...” constitutes the vertical/diameter dimension, and “love your neighbour as yourself” the horizontal/circumference, and that Jesus not only enjoins both but is depicted in the gospels as manifesting both in his life and, according to Christian understanding, in the manner of his death and subsequent resurrection is clear. For although we have no written accounts by Jesus himself to give us access to his subjective world, it is reasonable to suppose that we can infer his openness to God from his recorded behaviour, for there is “nothing in principle inaccessible about the settled intentions, aims, or ambitions of an individual. Even if little is said about them, they will gradually become apparent in actions performed, in choices made, in lifestyles adopted” (Wright 1996: 101), a view which chimes with the evolutionary psychological concept of “theory of mind”, the putative faculty by which we infer the state of mind –
beliefs, intentions, desires and so forth – of another person, as discussed in chapter 7 of the current enquiry.

We can infer something of Jesus’s interior life from his observable behaviour such as praying fervently, and there are a number of instances in the gospels where the reported actions of Jesus make good sense if understood as being the behavioural concomitants of a particular state of his interiority. For example, the gospel accounts depict his baptism by John being accompanied by his awareness of being chosen by God: “You are my Son, the Beloved, my favour rests on you” (Mark 1: 11) after which “the Spirit drove him into the desert and he remained there for forty days, and was put to the test by Satan” (Mark 1: 12-13 ). His time in the desert is usually and plausibly construed as a time of self-examination as he wrestled with what he was called to be and to do; it was a “struggle… about the nature of [his] vocation and ministry” (Wright 1996: 458), “where it will become clearer what the deeper meaning of his messianic calling is” (Leuking 2001: 20) – a struggle memorably conveyed in Dennis Potter’s (1971) television play Son of Man. During the period of his active ministry he engaged in practices to maintain his openness to God, for we are told that he “went into the synagogue on the Sabbath day as he usually did” (Luke 4: 16), that “in those days… he went onto the mountain to pray; and he spent the whole night in prayer to God” (Luke 6: 12 ), that he taught his disciples the prayer universally known as the Lord’s Prayer (Matt 6: 9ff and parr).

Near the other end of his ministry, the gospel accounts speak of Jesus in the garden of Gethsemane praying that God would, if willing, “take this cup away from [him]” and that “his sweat fell to the ground like great drops of blood” (Luke 22: 42, 44); and on the cross according to one account, he cried out, quoting from Psalm 22, “My God, my God, why have you forsaken me?” (Mark 15: 34); and according to another account his final words quoted from psalm 31: “Father, into your hands I commit my spirit” (Luke 23: 46). It would be perverse to deny that Jesus is being depicted as undergoing an inner struggle, seeking to remain open to the Spirit of God that God’s will might be done.

Jesus’s openness to God was clearly of a piece with his attitude and active response to people he encountered, for as well as a preacher he is depicted as an exorcist and healer (Vermes 2000), constantly responding with compassion and action to those around him, to the extent of challenging the accepted
practices of the day by healing the “man with the withered arm” on the Sabbath (Luke 6. 6-11), and eating with the despised tax-collectors and sinners, scandalising the Jewish authorities in the process (Luke 5: 29-32). One of his best-known parables, following on from the above-mentioned lawyer’s question “But who is my neighbour?”, is that of the Good Samaritan (Luke 10: 29-37), in which the eponymous figure manifests outstanding altruism in the help and compassion he extends to a member of a hostile nation (“Jews, of course, do not associate with Samaritans” [John 4:9]); and in the more chilling parable of the sheep and goats (Matt 25: 31-46) Jesus commends the compassion and active help extended to the hungry and thirsty, the stranger, the sick, the imprisoned – “social praxis”, to use Sheldrake’s (1992: 32) expression.

This (albeit brief) summary of spirituality, based on Jesus as the exemplar, clearly entails the vertical (or diameter) dimension of openness to what he understood and accepted as God the Father, and the horizontal (or circumference) dimension of an openness and self-giving response to others.

Non-Christian spirituality

Even if this understanding of spirituality is a reasonable encapsulation of Christian spirituality, is it transferable to other faith (and, indeed, non-faith) traditions? Given the Christian origins of the term, it might seem best to confine “spirituality” to a Christian context and to what it means to live a life “guided by the Spirit of God” (Principe 1983: 45), but it is clear that the term has slipped out of its exclusively Christian (and, more specifically, Catholic) usage to become far more widely applicable. Schneiders comments that:

“It is truly remarkable that a term which only 20 years ago [from 1989] connoted suspect enthusiasm or mindless piety in Protestant circles and was virtually unknown to Judaism, Eastern traditions, Native American religion, the new religious movements, or secular systems of life integration is now used freely within all of these circles. Even those who know that the term is historically Catholic do not seem to feel that it belongs to Catholicism or that to discuss spirituality is to appear on Catholic turf or to accept Catholic ground rules. It is very interesting that the Crossroad series includes a volume on ancient Greek, Roman, and Egyptian spirituality. Although from a strictly historical perspective this use of the term is clearly anachronistic, it functions well for a discussion of a particular dimension of the experience of classical antiquity” (Schneiders 2000: 259).

In applying the term “spirituality” to non-Christian religions and to atheism and secularism, there is of course the danger of a form of religious or cultural
imperialism, of implying in effect that such other traditions need Christian concepts to improve and complete them. But the Crossroad series consists of 25 volumes with the overall title “World Spirituality: an Encyclopedic History of the Religious Quest”, including volumes on “Buddhist Spirituality” (Yoshinori 1995), “Hindu Spirituality” (Sivaraman 1989), Islamic Spirituality (Nasr 1987), Jewish Spirituality (Green 1985), and Spirituality and the Secular Quest (Van Ness 1996), each with contributions from practitioners belonging to the various traditions who clearly accept the term “spirituality” as validly pertaining to those traditions. Elsewhere, Buddhists such as the current Dalai Lama (2006) and the monk Thich Nhat Hanh (1996), the Jewish scholar Abraham Joshua Heschel (1986) and the Islamic writer on philosophy and religion, Aziz Esmail (1998), among others, also freely use the term.

Moreover, King notes that every language and culture has its own word for “spirit”. In Hinduism and Buddhism “moksha and nirvana, sometimes translated as ‘liberation’ and ‘enlightenment’, come perhaps closest to some of the ideals referred to as ‘spirituality’ in English… Similarly, there exist specific spirit words in Arabic and Japanese, in Chinese, African, and indigenous tribal languages, each with their own connotations” (King 2009: 8). And not just religion has the spirit word: the avowed atheist Sam Harris devotes a chapter of his anti-religion polemic to a positive view of his understanding of spirituality as referring to “our attempts to explore and modify the deliverances of consciousness through methods like fasting, chanting, sensory deprivation, meditation, and the use of psychotropic drugs” (Harris 2005: 210). Likewise, Daniel Dennett (2006), another of the so-called “new atheists”, is happy to describe what he understands by “spirituality”, and philosopher André Comte-Sponville (2008) devotes a book to atheistic spirituality. And then there is Marxist spirituality. According to Hay, although author Nancy Bancroft has no time for religious belief, she nevertheless constructs a Marxist version of spirituality on the basis of Marx’s term “species being” which refers to “the deepest centre or spirit of humankind as a collective. The term asserts that there is no division between individual and society: ‘Human’ means precisely social” (quoted in Hay 2006: 29), which chimes with the horizontal/circumference dimension.

These considerations, and recalling that the definition of “spirituality” offered by the general editor of the Crossroad series referred to “the deepest center of the person [where] the person is open to the transcendent dimension” (Cousins
1989: xii), we can see that spirituality has become a generic word with its focus on a perceived dimension of human nature, rather than on the original Judeo-Christian conception of the Holy Spirit; that is to say, the referent of the term has shifted from the divine towards the human, and with it Christian spirituality has become a subset of a broader conception of spirituality. Nevertheless, the original Christian understanding can still provide a template for understanding spirituality in this broader sense, and here I would echo William Alston (1991)
on the closely related topic of mysticism:

"mystical perception was marked out in terms of the perceiver supposing herself to be directly experientially aware of God. ‘God’ was explained in standard theistic terms. But then how do we locate ‘mystical perception’ in nontheistic religions? How do we determine what counts as a practice of forming beliefs on the basis of mystical perception in Buddhism or nontheistic forms of Hinduism? To do so we must enlarge our conception of mystical perception as follows. In the major religions of the contemporary world... the religious responses of devotion, commitment, faith, hope, prayer, worship, adoration, and thanksgiving are directed to what is taken to be Ultimate, the ultimate determiner of one’s existence, condition, salvation, destiny or whatever. This Ultimate is conceived of differently in different religions. It may or may not transcend the world of nature, may or may not be personal, may or may not exhibit a tight unity. Thus as a wider conception of mystical perception I suggest the following. It is what is taken by the subject to be a direct experiential awareness of the Ultimate" (Alston 1991: 258).

This appears to be an admirable way forward. As far as the “vertical” dimension of spirituality is concerned, “the Ultimate” in Judaism, Christianity and Islam goes by the name of YHWH, God the Father, or Allah respectively. For nontheistic traditions, the term “the Ultimate” can be used to denote moksa (Hinduism), nirvana (Buddhism), Dao (Daoism) and so forth. This approach fits with the religious pluralism developed by John Hick, which I will be drawing on at length later in this enquiry. Hick settles on the term “the Real” to refer to that which is Ultimate (Hick 1989). I will follow him in this, and later will develop at greater length my reasons for accepting this as a valid approach, taking it for now that the transcendent dimension (the vertical, the diameter of spirituality) can be understood as referring to one’s being open to, and responding to, “the Real”, by whatever names it goes by, or has ascribed to it, in different faith and humanistic traditions. As will become clearer later on, when I discuss in chapter 10 the operation of the proposed sensus transcendentis, the terms “the Transcendent”, “the Real” and “the Ultimate” do not necessarily have to be construed as referring to something not of this world, but to that which is discernibly and
detectably embedded within the world, an aspect of our “total environment” which entails (inter alia) the biotic, social, physical and built components.

The other dimension I have identified as being necessary to the understanding of Christian spirituality is the horizontal (the circumference of spirituality), involving social praxis and ethics. It is easy to see this as applying to the spirituality of other religious traditions, both theistic and non-theistic. Hick has detailed how universal among religions is the Golden Rule in some guise or other, describing how “it is the basic teaching of all the world religions that we should behave towards others as we would wish others to behave towards us,” and he proceeds to quote lines from the scriptures of ten “Axial” religions including, “‘One should never do that to another which one regards as injurious to oneself’ (the Hindu Mahabharata)… [and]… ‘As a mother cares for her son, all her days, so towards all living things a man’s mind should be all-embracing’ (the Buddhist Sutta Nipata)” (Hick 1999: 227). A good illustration of the importance accorded to the horizontal dimension of social praxis and ethics is the practice of yoga. A spiritual discipline to achieve self-forgetfulness, it could not be undertaken without commitment to the ethical dimension such that a beginner “was not allowed to perform a single yogic exercise until he had completed an intensive moral programme. Top of the list was ahimsa, ‘harmlessness’. A yogin must not swat a mosquito, make an irritable gesture or speak unkindly to others but should maintain constant affability to all, even the most annoying monk in the community” (Armstrong 2009: 30-1).

**Conclusion**

Although the witnesses I have called, like witnesses in a court case, are not giving identical accounts of spirituality, I am taking their corporate expert testimony as justifying what, for the purposes of this enquiry, I will mean by the term “spirituality”. I am not willing for the term “spirituality” to be applied simply to dimensionless inner sensations of “interior sweetness” and “infusion of comfort”, à la Richard Rolle, in the absence of the vertical dimension of openness to transcendence and the horizontal dimension of response to others; and King, I accept, is right to warn of “a spirituality exclusively focused on personal concerns” (King 2009: 11). Spirituality, in the sense that it is used in traditions other than Christianity as well as Christianity itself, entails the vertical/ diameter dimension (awareness of and openness to transcendence or “the Real”) and
the horizontal/ circumference dimension (social and ethical praxis). The former is generally the realm of “religious experience” (though as will be seen such experiences are not necessarily construed by the subject as belonging to or arising out of a specific religious tradition), and the latter is generally the realm of ethics. I take Schneiders’ point that “spirituality” can also refer to an academic discipline, but the present enquiry is concerned with what she refers to as “a fundamental dimension of a human being, [and] the lived experience which actualizes that dimension” (Schneiders 2000: 250); though the present enquiry is, I trust, by way of a contribution to spirituality in the academic sense as well.

I also draw attention to the fact that a number of the witness I have called upon posit the existence of what is variously described as a “spiritual core [where]… the person experiences ultimate reality…” (Cousins 1989: xii) or “a fundamental dimension of a human being” (Schneiders 2000: 250) or “a general human capacity for self-transcendence” (Conn 2000: 356). That is to say, a basic element of what constitutes humanness is a natural predisposition for spirituality. And I will, in due course, be arguing that human beings do indeed have a predisposition for spirituality – both dimensions of it – and that how this predisposition has arisen can be understood by means of concepts developed within the discipline of evolutionary psychology.

Having identified the two dimensions of spirituality, the next issue is that of their human universality. It is an essential part of the model to be presented that the capacity for spirituality in both its dimensions is universal in the human species, and is not just the acquired ability of a particular subset, for it is with human psychological universals that evolutionary psychology concerns itself. Given the impossibility of testing every single member of *Homo sapiens*, alive or dead, for spiritual capacity, I will advance evidence and arguments in the next chapter to support the contention that the vertical/diameter capacity is widespread and in all likelihood universal. The horizontal/circumference dimension, under the guise of altruism, will be discussed in chapter 8.
Chapter 2: Of religious experience, spiritual awareness and roses

Introduction
In this chapter evidence is outlined that *H. sapiens* has had and continues to have experiences which constitute the vertical dimension or diameter of spirituality, namely our awareness of and openness to transcendence; and in chapter 10 these experiences will be attributed to the deliverances of a specialised “mental module”, the *sensus transcendentis*, whose proper function is to respond to intimations of transcendence in the total environment; and also that these experiences therefore constitute evidence supportive of the model.

Although having established in the previous chapter that the contemporary usage of “spirituality” often distinguishes it from religion, in what follows I continue to use the term “religious experience” for two related reasons: first, for most of human history and prehistory spirituality was embedded in the religious culture of a given group or tribe (Rappaport 1999); and, second, the term “religious experience” is the one that continues to be used in much of the literature in this area. I do however, below, introduce a new term (“Rose”) which incorporates but is not limited by “religious experience” in order to take into account the division perceived by many to have occurred, or to be occurring, between religion and spirituality (Heelas and Woodhead 2005).

First I address the area of prehistoric and primal religion before commenting on the transition period in human history known as the Axial Age, concluding with a longer discussion on more recent explorations into the “varieties of religious experience” (James 1902).

Primal religion
Religion, understood broadly, was arguably a major factor in the emergence of humanity from its pre- or proto-human condition, given the “absolute ubiquity of religion… [n]o society known to anthropology or history [being] devoid of what reasonable observers would agree is religion” (Rappaport 1999: 1), and the costliness of religion in terms of the “energy, blood, time and wealth that have been spent building temples, supporting priests, sacrificing to gods and killing infidels” strongly suggests that it is “in some way indispensable to the species” (1999: 2). Religion, in other words, rather than being simply a contingent cultural artefact that was invented and bolted on to our ancestors’ lives at some
arbitrary point in the evolution of *H. sapiens*, was integral to the gene-culture co-evolution of our species, without which (Rappaport implies) we would not be who or what we are.

It would be illuminating to observe first hand what constituted prehistoric religion, but since beliefs do not fossilise and the symbolic nature of rituals and ceremonies could hardly be unambiguously recorded before the invention of writing, the actual details of prehistoric religion can never be known for certain, nor the chronology of its origins and development. Archaeological evidence, however, gives pointers, and apart from some equivocal finds of red ochre engraved with motifs of crosses from around 75 kya (thousands of years ago), the evidence for the religious activities of our ancestors dates back to the Upper Palaeolithic, the period from roughly 50 to 12 kya (Lewis-Williams 2010).

By way of example, consider the evidence to be found in the deep limestone caves of France and Spain, with their extraordinary wall paintings often in places extremely difficult to access. Lewis-Williams, referring to the cave system known as Les Trois Frères in south-western France, describes how:

“After one leaves the entrance to the Chapelle de la Lionne, the floor… slopes steeply down. Deeper and farther into the cave is the Sanctuary. On the left, high above this chamber, a narrow ledge leads to the ultimate parts of the cave, Le Tréfonds. Here there are paintings and engravings, including a red horse, fine engravings of bison, finger, stone or bone scrapings in the form of a grid, and a claviform (*sic*). In the nearby Galerie des Chouettes are two owls with what appear to be their young, and a mammoth; these representational images were made by scraping the clay surface with fingers…

On the right-hand wall of the Sanctuary is the famous image of the therianthropic ‘sorcerer’... Engraved and painted, this fusion of human and animal forms is on the wall behind a ledge some 4m above the floor of the Sanctuary” (2010: 218).

The “sorcerer”, which has “owl-like eyes, antlers, human legs and a horse’s tail”, and seeing which was “probably the climax of a person’s visit to the cave”, would have been reached in prehistoric times by crawling through a narrow ascending tunnel with sides embellished with “swirling images”, which “may point to another and even deeper level of altered consciousness and consequently more overwhelming mental imagery associated with the close proximity to the ‘sorcerer’ that the narrow ledge necessitates” (2010: 219).

In the same cave system there is also evidence of vast quantities of animals’ bone having been burned deep underground, possibly indicating “a nascent notion of sacrifice” (2010: 213); and further curious evidence in the same cave
system is of hundreds of small pieces of animal bone thrust into cracks in the rock walls. One possible explanation of this involves

“the notion of immanence: something inside something apparently solid. The pieces of bone may be evidence for some sort of communication, or mediation, between the subterranean space in which people were and a spirit realm beyond the rock face. A belief along these lines would have heightened the emotional impact of what we see merely as a rock surface: for Upper Palaeolithic people, touching the rock was touching a powerful, perhaps dangerous, cosmological interface. We must also notice that it was fragments of dead animals that people were passing from one cosmological space to another. Was there, we may again ask, some notion here of sacrifice? Were dead animals seen as conduits between cosmological and spiritual areas? Were Upper Palaeolithic people ‘feeding’ supernatural beings behind the rock face?” (2010: 213).

It is impossible to know how close to the true explanation these various surmises are, but it seems clear to all who study them that the contents of the caves cannot be dismissed as random graffiti and the detritus of meaningless behaviour, but are indicative of a purposive, powerful and highly symbolic activity.

The other source of possible ideas concerning prehistoric religion is contemporary tribal religions, for although these are as distant in time from prehistoric societies as are contemporary manifestations of the major world faiths like Christianity, examples such as African primal religions “perpetuate practices such as divination, spirit-possession, animal sacrifice, and witchcraft, which the written canonical traditions have gradually overlaid with more rationalized and moralized conceptual systems” (Ward 1994: 60). They can therefore at least provide hints and possibilities as to earlier forms of religion which in due course gave rise to the more developed traditions.

A central role is played by ritual, considered by some to be the fundamental category of religion such that “the sacred, the numinous, the occult and the divine, and their integration into the Holy, are creations of ritual” (Rappaport 1999: 3). The performance of ritual is a recognition of the gap between how things are and how things could or should be, and an attempt to bring about a closing of that gap; it is “a means of performing the way things ought to be in conscious tension to the way things are in such a way that this ritualized perfection is recollected in the ordinary, uncontrolled, course of things” (Jonathon Z. Smith, quoted in Bellah 2011: 135).

An example of ritual is from the Bear cult of the Ainu of Japan, for whom bears are not regarded as distinct individuals but as:
“bearers of species-powers which can be reincarnated in successive individual bears. After being kept for some years, a bear cub is ritually killed in a great feast, so that its soul may return to its parents and tell of the kindness of the tribe in which it has lived… The important parts of the ritual are the killing, the offering, and the sharing of the sacrifice. The bear is killed only after it has been enraged by teasing, so that its full strength is expressed. One might say that the power of its life is concentrated in this way… It is both victim and the one to whom life is offered, so that it is in a sense a self-sacrifice, an offering of strength to the source of all strength. The way to the world of spirits is a way of discipline and renunciation. When the bear is ritually eaten, the people participate in that strength, binding themselves to the one they must kill in the hunt, yet on whose life they depend… What is important is the bringing to expression of the power which is vital to the survival of the tribe, the reverencing of that power by the offering of life, and the participation in that power by the tribe” (Ward 1994: 63-4; citing Joseph Campbell [1959]).

Bellah (2011) gives brief sketches of contemporary “mythic cultures” including the Kalapalo of Brazil whose rituals are strongly musical, and he quotes Ellen Basso, who lived with this people in the late 1960s:

“This world [of powerful beings and the Dawn people] is reproduced during ritual performances, in which Kalapalo collectively adopt the powerful mode of communication through which they engender the experience of a unity of cosmic forces, developed through the unity of sound formed by creative motion. In rituals, too, they most vividly realize their powers of presence. For by collectively performing music, they not only model themselves upon their images of powerful beings, but they feel the worth of those models by experiencing the transformative powers inherent in human musicality” (Basso, quoted in Bellah 2011: 140).

For the Walbiri, a semi-nomadic people who lived in the central desert of Australia, their identity (as for many of the Aboriginal peoples) is defined by their relationship to their “country”, that is, “locations to which they had a particular ancestral affiliation – because they believed that they had themselves come from their country and would after death return to it. Thus it is impossible to understand Aboriginal society without getting into ideas that we would call religious” (Bellah 2011: 147). In the myths of the “Dreaming”, the ancestors “are described as forming the natural world [and also] forming the social world, establishing customs and rituals as they travel through the landscape” (Bellah 2011: 150), and establishing also the moral law and how one should act in society. As Nancy Munn, who studied the Walbiri in the 1960’s, discovered, the myths remain close to daily life:
Occasional tales include behavior of an extraordinary kind, such as the transformation of a man into a snake, which Walbiri do not believe happens today; but such occurrences are exceptional. A large part of story behavior consists simply of the action patterns of daily life; food acquisition, mourning rites, ceremonies of various kinds...

While all these stories are regarded as traditional accounts of ancestral activities, it is obvious that we have here a narrative projection of the cyclical day-after-day experience of daily routine and a recounting of the sorts of incidences and behavior also possible for the most part in the ongoing present of Walbiri daily life. *It is, in effect, this repetitive daily existence that is going under the label dijugurba, ancestral way of life* (Munn, quoted in Bellah 2011: 149 – emphasis added).

There is more that archaeology and anthropology can offer about the nature of primal religions and the putative prehistoric origins of religion, but the above comments are sufficient for present purposes, there being a number of characteristics to highlight which will be of use later in the current enquiry.

The first characteristic is that primal religion arises from, or is an expression of, the perception that the experience and understanding of the world is not confined to its physical materiality but also includes or entails a “suprasensory” dimension which “underlies the perceived world and gives it meaning, purpose, and value” (Ward 1994: 53). This perception of “meaning, purpose and value” is dependent on the capacity for what Bellah refers to as “symbolic transcendence, for seeing the realm of daily life in terms of a realm beyond” (Bellah 2011: 9 – emphasis in original).

A second characteristic of primal religion, or possibly an extension of the first, is of its everyday significance. The rituals are intended to ensure that the appropriate relationship is created or maintained with the “suprasensory powers for good and ill”, which will affect the “well-being and prosperity of the tribe” (Ward 1994: 61). Although drawing upon the tribal myths of cosmogony and ancestral beings, primal religion is concerned with the life of the tribe now, and how to ensure that the spirit powers are working in its favour.

A third characteristic to highlight is the collective nature of much of the religious or spiritual experiences depicted, illustrated by the above brief accounts of the Ainu and the Kalapalo. Whereas in contemporary discourse the concept of “religious experience” has generally come to refer to, or at least to imply, a special kind of experience undergone by an individual (James 1902 – see later section of this chapter), in primal religion it is the people collectively who
engage in the rituals, and the powerful experiences are undergone by all in the presence of all: it is “primarily a social phenomenon” (Ward 1994: 61).

The fact that rituals are collective does not prevent there being individuals who play a particular role in their tribes or groups, such as the shamans who were the “primordial religious specialists” (Sanderson 2009: 4). The shamans performed a variety of activities such as “healing and curing of illness, divination, protecting and finding game animals, communicating with the dead, recovering lost souls, and protecting people from evil spirits and the practitioners of malevolent magic” (2009: 5). It is significant for the current enquiry, and its dependence on the universality of religious and spiritual experiences, that similar shamanistic practices are found to occur throughout the inhabited world, suggesting that there is “a common psychobiological basis to shamanic traditions, and thus that they are the result of independent invention rather than cultural diffusion” (2009: 5). A link with the “canonical” faiths is indicated by shamanistic practices being detectable in parts of the Hebrew scriptures with “claims to possession by spirits or gods in visions and dreams” (Ward 1994: 90).

The understanding that the world is not exhausted by its materiality but that the “totality of the world is spiritual as well as material” (Ward 1994: 62) paves the way for the model I am developing, which entails our possessing an evolved “mental module” which tracks or perceives “intimations of transcendence” immanent in the world – in other words, it tracks or perceives the spiritual in the material. If indeed it is the case that religion is foundational in the evolution of humankind, and that the origins of religion lie in the apprehension that the spiritual and the material, the sacred and the secular, are one – or, at the very least, they mutually and fully interpenetrate – then it is feasible for a module, rooted in the physical world, to evolve in response to the spiritual. Moreover, since for primal religions “the world of sensory experience manifests a deeper reality of very varied character, which can be apprehended at a preconceptual level by minds which have been prepared for it” (Ward 1994: 68 – emphasis added), then this current enquiry is extrapolating from that to argue that all minds have been prepared for the apprehension of a deeper reality by the evolutionary processes of natural selection. This is supported by the characteristic already noted that the religious rituals and experiences were/are collective as well as individual, not confined to a specialised few but species-wide.
The Axial Age

The “Axial Age”, an expression coined by Jaspers (2011 [1953]), refers to a transitional period in human history lasting from roughly 800 BCE to 200 BCE (Armstrong 2000, 2006; Bellah 2011; Hick 1999), which saw a shift in the religious and spiritual life of human existence. Rather than seeing the divine embodied in diverse deities, “people increasingly began to worship a single, universal transcendence and source of sacredness” (Armstrong 2000: xii), epitomised by the development in the Hebrew scriptures of Yahweh from tribal god to the one true God (Armstrong 2000).

But the development was not confined to the emerging Jewish faith. In other parts of the world during this period new insights were being promulgated by such as Confucius, Lao-Tzu, Gautama the Buddha, Mahavira (the founder of Jainism), the writers of the Upanishads, Zoroaster, Pythagoras, Socrates, Plato and Aristotle; and given that Christianity emerged from Judaism, and Islam presupposes both Judaism and Christianity, then “all of the present major world religions trace their roots to this axial period” (Hick 1999: 5). And though there were major differences among them, the Axial Age religions had (and have) important commonalities: “they all built on the old traditions to evolve the idea of a single, universal transcendence; they cultivated an internalized spirituality, and stressed the importance of practical compassion” (Armstrong 2000: xii-xiii).

The factors catalysing this development included the increase in the scale of war and urbanization, raising levels of insecurity and anxiety, such that “an all-powerful, loving God was an excellent prescription for people’s new sense of threat and danger” (Sanderson 2009: 13). The rise of the agrarian society brought agricultural surplus, in turn fuelling trade and a shift in power towards the market-place, and with the resultant wider perspective “the old local cults seem[ed] limited and parochial” (Armstrong 2000: xii).

Hick emphasises a developing “sense of the unsatisfactoriness, the felt incompleteness of our ordinary human existence” (1999: 6), which led to a “soteriological” focus in various emerging religious traditions, that is, offering a path to, variously, salvation, enlightenment, liberation or fulfillment; but whereas one set of traditions (the “western”) refer to the problem of the unsatisfactoriness of human life as sin, “thus identifying guilt as the problem”, another tradition (the “eastern”) refer to spiritual blindness, “thus identifying false consciousness as the problem” (1999: 8). Either way, the Axial religions offer, or
claim to offer, an escape from or resolution of the unsatisfactoriness, a “transformation from sinful and/or deluded self-centredness to a radically new orientation centred in the Divine, the Transcendent, the Ultimate” (1999: 8).

For the current enquiry it is not necessary to delve further into the Axial Age transition (Armstrong 2006 and Bellah 2011 give full accounts); it is enough to note two points that I assume to be the case: first, the human faculties which underlie the Axial religions are the same as those which underlie the prehistoric/primal religions, since it is generally accepted that “Upper Palaeolithic people had the same brain and cognitive abilities as we do” (Lewis-Williams 2010: 210). This means that the transition was essentially a cultural rather than a biological process, and any mental module responsible for mediating the experiences of the prehistoric/primal religions would still be functioning in the context of Axial religions.

Second, I assume that no single one of the range of primal/prehistoric manifestations of spirituality and religion can be taken a priori to be authoritatively “true” and all the rest “false” – there are no sensible grounds on which, say, the Bear cult of the Ainu could be elevated above the Dreaming of the Walbiri in the truth stakes; and since the Axial religions arose from the prehistoric/primal religions there are likewise no a priori grounds for considering one of them to be authoritatively, one-hundred-percent true and the others false, and there should be “no assumption of the priority of one tradition as the norm” (Smart 1996: 4).

**Religious experience in the Axial age and after**

Religion has continued to be “a vital and pervasive feature of human life” (Smart 1977 [1969]: 1), for despite the advance of secularization since the Enlightenment, particularly in western Europe, there is “considerable persistence in some aspects of religious life”, namely “feelings, experience, and the more numinous religious beliefs” (Davie 2000: 7), and although many Europeans “have ceased to belong to their religious institutions in any meaningful sense… so far they have not abandoned many of their deep-seated religious aspirations” (2000: 8).

Since the model that I am proposing entails the capacity for experiences of transcendence being a human universal, the continued widespread occurrence of such experiences despite the decline in formal attachment to religious structures will offer support for the model’s claim of universality. Hence the
accounts given below include experiences which occur outside formal structures of a specific religion. The standard expression “religious experience” is not, therefore, entirely satisfactory with its connotations of institutional religion, but the alternative term “spiritual awareness”, adopted by Hardy (1979) and Hay (2006) to emphasise that the focus of investigation is not the exclusive property of “religion”, also has its problems with connotations of the whole ragbag of human endeavours and experiences parodied by Stringfellow (1984). I therefore use where possible the label “Rose”, which is the acronym of “religious or spiritual experience”, for the general type of phenomena under consideration.

But what counts as a “Rose”? “Religious experience” is a fuzzy concept (Swinburne 1979) and the Rose concept is fuzziness squared, containing two fuzzy concepts in “religious” and “spiritual”. A particular problem is whether these and related terms refer to some quality or other which is intrinsic to the experience, or whether they refer to a quality which is ascribed to the experience (Taves 2009). Referring to the former understanding as the “sui generis” or “intrinsic” model, and the latter as the “ascriptive” model, Taves clarifies that they “differ over whether there are uniquely religious (or mystical or spiritual) experiences, emotions, acts, or objects. The sui generis [i.e. intrinsic] model assumes implicitly or explicitly that there are. The ascriptive model claims on the contrary that religious or mystical or spiritual or sacred ‘things’ are created when religious significance is assigned to them. In the ascriptive model, subjects have experiences that they or others deem religious” (2009: 17).

This is an important distinction to keep in mind regarding the sensus transcendentis model that I will be proposing, where the question will arise whether in delivering an experience of transcendence to the human organism, the sensus transcendentis is dealing with an intrinsic transcendence, or with an ascribed transcendence. For present purposes, however, I am not coming down on either the intrinsic or the ascriptive side, but am presenting a number of accounts to illustrate the range of experiences that are usually considered to be religious/spiritual (“Roses”), whether intrinsically or ascriptively so. This is the approach of Caroline Franks Davis, who allows both the objective and the subjective approaches to be included in the religious experience family. Looking upon “the quest for a neat, precise definition of ‘religious experience’... as fruitless”, she offers the observation that generally religious experiences “are
experiences which the subjects themselves describe in religious terms [i.e. ascriptively] or which are intrinsically religious” (Davis 1989: 29, 31).

As for categorising the various experiences, there would appear to be as many typologies as there are writers on the subject (Batson and Ventis 1982; Davis 1989; Glock and Stark 1965; Hay 2006; James 1902; Swinburne 1991 [1979]; Yandell 1993; et many al), which would suggest that none of them are self-evidently cleaving nature at its joints. To avoid creating yet another ad hoc typology, but needing something to help ensure that a reasonable spread of the phenomena under discussion is considered, I am making use of two existing typologies – that of Davis (1989), since it is her description of “religious experiences” I have adopted, and that of Hay (2006) since unlike many other typologies it is based on empirical research.

The great majority of what follows are examples of “focal” experiences (Alston 1991), those which, in principle at least, could be given a specific time and date of their occurrence, rather than “background” experiences that have more of a continuous, albeit fluctuating, character. The latter, although not so eye-catching, are no less important than the former. I pick up on this distinction below.

**Davis’s typology**

Davis (1989) offers a six-fold typology, with a number of subdivisions. Of the illustrative examples that follow, a number are those offered by Davis herself, culled from various sources, and the rest I supply, also variously gathered. I also provide a code for each to simplify future reference to individual accounts.

**CFD1) Interpretive experiences**

These are experiences taken to be religious because “a prior religious interpretive framework” (1989: 33) is placed on them, such as seeing a misfortune as being a consequence of sins in a previous life, and “going through an illness with joy because it is a chance to ‘participate in Christ’s suffering’” (1989: 33). In the following, a religious interpretive framework gets applied to what is, in any case, a striking incident:

“I was a young married woman with a 6 month old baby daughter. My husband and I got an evening off to see a film at K--- about 6 miles away. One of the hotel staff had volunteered to baby sit... We had not been long seated in the cinema when a terrible uneasiness overcame
me. I could distinctly smell burning... eventually I told my husband I was leaving. He followed me reluctantly, muttering something derogatory about women.

At last we were sprinting down the lane leading to the cottage. The smell of burning was now very definite to me though my husband could not smell a thing. We reached the door which I literally burst in. As I did so the dense smoke poured out and a chair by the fire burst into flames. I rushed through to the bedroom and got the baby out while my husband dragged out the unconscious girl. She had fallen asleep in the armchair and dropped her lighted cigarette into the chair which had smouldered for hours. Yes, God sent me home to save my baby. God was with me telling me to hurry home; of that I am convinced and also my husband” (Davis 1989: 34).

Davis notes that “[t]here is no evidence that the woman sensed a divine presence guiding her. Up to the last two sentences, the experience could have been described by an atheist” (1989: 35). Nevertheless, the woman interprets in retrospect her unease and olfactory sensation as being a message sent by God.

**CFD2) Quasi-sensory experiences**

This refers to experiences “in which the primary element is a physical sensation or whose alleged percept is of a type normally apprehensible by one of the five sense modalities… These include visions and dreams, voices and other sounds, smells, tastes, the feeling of being touched, heat, pain, and the sensation of rising up...” (1989: 35-6). She further subdivides this category into three (headings supplied by myself):

**CFD2a) quasi-sensory (sense of presence)**

In this category, experiences are taken to be of a spiritual entity that is actually present. In a strong parallel to Saul/Paul on the Damascus Road, the Sikh Sadhu Sundar Singh had a dramatic conversion experience to Christianity. Dissatisfied with Sikhism and violently opposed to Christianity, he had decided to kill himself if God didn’t revealed the right path to him:

“In the room where I was praying I saw a great light. I thought the place was on fire. I looked round, but could find nothing. Then the thought came to me that this might be an answer that God had sent me. Then as I prayed and looked into the light, I saw the form of the Lord Jesus Christ. It had such an appearance of glory and love. If it had been some Hindu incarnation I would have prostrated myself before it. But it was the Lord Jesus Christ whom I had been insulting a few days before. I felt that a vision like this could not come out of my own imagination. I heard a
voice saying in Hindustani ‘How long will you persecute me? I have come to save you; you were praying to know the right way. Why do you not take it?’ The thought then came to me, ‘Jesus Christ is not dead but living and it must be He Himself.’ So I fell at His feet and got this wonderful Peace which I could not get anywhere else” (Davis 1989: 37).

CFD2b) quasi-sensory (noetic communication)
This refers to experiences which “are taken to be like pictures ‘sent’ by a divine being and requiring a certain amount of interpretation” (1989: 37) – that is, information is (believed to be) imparted – hence the term “noetic” (from “nous” meaning mind, understanding, or intellect). A well-known example is the visual parable of the master and the servant in one of Julian of Norwich’s revelations, and which took her 20 years of meditating upon to penetrate to the core of what she took to be its meaning:

“I saw physically before me two people, a lord and his servant. And God showed me its spiritual meaning. The lord is sitting down quietly, relaxed and peaceful: the servant is standing by his lord, humble and ready to do his bidding. And then I saw the lord look at his servant with rare love and tenderness, and quietly send him to a certain place to fulfil his purpose. Not only does that servant go, but he starts off at once, running with all speed, in his love to do what his master wanted. And without warning he falls headlong into a deep ditch, and injures himself very badly. And though he groans and moans and cries and struggles he is quite unable to get up or help himself in any way. To crown all, he could get no relief of any sort: he could not even turn his head to look at the lord who loved him, and who was so close to him. The sight of him would have been of real comfort, but he was temporarily so weak and bemused that he gave vent to his feelings, as he suffered his pains… I was greatly surprised to see with what humility this servant endured such suffering and I sought most carefully to find some fault in him, and to know if his lord regarded him as blameworthy. And, in truth, I could see neither. Basically it was his own good will and great longing that had caused his fall; he was still as loyal and goodhearted as when he stood before his lord, ready to do his bidding. And it is thus that his master always sees him…” (Julian of Norwich 1966: 141-142).

Julian proceeds to offer interpretations of this visual parable (the lord as God, the servant variously as Adam; everyman, and Christ – in the latter role, Christ ‘falls’ into Mary’s womb), and understands God to be telling her that the “much beloved servant should be truly and gladly rewarded beyond anything he could have had had he not fallen” (Julian of Norwich 1966 [1393]: 143).

CFD2c) quasi-sensory (religious context)
Here, quasi-sensory experiences such as “light… beautiful music, bells, sweet
odours, and heat” only gain religious significance from the context in which they occur, such as during prayer or meditation, or “because the subject has been taught to expect such experiences as ‘favours’ from God or signs of progress” (1989: 38). An example is the account by R. M. Bucke, who coined the term “cosmic consciousness”:

“I had spent the evening in a great city, with two friends, reading and discussing poetry and philosophy. We parted at midnight. I had a long drive in a hansom to my lodging. My mind, deeply under the influence of the ideas, images, and emotions called up by the reading and talk, was calm and peaceful. I was in a state of quiet, almost passive enjoyment, not actually thinking, but letting ideas, images, and emotions flow of themselves, as it were, through my mind. All at once, without warning of any kind, I found myself wrapped in a flame-colored cloud. For an instant I thought of fire, an immense conflagration somewhere close by in that great city; the next, I knew that the fire was within myself. Directly afterward there came upon me a sense of exultation, of immense joyousness accompanied or immediately followed by an intellectual illumination impossible to describe. Among other things, I did not merely come to believe, but I saw that the universe is not composed of dead matter, but is, on the contrary, a living Presence; I became conscious in myself of eternal life. It was not a conviction that I would have eternal life, but a consciousness that I possessed eternal life then; I saw that all men are immortal; that the cosmic order is such that without any peradventure all things work together for the good of each and all; that the foundation principle of the world, of all worlds, is what we call love, and that the happiness of each and all is in the long run absolutely certain. The vision lasted for a few seconds and was gone but the memory of it and the sense of the reality of what it taught have remained during the quarter of a century which has since elapsed. I knew that what the vision showed was true. I had attained to a point of view from which I saw that it must be true. That view, that conviction, I may say that consciousness, has never, even during periods of the deepest depression, been lost” (quoted in James 1902: 385).

Davis notes that in most religious traditions such quasi-sensory experiences are of trivial importance, and are even viewed as obstacles to further spiritual growth if they are mistaken for the ultimate goal.

**CFD3) Revelatory experiences**

These comprise “sudden convictions, inspiration, revelation, enlightenment, ‘the mystical vision’, and flashes of insight” (1989: 39), experiences which, according to Davis, entails the acquisition of (alleged) new knowledge that seems to have been ‘poured in’ by an external agency rather than acquired through the exercise of reason or by sense perception, and which carries utter conviction though impossible to put into words:
“A great inward light seemed to illuminate my thoughts, I experienced a magnificent sensation of arrival. I was filled with joy as though I had just discovered the secret of world peace. I suddenly knew. The odd thing was that I did not know what I knew. From then on I set out to define it” (Davis 1989: 41).

The knowledge allegedly gained in this kind of experience can range from the highly ramified, such as Christian claims regarding the Holy Trinity, to much less ramified claims such as Bucke’s just quoted revelation of love being “the foundation principle of the world”. Such private revelations, however, are “not accorded a high degree of trust” by religious authorities (1989: 43).

CFD4) Regenerative experiences
These experiences “tend to renew the subject’s faith and improve his spiritual, moral, physical, or psychological well-being”, ranging from mild to overwhelming, from regular occurrences to one-offs, from being “a vague feeling of peace during prayer to [being] a combined vision, revelation, and ‘sense of holy presence’” (1989: 44, 45).

One example is John Wesley’s diary entry of listening to a sermon based on Paul’s letter to the Romans:

CFD4a) holy presence
“… while he [the preacher] was describing the change which God works in the heart through faith in Christ, I felt my heart strangely warmed. I felt I did trust in Christ, Christ alone, for salvation; and an assurance was given me, that He had taken away my sins, even mine, and saved me from the law of sin and death” (1989: 46 – emphasis in original).

A second example is of Leslie Weatherhead’s “Vauxhall Station” experience, though as Davis acknowledges it borders on the mystical or numinous. The following is from the fuller account given by Hardy (1979)

CFD4b) regenerative/mystical
“Vauxhall Station on a murky November Saturday evening is not the setting one would choose for a revelation of God!... The third-class compartment was full. I cannot remember any particular thought processes which may have led up to the great moment... For a few seconds only, I suppose, the whole compartment was filled with light. This is the only way I know in which to describe the moment, for there was nothing to see at all. I felt caught up into some tremendous sense of being within a loving, triumphant and shining purpose. I never felt more humble. I never felt more exalted. A most curious, but overwhelming sense possessed me and filled me with ecstasy. I felt that all was well for
mankind... All men were shining and glorious beings who in the end would enter incredible joy. Beauty, music, joy, love immeasurable and a glory unspeakable, all this they would inherit... An indescribable joy possessed me...

All this happened over fifty years ago, but even now I can see myself in the corner of that dingy third-class compartment with the feeble lights of inverted gas mantles overhead and the Vauxhall Station platforms outside with milk cans standing there. In a few moments the glory departed – all but one curious, lingering feeling. I loved everybody in that compartment. It sounds silly now, and indeed I blush to write it, but at that moment I think I would have died for any one of the people in that compartment” (Hardy 1979: 53).

CFD5) Numinous experiences
These consist of “creature-consciousness, that is, the feeling that mortal flesh is somehow despicable in the face of eternal majesty”, and of mysterium tremendens involving “awe, dread or terror” before the “wholly other” numen (1989: 48-9, citing Otto [1958 (1923)].

CFD5a) numinous (creature consciousness)
Exemplified by the passage from Isaiah:

“In the year that King Uzziah died, I saw the Lord seated on a throne, high and exalted, and the train of his robe filled the temple. Above him were seraphs, each with six wings: With two wings they covered their faces, with two they covered their feet, and with two they were flying. And they were calling to one another: Holy, holy, holy is the LORD Almighty; the whole earth is full of his glory. At the sound of their voices the doorposts and thresholds shook and the temple was filled with smoke. Woe to me! I cried. I am ruined! For I am a man of unclean lips, and I live among a people of unclean lips, and my eyes have seen the King, the LORD Almighty. Then one of the seraphs flew to me with a live coal in his hand, which he had taken with tongs from the altar. With it he touched my mouth and said, See, this has touched your lips; your guilt is taken away and your sin atoned for. Then I heard the voice of the Lord saying, Whom shall I send? And who will go for us? And I said, Here am I. Send me!” (Isaiah 6:1-8 – New International Version, UK).

CFD5b) numinous (awe)
The Bhagavad Gītā, itself part of the great Sanskrit epic, the Mahābhārata, tells of the revelation of Krishna to Prince Arjuna on the battlefield as he is about to enter into combat with members of his own family. Arjuna believes Krishna, his charioteer, to be simply a prince who has volunteered for the role, and he asks him if it would be better to let himself be killed rather than kill his kinsmen. After Krishna counsels him at length, the account continues:
“When Krishna, the God of Yoga, had thus spoken... he appeared then to Arjuna in his supreme divine form. And Arjuna saw in that form countless visions of wonder: eyes from innumerable faces, numerous celestial ornaments, numberless heavenly weapons; celestial garlands and vestures, forms anointed with heavenly perfumes. The Infinite Divinity was facing all sides, all marvels in him containing. If the light of a thousand suns suddenly arose in the sky, that splendour might be compared to the radiance of the Supreme Spirit. And Arjuna saw in that radiance the whole universe in its variety, standing in a vast unity in the body of the God of gods. Trembling with awe and wonder, Arjuna bowed his head, and joining his hands in adoration he thus spoke to his God. I see in thee all the gods, O my God; and the infinity of the beings of thy creation, I see god Brahma on his throne of lotus, and all the seers and serpents of light. All around I behold thy Infinity: the power of thy innumerable arms, the visions from thy innumerable eyes, the words from thy innumerable mouths, and the fire of life of thy innumerable bodies. Nowhere I see a beginning or middle or end of thee, O God of all, Form Infinite! I see the splendour of an infinite beauty which illumines the whole universe. It is thee! with thy crown and sceptre and circle. How difficult thou art to see! But I see thee: as fire, as the sun, blinding, incomprehensible” (Bhagavad Gita: 89-90).

CFD5c) numinous (evil)

Davis explicitly recognizes that an experience of evil can also be regarded as a religious experience, and even have a numinous quality to it, as in the following:

“Suddenly I became aware of a sense of the uttermost evil, so much so that I became awake. I could feel this sense of evil enveloping me. I had the terrifying impression that this evil force or presence was bent upon taking possession of me. How does one describe evil? I only knew that I was enveloped by this revolting force, so vile and rotting I could almost taste the evil. I was in terror, so much so I could not call out or move. A part of my mind told me I must at all costs act or I would be lost. I recall that I managed by a great effort to stretch out my right hand and with my index finger I traced the shape of the Cross in the air. Immediately on my doing this the evil enveloping me fell away completely, and I felt a wonderful sense of peace and safety” (Davis 1989: 51).

CFD6) Mystical experience

Although the term “mysticism” is another of the fuzzy brigade, carrying “different connotations to different minds” (Happold 1970: 36), Davis restricts her use of the term to those experiences manifesting the characteristics of “i) the sense of having apprehended an ultimate reality; ii) the sense of freedom from the limitations of time, space, and the individual ego; iii) a sense of ‘oneness’; and iv) bliss or serenity” (Davis 1989: 54).
CFD6a) sense of oneness (extrovertive)

An extrovertive mystical experiences is one in which “the multiplicity of external objects is seen as somehow unified and divine” (1989: 54).

“One day I was sweeping the stairs down in the house in which I was working, when suddenly I was overcome, overwhelmed, saturated, no word is adequate, with a sense of the most sublime and living LOVE. It not only affected me, but seemed to bring everything around me to LIFE. The brush in my hand, my dustpan, the stairs, seemed to come alive with love. I seemed no longer me, with my petty troubles and trials, but part of this infinite power of love, so utterly and overwhelmingly wonderful that one knew at once what the saints had grasped. It could only have been a minute or two, yet for that brief particle of time it seemed eternity” (1989: 58).

CFD6b) sense of oneness (introvertive)

Introvertive mystical experiences are “usually obtained through the practice of ‘introspective’ meditative technique, [and] are ‘unitary’ rather than ‘unifying’; subjects shut out all external and internal diversity and dive deep within themselves to discover ‘the One’” (1989: 54-5). St Teresa of Avila, a theistic mystic, who elsewhere uses the image of marriage to describes her experience, here uses the image of absorption:

“… it is like rain falling from the heavens into a river or a spring; there is nothing but water there and it is impossible to divide or separate the water belonging to the river from that which fell from the heavens” (Davis 1989: 63).

Hay’s typology

Initially drawn up by examining the thousands of accounts collected by Hardy at the RERU, Hay’s typology was central to the studies conducted using a sampling methodology in 1987 and 2000 (Hay 2006). The following are the eight most common types of experience Hay has found.

DH1) A patterning of events/synchronicity

Hay reports that according to his surveys, “the commonest kind of experience reported in Britain is the recognition of a transcendent providence: a patterning of events in a person’s life that convinces them that in some strange way those events were meant to happen” (Hay 2006: 11). 55% of Hay’s national sample reported this type of experience, as in this account from an informant who had decided to kill herself:
at that moment I let out a loud challenge into that dark and lonesome night, into that desolation of land and soul and I shouted: IF THERE IS SUCH A THING AS A GOD THEN SHOW YOURSELF TO ME – NOW... and at that very instant there was a loud crack, like a rifle shot [coming from the bedroom]... I stumbled through the open door to my bedroom. I fell into the bed shaking and then something forced my eyes upward to the wall above my bedside table and where I had a very small photograph of my father hanging... The picture had gone – I just looked at the empty space... but in looking closer I saw the photograph, face down on the little table and the narrow silver frame was split apart, the glass broken and from behind the cardboard on the back there had slipped out... the last letter [my father] had written me... When I picked up that letter and read over and over again the words of this beloved caring father of mine, I knew that was HIS help to me, and God answered me directly in the hour of this soul being in anguish" (Hay 2006: 12-13)

Hay comments “Much more commonly, people speak of coming to recognise an unfolding pattern in their lives that has not been dictated by their personal choice, as for example in the selection of a career. Almost without exception this configuration is interpreted as something ‘given’, though not necessarily with an overtly religious connotation” (Hay 2006: 13).

DH2) Awareness of the presence of God

38% of those polled in 2000 reported that they had had an experience of “personal awareness” of a divine presence (Hay 2006: 13). Two illustrative experiences:

DH2a) presence of God (adult experience)

“I was looking after the Friends Meeting House high on a spur of the forest, and sleeping on a camp bed in the sitting-room of the dwelling next door. One night I awoke slowly at about one o’clock to a feeling of absolute safety and happiness; everything in the world around me seemed to be singing ‘All is very well’. After an almost unbelieving (sic) few minutes I got up and went to the window and saw the valley filled with the love of God, flowing and spreading from the roadside and the few houses of the village. It was as though a great source of light and love and goodness was there along the valley, absolutely true and unchangeable. I went outside and looked down over the hedge, and the light and assurance were most truly there; I looked and looked, and, to be honest, I was not thankful, as I should have been, but trying to absorb the awareness of safety and joy so deeply that I would never forget it” (2006: 13-14).

DH2b) presence of God (childhood experience)

“My father used to take all the family for a walk on Sunday evenings. On one such walk, we wandered across a narrow path through a field of
high, ripe corn. I lagged behind, and found myself alone. Suddenly, heaven blazed upon me. I was enveloped in a golden light, I was conscious of a presence, so kind, so loving, so bright, so consoling, so commanding, existing apart from me but so close. I heard no sound. But words fell into my mind quite clearly – Everything is all right. Everybody will be all right" (2006: 14).

The informant herself, Hay reports, connected this with the famous saying of Julian of Norwich (1966 [1393]).

DH3) Awareness of a presence not named

Although not included in Hay’s 2000 poll, over 20% of respondents in the 1987 sample referred to this kind of experience, including this from an adult recounting an experience as a young child:

“…dusk, summertime, and I one of a crowd of grown-ups and children assembled round the shore of an artificial lake, waiting for full darkness before a firework display was to begin. A breeze stirred the leaves of a group of poplars to my right; stirred, they gave a fluttering sound. There, then, I knew or felt or experienced – what? Incommunicable now, but then much more so. The sensations were of awe and wonder, and a sense of astounding beauty… that child of 6 or 7 or 8 knew nothing of Wordsworth or about mysticism or about religion” (2006: 16).

DH4) Awareness of prayer being answered

37% of the 2000 survey “felt they had received such help” (Hay 2006: 17). One correspondent had been waiting through the night with his dying father:

“I was stretched out hardly a foot away from my father as his life slipped from his body, and came to the shocking conclusion that I was of very little help to him. He lay there not making much sound, just enough to make me aware that he was in distress… I thought to myself, this is the worst night of my life. I found I was praying. Not words. Just a despairing reaching towards God to help me through the night. Then, slowly, an extraordinary change began to take place. I became more and more strongly aware of God’s presence filling the room, indescribably powerful and… drawing my father and me, all things, together in a vast, rich harmony. Then it seemed as if something like a hard crust was dissolving or falling away inside me. I knew what was happening. The wounded relationship was being tenderly uncovered and healed. I was filled with joy. The rest of what I experienced is beyond words” (Hay 2006: 18).

DH5) Awareness of a sacred presence in nature

Reported by 29% of Hay’s respondents (2006:19), this category would seem to overlap with the above category of “a presence not named”. Hay records this example:
“I was staying in Ireland in a cottage by the sea, with a beach, sand dunes and mountains. Walking through the dunes to call the family home from their fishing in the river, I came to the hollow I had walked through many times. This time I was halted by a voice saying clearly ‘Take off your shoes, the ground on which you stand is holy ground.’ I had no shoes on, but I was compelled on to my knees and then into a crouch so that I was as close as I could be to the ground. Then a tremendous silence came around me; I almost felt it touched me, I was enclosed in it. Yet I could hear the insects, bees, beetles, ants, etc. in the small flowers in the short grass, and I was one with them, creatures and flowers. I could hear the sheep and the breakers beyond on the beach, and I was one with them and the sea. Rivers, and for some reason the Victoria Falls (which I have never seen) came into my mind, and I was one with all waterfalls, all trees, all living things everywhere. A farmer’s wife in the valley had just had a baby and I was one with them, and the old woman on the mountain who was dying and her relatives who were with her before they left for America, and I was one with them. Not only ‘one with’, somehow I was them. Then I thought, ‘God is here, with me and in me, the Creator’, and for that moment I was one with and in God…” (2006: 19-20).

Hay gives no contextual information regarding the informant, but it would be plausible to assume that he/she was Biblically literate, with the “take off your shoes, the ground on which you stand is holy ground” a direct quote from Moses’ burning bush experience (Exodus 3:5).

DH6) Awareness of the presence of the dead

25% of Hay’s respondents “felt they had been in touch with someone who has died” (Hay 2006: 20)

“After the sudden death of my husband about nine years ago, I had several experiences, which proved to me that there is life after death. After his passing, I both saw and spoke to my husband and held his hand. This hand was strong and not at all ghost-like, nor was his appearance. I was alone at the time, so no medium there to act as a link” (2006: 20).

DH7) Awareness of an evil presence

Hay reports that 25% of his 2000 sample “felt they had been aware of an evil presence… These experiences are qualitatively different from all the other categories… in that they are associated with a sense of great dread and unhappiness” (2006: 21). An example is given above (category CFDc).

DH8) Awareness that all things are One

5% of Hay’s 1987 sample reported such an experience, which involves
“coherence, unity, shading into the mystical ‘All is one’” (this category was not explored in the 2000 survey)

“I was walking across a field, turning my head to admire the Western sky and looking at a line of pine trees appearing as black velvet against a pink backdrop, turning to duck egg blue/green overhead, as the sun set. Then it happened. It was as if a switch marked ‘ego’ was suddenly switched off. Consciousness expanded to include, be, the previously observed. ‘I’ was the sunset and there was no ‘I’ experiencing ‘it’. At the same time – eternity was ‘born’. There was no past, no future, just an eternal now... then I returned completely to normal consciousness finding myself walking across the field, in time, with a memory” (2006: 23).

Further examples
The overwhelming majority of accounts quoted above concern experiences which are, at least in principle, datable – that is, each occurrence took place at a particular time in a particular place. But the term “experience” is not only used for one-off occurrences, but also for an accumulated awareness of how things are, as in statements such as “in my experience, Dartmoor weather can change in an instant” or “her experience as a lawyer is extensive” – not specifying single instances, but referring to background, almost tacit, awareness. Alston (1991) draws a distinction between “focal” and “background” religious experiences, acknowledging that both are important, but “[t]he former get the big press: these are the cases in which the awareness of God occupies one’s attention to the exclusion of all else... There are many testimonies to a sense of the presence of God that is of much lower intensity and persists for long periods of time as a constant background for the flux of everyday experience” (Alston 1991: 32).

The focal and the background need not be thought of as mutually exclusive – an analogy being the relationship between a couple who have been together for years: their love for each other may well have become “background”, simply part of the assumptive world in which each partner lives, yet with occasional “focal” experiences of their love in special times together, including making love. An example of the background religious experience is the following:

X1) an habitual sense of the presence of God:

“God is more real to me than any thought or thing or person. I feel his presence positively, and the more as I live in closer harmony with his laws as written in my body and mind. I feel him in the sunshine or rain; and awe mingled with a delicious restfulness most nearly describes my
feelings. I talk to him as to a companion in prayer and praise, and our communion is delightful. He answers me again and again, often in words so clearly spoken that it seems my outer ear must have carried the tone, but generally in strong mental impressions. Usually a text of Scripture, unfolding some new view of him and his love for me, and care for my safety. I could give hundreds of instances, in school matters, social problems, financial difficulties, etc. That he is mine and I am his never leaves me, it is an abiding joy. Without it life would be a blank, a desert, a shoreless, trackless waste" (James 1902: 85).

It is slightly ironic that the above example comes from James, since the general interest in focal experiences rather than the background experiences can be attributed in a large part to his pioneering work. Although he acknowledged the latter, his main interest was in the experiences of individuals and not in the institutional structures of religion, and he favoured the “more developed subjective phenomena recorded in literature produced by articulate and fully self-conscious men, in works of piety and autobiography” rather than the experiences of “your ordinary religious believer, who follows the conventional observances of his country” (1902: 26, 29).

X2) The collective experience
Although James’s demarcation of the territory allowed considerable progress to be made in the understanding of the varieties of religious experience, it also demoted certain other experiences. James took religion (and hence religious experience) to mean “the feelings, acts and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the divine” (1902: 50 – emphasis added), but, given the collective or communal nature of prehistoric and primal religion, one would expect the collective or communal also to be a valid context for Axial religious experiences as well, such that “the link between the believer and the divine (or whatever), may be essentially mediated by corporate, ecclesial life” (Taylor 2002: 23). There are ways in which the communal life itself mediates the religious experience, as in the call to “live together in brotherly love, and to radiate outward such love as a community” (2002: 24). A practising Catholic himself, Taylor suggests that the church as “a sacramental communion… raises more explicitly the idea of God’s life interpenetrating ours, and of this interpenetration being made fuller, more intense and immediate through our own practices… [and] the connection gains a certain intensity in the signs instituted
to manifest it, which are called sacraments" (2002: 24-5). Membership of the church and involvement in its life can constitute a collective, not simply personal, religious experience. And it is not exclusive to Catholicism that one’s relation with God can be through the community: “this is the way that the life of the Christian church has been conceived, among many Protestants as well as Catholics; and also the way Israel and the Islamic umma have been conceived” (2002: 24). Moreover, the collective or communal are necessary contexts for some of the experiences, for "[w]ithout the traditions, the cultural and linguistic institutions, of the people of Israel, Jesus could not have had his 'personal' experience of the mystery he called Father, in the way that he had it, nor could Paul have had his 'personal' experience of the mystery of Christ" (Lash 1988: 57 – emphasis in original). The equivalent, I would take it, is applicable to Moses, Buddha, Muhammad, Guru Nanak et al.

There is another possible way of perceiving a Rose in a non-individualistic manner which, having found no mention of it in the literature, I advance with caution. It is based on an analogy with the “systemic” approach in psychotherapy, as exemplified in Family Therapy. Although the great majority of psychotherapies on offer have an individualistic focus (Dryden 1989), an alternative approach has arisen with its theoretical roots in General Systems Theory (Bertalanffy 1968), whereby individuals are seen as being part of larger systems (typically, the family) such that any symptom an individual is manifesting (anxiety attacks, depression, eating disorders…) is construed as belonging to the system as a whole (i.e. the family), not just to the individual him or herself. Since the symptom belongs to the system, not to the individual, the task ceases to be about “curing” the individual, but about discovering what role that symptom plays in the life of the system (the family) and enabling the family to change its functioning such that the symptom no longer has a part to play (Carter and McGoldrick 1981).

Since (or “if”) a psychiatric symptom can be seen as belonging to a family (or to a wider system of people) rather than just to the individual who is manifesting it, then what is perceived to be a religious experience undergone by one individual may equally well be construed as belonging to the (or a) wider system of which he/she is an active participant. That is to say, the religious experience of the individual is also the religious experience of the collective, and without the collective the religious experience would not occur. The
individual who undergoes the experience does so, perhaps unwittingly (as with psychiatric symptoms) on behalf of the corporate body. In Christian terms, this perhaps has parallels with Paul’s image of the body of Christ (1 Cor. 12) in which different members perform different functions – the eye sees, not for its own good but for the body entire. If this analogy holds, it implies that a religious experience, or Rose, is not a purely private affair nor a private possession, but belongs to and can only be fully appreciated in the wider system or community.

X3) The spiritual through the aesthetic: redemption through form

A further possible category not covered by the examples given so far is that of a sense of the sacred conveyed by the aesthetic. Although it is contentious as to where the boundary between the religious and the aesthetic lies (Paffard 1973), the creation of and/or response to a work of art clearly acts for some either as such an experience in its own right or as an antecedent for such an experience. Artist Mark Rothko commented that “the people who weep before my pictures are having the same religious experience that I had when painting them” (Hudson 2008); and fellow artist Ben Nicholson remarked that “[a]s I see it, painting and religious experience are the same thing” (quoted in Hardy 1979: 82). Richard Harries, referring to a contemporary “increasing awareness of the spiritual dimension of the arts” (Harries 1993: 1), quotes art critic Peter Fuller, one time passionate Marxist:

“For myself, I remain an incorrigible atheist; that is my proclamation of faith. Yet there is something about the experience of art, itself, which compels me to re-introduce the category of the ‘spiritual’. More than that, I believe that, given the ever-present absence of God, art and the gamut of aesthetic experience, provides the sole remaining glimmer of transcendence. The best we can hope for is that aesthetic surrogate for salvation: redemption through form” (quoted in Harries 1993: 2).

X4) The non-exotic

Roses are generally being presented as occurrences that are somewhat dramatic or out of the ordinary or “exotic”. In contrast, Wynn offers the possibility of non-exotic religious experiences which are materially-mediated, whereby “the sense of God is mediated by way of an appreciation of the existential meanings which are presented by a material context” (Wynn 2009: 147). These experiences are not of God as a supernatural object: neither by some form of direct apprehension as is suggested by Alston’s “mystical
perception” (Alston 1991), nor by apprehending God through perceiving an ordinary non-religious object as suggested by Swinburne (1979 [1991]) but more of apprehending God as “a kind of context or ultimate frame of reference in light of which we can make sense of individual things” (Wynn 2009: 149). God not as the efficient cause of the experience, but as being “realised in some recognition of the existential meaning which attaches to a material context” (Wynn 2009: 150). Drawing upon the concept of sacred space (Barrie 1996) and sacred architecture (Jones 2000), Wynn posits three kinds of experience mediating existential meaning within a material context, deriving from its history, such as sites of pilgrimage; or its representative character, as with sites which “are thought to provide a kind of miniaturised replica of the cosmos…” (Wynn 2009: 155); or its capacity to induce reverential seriousness which is bound up with the bodily meaning of a place, as with the size and lighting of a cathedral which “may evoke a response of hushed wonderment” (Wynn 2009: 156). Although not part of Wynn’s paper, this reverential seriousness is plausibly closely related to, and is the shadow side of, the effect on a visitor to Dachau or Auschwitz, where inevitably a knowledge of the history of such places is a potent part of the experience.

X5) The “this-is-not-a-religious-experience” experience

Author Philip Pullman has described experiences which would seem to have all the hall-marks of focal Roses, but to which he does not make that kind of ascription, believing as he does that since there is only a materialist universe then the experiences could not have been ones of a “spiritual world” (interview on BBC radio 4 “Sunday” programme, June 19th 2011). He is quoted in the New Statesman magazine:

“Religion is something that human beings do and human activity is fascinating. I have never had an experience that I could call religious, though I have known two or three short passages of intense, transcendental feeling – that is to say, experiences of about 15 to 20 minutes, during which my perception of things in the external world (one was a storm on a beach; another was a journey home on a winter evening on the Tube and bus from Charing Cross Road to Barnes) seemed to become enlarged and clarified to include many things, all of which I was able to see without losing sight of everything else.

Philip Larkin’s poem Church Going (Larkin 1988: 97-8) powerfully evokes this awareness of reverential seriousness. My thanks to Alison Goodlad for drawing this to my attention.

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3 Philip Larkin’s poem Church Going (Larkin 1988: 97-8) powerfully evokes this awareness of reverential seriousness. My thanks to Alison Goodlad for drawing this to my attention.
These visions of the real world were laced through with patterns and connections and correspondences. They were accompanied by a feeling of intense, calm excitement. I felt that I was seeing the truth, that all things were like this and that the universe was alive and conscious and full of urgent purpose” (Pullman 2011).

X6) The spiritually delusional
Several commentators (e.g. Glock and Stark 1965; Polkinghorne 1998; Hick 1999) explicitly acknowledge religious experiences of the dark side, what in my terminology might be described by the alternative acronym of “Sores” rather than “Roses”; experiences that are potentially highly destructive. An observation of my own provides an example – comprising both background and focal elements.

When I worked as a psychiatric nurse on a locked ward, there were many patients whose pathology included a religious element. One such was a young woman diagnosed as schizophrenic who had been in the psychiatric system since her teen years. She experienced hallucinated voices – usually malevolent – as well as having ideas of reference (such as hearing the television talking about her) and as a consequence by the age of 23 she had accrued a long history of self-harm: mainly wrist and arm slashing, but also suicide attempts – in particular jumping from a motorway bridge. She spoke of sometimes hearing two voices, Jesus in one ear and Satan in the other, both telling her to kill herself because she had committed the sin against the Holy Spirit (she had been associated with a charismatic house church and was familiar with such terminology). For her, these were not experienced as internal voices but as objective realities, as evidenced by the fact that one day she thrust a knitting needle into her ear, later explaining with a plausible logic that she hoped to make herself deaf so she wouldn’t be able to hear the voices. As far as she was concerned, Jesus and Satan were external to her and speaking to her (though they were invisible) – she was construing her experience as involving supernatural entities central to her religious understanding.

Now we might (and I certainly did and still do) understand her hallucinations and delusions as arising from her unconscious, betokening a severe psychiatric disorder, rather than as a conspiracy by Jesus and Satan to induce her to commit suicide; but given that, to her, the experiences involved those two figures, it is consistent to count her experience(s) as religious, at least
ascriptively so. Whether they were *intrinsically* religious/spiritual is another matter.

**Conclusion**

The above accounts are intended to illustrate and support the contention that there is a human capacity or faculty for profound experience(s) of transcendence charged with meaning, purpose and value, a triumvirate traditionally – but not solely – the province of religion (Runzo and Martin 2000; Flanagan 2009); a capacity which our forebears possessed tens of thousands of years ago, and which we possess today. A capacity which has different personal and cultural manifestations but which can be regarded as an aspect of human nature.

But how has it come about that we have this capacity to experience that which is – perhaps intrinsically, perhaps ascriptively – transcendent to our material existence and yet embedded within it? In the model being developed, this capacity is the result of the functioning of a biologically evolved faculty, enabling us to respond adaptively to our total environment. However, as noted above, there is a distinction between the intrinsic and ascriptive models of religious experience (Taves 2009), and the same distinction clearly applies to the broader category of Roses. The proposed biologically evolved faculty could be responding to something intrinsic in our total environment, or it could be ascribing such qualities to that which is not intrinsically transcendent, meaningful, purposive or of value.

In the next chapter, different views are considered as to the status of these experiences. After all, if part of our evolved cognitive equipment is delivering these experiences to us, how trustworthy are they?
Chapter 3: Of epistemology

Introduction
The many accounts of religious experiences or examples of spiritual awareness or “Roses” in general, of both the “focal” and “background” variety, give rise to the question of reference – that is to say, to what do they refer, if anything? If I have the experience of seeing a tree, that experience refers to the tree which I take to exist independently of my seeing it. My not having an experience of seeing the tree doesn’t entail its non-existence. Although theoretically I cannot prove the tree’s existence – it might be a mental construct with no objective reality as idealist philosophers like Berkeley maintain – I am taking it that, inferring to the best explanation, my experience of seeing a tree means the tree exists, a stance which conforms to Swinburne’s (1991 [1979]) Principle of Credulity (see below).

But if someone has an experience of, say, sensing a presence (account DH3), can we, should we, take it that the presence which is sensed also has some kind of objective reality, particularly if (or “as”) it is not a publicly verifiable perception? Is it, rather, a purely subjective phenomenon? In account CFD2 above, Bucke writes on seeing “that all men are immortal; that the cosmic order is such that without any peradventure all things work together for the good of each and all; that the foundation principle of the world, of all worlds, is what we call love, and that the happiness of each and all is in the long run absolutely certain” (James 1902: 385) – but is that objectively true knowledge? Does it have warrant? Or is it simply a remarkable illusion? Or if someone claims to have a perpetual sense of God (account X1) are they really open to the creator and sustainer of the universe or simply suffering from a chronic God delusion (Dawkins 2006)? Do these and the other experiences have an objective referent (or referents) which would still exist (in the broadest possible sense of that slippery word “exist”) had those experiences not occurred to those individuals? Do those experiences supply knowledge to the individuals concerned, knowledge they would not gain by other means? What is their epistemological status?

Views inevitably differ, and in what follows some of the various arguments are outlined. The reason for spending time on this is simple: as will be repeated several times, it is recognised in evolutionary theory that natural selection
operates on what is *useful* to an organism, not on what is true in the correspondence sense of “truth” (Ruse 2006). An appreciation of some of the non-evolutionary arguments about the truth status of these experiences will help clarify how the proposed mental module, *the sensus transcendentis*, operates.

**William James**
James concludes from his survey that a religious life characteristically includes the belief that the visible world is part of a more spiritual universe “from which it draws its chief significance” (James 1902: 464), and that the true meaning or purpose of life is union or harmonious relation with the spiritual. In a rather fine metaphor he takes the divine to refer to a group of qualities each of which finds expression through the different temperaments and characteristics of different people, such that “each attitude being a syllable in human nature’s total message, it takes the whole of us to spell the meaning out completely” (1902: 466).

Despite the wide discrepancies in many of their distinctive propositional beliefs, the various religious traditions agree that “there is something wrong about us as we naturally stand” and that “we are saved from the wrongness by making proper connection with the higher powers” (1902: 484 – emphasis in original); and this connection entails two elements: a subjective element which is an aspect of a person’s psyche – a “subconscious” element as James designates it, though the current term would be “unconscious”; and an objective element, “the MORE” (1902: 484), which is the higher part (as he calls it) of the objective universe. These two elements are not however completely separate, for “the ‘MORE’ we feel ourselves connected with in religious experience is on its hither side the [unconscious] continuation of our conscious life” (1902: 487).

It is not easy to follow James in detail, but the upshot appears to be a belief that there is a higher part of the universe which, continuous with a higher, unconscious part of ourselves, is the supreme reality whence comes the saving power; with “God” as the “natural appellation… for the supreme reality… and in opening ourselves to his influence our deepest destiny is fulfilled” (1902: 491). Religious experiences are for James double-headed arrows, pointing simultaneously into the subjective psyche and out to an objective supreme reality. The referent(s) of the experiences I am terming Roses has/have a real existence; and the experiences are not purely subjective phenomena. They *are* subjective,
but they are the subjective response to an objectively existing supreme reality, and, in turn, the experiences themselves are evidence for the existence of an objectively existing supreme reality.

Lash (1988) in particular critiques James’ position, and is discussed below.

**Richard Swinburne**

Swinburne also takes religious experiences as experiences of something objective, namely God, and he uses the argument from religious experience as one argument among many which, in his view, taken together render more probable than not the truth of theism (Swinburne 1991 [1979]). His argument is dependent on two principles, those of *credulity* and of *testimony*.

For the Principle of Credulity he starts from the view that the experience of seeming to see a table in front of you is generally good evidence for there actually being a table in front of you, although it is conceivable that you are mistaken. More formally, the Principle of Credulity states “that (in the absence of special considerations) if it seems (epistemically) to a subject that \( x \) is present, then probably \( x \) is present; what one seems to perceive is probably so” (1991 [1979]: 254). (His bracketed “epistemically” refers to a distinction drawn by Chisholm [1957] between two different uses of words such as “seem” and “appear”, and need not detain us here).

The application of the principle of credulity to religious experiences entails accepting that “in the absence of special considerations, all religious experiences ought to be taken by their subjects as genuine, and hence as substantial grounds for belief in the existence of their apparent object – God, or Mary, or Ultimate Reality, or Poseidon” (1991 [1979]: 254). But it is all very well for an individual to be convinced by her own religious experiences, but to what extent do the accounts of such experiences justify Joe Public in believing in the existence of God (or Mary, or Poseidon)? To resolve this, Swinburne’s invokes the Principle of Testimony which states “that (in the absence of special considerations) the experiences of others are (probably) as they report them” (1991 [1979]: 272). This is how we generally operate in ordinary life: we accept what other people tell us has happened, provided that there are no “positive grounds for supposing that the others have misreported or misremembered their experiences, or that things were not in fact as they seemed to those others to be” (1991 [1979]: 271). That this is so is supported by the realisation that the
overwhelmingly vast majority of facts that we claim to know is based on the testimony of others rather than discovered by our own exertions and experiences, and our “beliefs about geography and history and science and everything else beyond immediate experience are thus based” (1991 [1979]: 271). There may of course be reasons to doubt someone’s claimed experiences, perhaps he is known to be an habitual liar, or to be prone to exaggeration or misremembering, and “[i]n these cases his reports on his religious experiences are to be viewed with scepticism. But this is not the normal situation” (1991 [1979]: 272).

Applying the two principles specifically to theistic religious experiences, Swinburne’s argument that such experiences should be accepted as evidence for God’s existence is a three-stage process: 1) some people have experiences which to them seem to be of God, and they are by and large justified in accepting the evidence of their own experiences; 2) people in general are by and large justified in accepting the testimony of other people’s experiences; hence 3) people in general are by and large justified in believing in the existence of God on the basis of other people’s religious experiences.

Swinburne’s two principles are essential for the continuance of ordinary human interaction and discourse. Without by and large accepting the evidence of our own experiences as telling us what the world is like, and without by and large accepting that other people’s testimony of their experiences is also in the neighbourhood of truth, it is impossible to see how we could continue to make any sort of sense at all of our world, ourselves and each other. But whether those two principles are applicable wholesale to the phenomenon of religious experiences and what they might be telling us about life, the universe and everything is perhaps another matter. Can we be as confident as Swinburne in taking religious experiences to be reliable evidence?

The problem with applying these two principles to this area of human experience is that the experiences and testimonies of individuals who stand in different religious traditions clash. Applying the principle of testimony to the reported experiences of Julian of Norwich, Arjuna and Buddha leads to accepting them (provisionally) as evidence for the existence respectively of a post-mortem Jesus, Krishna, and the reality of nirvana. Are they compatible? Neither of Swinburne’s principles can help us here. He has arbitrarily decided that his principles apply to theistic experiences – why? If they apply to theistic
experiences, why refuse to apply them to non-theistic experiences? Simply because they are non-theistic?

This is where religious pluralism comes into its own (see the next chapter), but Swinburne, seeking to establish that religious experiences count as evidence for the existence of God, runs into a problem, certainly with the accounts of non-theistic experiences which clash with theistic accounts. Applicable though the two principles are – and have to be – to the ordinary goings-on of the world, they are clearly considerably less applicable to contested experiences such as the testimony of a subject that she experienced an encounter with Jesus or with Krishna or received a glimpse of nirvana; or indeed with the claim that any such experience is of a non-subjective referent.

It seems to boil down to this: to accept someone else’s experiential reports, their testimony, about tables is no great problem because we all know what tables are, despite their wide variation in size, construction, material, durability, aesthetic quality and so forth. For someone to claim to have seen a table they like in a store does not trouble us; tables belong to our assumptive world, tables are part of the (literal) furniture of the world. They are public objects; whereas the alleged referents of religious experiences are not public objects in anything like the same way. They could be purely subjective, and have no evidential force for there being something other to which they refer.

David Hay

David Hay, former director of the Religious Experience Research Unit, also argues that religious experiences (instances of spiritual awareness, “Roses”) are indicative of there being Something There (Hay 2006).

Hay’s research builds on the work of Alister Hardy who had proposed that religion was a “feeling of contact with a Greater Power beyond the self” and was a natural faculty of H. sapiens which had evolved because of its adaptive function in enabling its possessors better to survive and reproduce (Hardy 1965: 274). Hay concurs, arguing that his research indicates that we have an “inbuilt awareness that is involved in spirituality” (Hay 2006: 126), and he infers from his data that "whatever else it may be, spirituality is supremely related to ultimate meaning" (2006: 81), and involves, "[a]wareness of the here-and-now… of mystery, and… of value” (2006: 130).
Having undertaken statistical surveys into the prevalence of religious or spiritual experiences ("Roses"), coupled with focus group discussions and personal interviews, particularly with participants who had self-reported as being non-religious (Hay 2006), as well as research into the experiences of children (Hay and Nye 2006), Hay reports that despite the many rational objections his adult interviewees raised against traditional interpretations of reality, “[u]nderneath the confusing variety of interpretation [by the interviewees], ranging from explanations couched in the language of mainstream religious orthodoxy through to bizarre personal speculation, there loomed an all-pervasive sense of ‘something there’” (Hay 2006: 115). And despite the embarrassment and awkwardness many of the interviewees reported in talking about spirituality, “[t]here was one area where our interviewees were not reticent… [M]ore or less universally they insisted on explaining spirituality as another word for disinterested love” (2006: 119).

Arguing that “spiritual awareness [is] logically distinct from religion”, and that rather than seeing spirituality as the factor at the centre or core of all religious traditions and world-views, spirituality is rather the “biological context” in which religious traditions arise, (Hay 2006: 44 – emphasis in original), Hay reverses the usual hierarchy of “spirituality” being a sub-section or characteristic of “religion”. The significance of this reversal is that it recognises the validity of experiences of meaning, value, purpose, transcendence and so forth which are construed using non-religious terminology, without the need to shoe-horn such experiences into the framework of one or other of the specific religions. Thus “religious spirituality” becomes a sub-section of “spirituality”, with “secular spirituality” another, equally valid, sub-set.

Hay, a hands-on researcher, does not go in for deep epistemological musings but offers his suggestions and conclusions in the spirit – as it were – of the principles of credulity and testimony as espoused by Swinburne (see above) but without a predetermined bias towards theism. He and his co-workers listen attentively to their interviewees, both adult and children, and take seriously what they are told, emphasising that they are seeking neither to evangelise nor to criticise but to accept and if possible to understand. The nearest he gets to a theological statement is a reference to an immanent God; but secular spirituality is as possible and as valid as a spirituality linked with a religious tradition, for Hay infers from his research results (and those of his predecessor Hardy) that
the *Something Other*, the *Something* that is *There*, to which Roses point and of which Roses are signals (Berger 1969), consists of ultimate meaning, value, purpose and a communal ethic.

Like James, Hardy’s position (and therefore by implication Hay’s as well) also comes under the Lash (1988) (see below).

Those three witness for the defence, as it were, assert that there is *Something Other* which Roses are signposts to or direct experiences of. But many disagree:

**Steven Katz**

One counter-argument to the claim that religious experiences (Roses) involve contact with and knowledge of a *Something Other* that is not purely subjective arises from the claim that all experience is structured by, perhaps even created by, pre-existing concepts and categories of thought the individual has. The cognitive is constitutive of the experience itself, and not simply applied post-experientially for the purposes of understanding the experience and communicating it.

Katz, a strong proponent of this view, asserts that “mystical or more generally religious experience is irrelevant in establishing the truth or falsity of religion in general or any specific religion in particular” (Katz 1978: 22 – emphasis added); and this irrelevance, he contends, stems from the impossibility of demonstrating publicly “independent grounds for the claimed event/experience” (1978: 22). That is to say, the testimony of an individual cannot be accepted in the absence of objective corroboration – directly contrary, of course, to Swinburne’s principles of credulity and testimony.

However, the main issue Katz raises is that of interpretation and the degree to which it is separable from the experience itself. The distinction between a religious or mystical experience in itself and the conceptual interpretation of it has long been recognized (Stace 1987 [1960]), but Katz focuses on the extent to which an interpretation is actually part of the experience itself, not simply a process to which some purportedly pure, uninterpreted experience is subjected.

Referring to mysticism, but applicable to all religious experiences, Katz’s claim is that such experiences are created by the pre-existing categories and concepts of thought and interpretation deriving from that mystic’s culture, and that “the forms of consciousness which the mystic brings to experience set
structured and limiting parameters on what the experience will be, i.e. on what will be experienced, and rule out in advance what is ‘inexperienceable’ in the particular, given, concrete, context” (Katz 1978: 26-7). Interpretation, in other words, is not confined solely to the report of an experience but is part of the experience itself; for an experience to be an experience in the first place, interpretation is already incorporated as an unavoidable factor; there is no pure, uninterpreted or pre-interpreted core to the mystical (religious, spiritual) experience. Thus a Hindu mystic has a Hindu experience, he does not simply have an experience which he then describes using Hindu categories, but the experience is itself the “at least partially, pre-formed anticipated Hindu experience of Brahman” (1978: 26). Likewise, the Christian mystic “does not experience some unidentified reality, which he then conveniently labels God, but rather has the at least partially prefigured Christian experience of God, or Jesus, or the like. Moreover... the Hindu experience of Brahman and the Christian experience of God are not the same” (1978: 26). The experiences, not just the interpretation of the experiences, are different.

This “hard constructivist” position holds that the kind of preinterpretative cultural concepts available to a mystic will actually constrain the types of experience possible for the individual, as typified by a Jewish mystic who is “permeated from childhood up by images, concepts, symbols, ideological values, and ritual behaviour which there is no reason to believe he leaves behind in his experience. Rather, these images, beliefs, symbols, and rituals define, in advance, what the experience he wants to have, and which he then does have, will be like” (1978: 33 – emphasis in original). Result? – the Jewish mystic, because of his preinterpretative concepts and categories, cannot have a mystical experience of union with the Godhead, only of an intimate relationship with God: “What the Jewish mystic experiences is, perhaps, the Divine Throne, or the angel Metatron, or... God's secret Names, but not loss of self in unity with God” (1978: 34). Certain types of experience (union with the Godhead) are ruled out by one’s manifold of pre-existing categories of thought.

Since under Katz’s scheme mystical experiences are neither “pure” in the sense of being free from “social, cultural, theological, religious or other mediation” nor a “unity” in the sense of their being the same or similar across different cultures, for it could “well be the case that one mystic directly experiences a reality different from that of another” (Janz 1995: 79), any truth claims they
purportedly make are considerably vitiated. Katz, however, is not arguing that claims based on mystical experience are necessarily false, but that even if the claims of mystical experiences are true, "there can be no grounds for deciding this question" (Katz 1978: 22). Mystical experiences in particular, and Roses in general, cannot (according to the hard constructivist position of Katz) be taken as pointing to Something Other.

There is much to commend in Katz's position, for it provides a plausible explanation for the great variation in the accounts of mystical experiences (and even greater variety of Roses); it takes seriously the importance of context, an issue Jantzen has addressed in arguing that James, by not attending to context, seriously mis-represents what mystics themselves "consider to be the essence and goal [of the mystical pathway], either for themselves or for those whom they instruct" (Jantzen 1989: 300); and it is supported by the empirical findings of social psychologists that the interpretation which a subject puts on a state of physiological arousal depends on the context in which it occurs (Schachter 1971). However, his position has been attacked by "a host of writers… on a variety of points" (Janz 1995: 78), only a few of which points I will rehearse here.

First, if Katz’s arguments were to be applied to other areas of experience, such as pain, one would have to conclude that there is no transcultural “common core” of pain – pain pure and simple, so to speak. But this is highly implausible – people from all cultures feel pain (and other emotions) and can recognize it cross-culturally, a view with evidential backing (Ekman 1998). Pain experiences are clearly not the creation solely of pre-formed cultural concepts, and Katz advances no reason to suppose that religious experiences are any different in that regard.

Moreover, the extent to which different languages borrow, and often assimilate, words from other languages strongly suggests that people in different cultures share the same or similar experiences, and when one culture hasn’t quite the bon mot for a given experience it gratefully adopts a term from elsewhere, such as schadenfreude and simpatico. This could not occur if Katz’s view obtained across the board.

Second, doubt is also thrown on Katz’s claim that “the forms of consciousness which the mystic brings to experience… rule out in advance what is ‘inexperienceable’ in the particular, given, concrete, context” (Katz 1978: 26-7 –
emphasis added). If that were so, it would be difficult to account for so-called heretical mystics, those whose experiences (and teachings based on them) run counter to the prevailing culture, such as Meister Eckhart (1260-c.1327) and Jacob Boehme (1575-1624) in the Christian tradition. The hard constructivist “will struggle to explain transformations within mystical traditions, and cannot easily account for innovative geniuses within mystical traditions” (Gellman 2010:16). And although Katz claims that because a Jew learns that “one does not have mystical experiences of God in which one loses one’s identity in ecstatic moments of unity… the Jewish mystic rarely, if ever, has such experiences” (Katz 1978: 34 – emphasis in original), one can ask “if Katz is correct – that the individual does not have that particular experience – or rather that it is simply the case that the individual does not recognise those kinds of experiences” (Goodey 1998: §4 – emphasis added).

A third argument to be advanced against the hard constructivist position is that attributing to the concepts within a culture or tradition the power of actually creating the experiences the mystic undergoes leaves unanswered the question of how those traditions arose in the first place, if not through the reflected-upon experiences of the ancestors of that culture. Of all traditions, of all cultures, there will have been a time before which they did not exist, and what is known as a tradition is only so known in retrospect – the first time something occurs does not constitute a tradition: “Prior to Moses experiencing the burning bush, there… was no tradition of such an event in Judaism. If mystical experiences are confined to some predetermined criteria of presentation, as Katz asserts, then one cannot fail to ask where the origin of such criteria occurs” (Goodey 1998: §7). This however is perhaps not entirely fair to Katz, for he argues that the relationship between experience and interpretation is mutual and symmetrical, such that “beliefs shape experience, just as experience shapes belief” (1978: 30), which suggests a symbiotic development over time, with neither tradition/culture nor experience being primary. This mention of development over time, however, leads to another factor, key to the current enquiry.

This fourth factor, which partly (but only partly) supports Katz’s thesis, is our evolutionary history. Since the second part of the current enquiry is focused on the contribution to be made by evolutionary theory to the understanding of spirituality, what briefly follows here is by way of anticipation. Evolutionary psychology (Barkow, Cosmides and Tooby 1992) contends that we have a suite
of evolved mental modules which result in our bringing a form of innate knowledge to the world – not propositional knowledge, but the knowledge of intuitive physics, intuitive biology and the like (Buss 2005). According to this account we bring to experience, or events before they count as experiences, pre-existing structures of the mind. Not culturally-derived concepts per se, but mental structures by the (automatic, unconscious, instinctive) application of which we order and interpret the world of which we are a part; the ordering not being deterministic but a shaping, a biasing, evolved because of the selective advantage of a plasticity of human behaviour enabling optimal responses to differing environmental situations. This understanding would vindicate Katz in his arguing that there is no such thing as raw experience, that it already comes with an interpretative aspect which is part of the experience itself. However, the preinterpretive input he posits is cultural, different from culture to culture, whereas the evolutionary psychological input is of a human universal, the same underlying similarity across cultures. Later, though, I argue that both inputs play a role, as will be seen when I draw upon the religious pluralism of Hick (1989) and his quasi-Kantian argument.

Wayne Proudfoot

Proudfoot challenges the claim that religious experiences point to the existence of Something Other by examining how certain words and concepts are actually used in the accounts of such experiences. He acknowledges that “religious experience” is “experience of something”, and that it is “intentional in that it cannot be described without reference to a grammatical object” (Proudfoot 1985: 192); but the fact that a religious experience has a grammatical object does not entail the existence of an objective object. Someone is fearful of a bear, only the bear turns out to be a log mistaken by the subject for a bear; there is no objective bear present, but the experience of fear can only be explained in term of the bear: “If someone is afraid of a bear, his fear cannot be accurately described without mentioning the bear. This remains true regardless of whether or not the bear actually exists outside his mind” (1985: 192-3 – emphasis added).

More than one interpretation of the experience is thus available, and it is legitimate to say that bear-log man experienced “seeing a bear”, that is a descriptive interpretation of the experience he underwent, because even though
it wasn’t actually a bear, that describes the experience as far as he is concerned. And it is legitimate to say that he experienced seeing a log as though it were a bear – and that is an explanatory interpretation of his experience (see 1985: 216ff).

The descriptive interpretation, Proudfoot maintains, has to be in words which are plausibly ascribable to the individual concerned, with concepts that would be part of his cognitive equipment (otherwise it would not be an interpretation of his experience which was of a bear, even though no bear was there); whereas the explanatory form of interpretation is what the analyst can make of it using concepts which the individual would not necessarily recognise or agree to – this is the anthropological “emic/etic” distinction (Headland, Pike and Harris 1990).

In the particular case of interpreting a religious experience, both an understanding of the description as supplied by the subject concerned, and an explanation are required; confusing them can result in the illegitimate form of reductionism known as “descriptive reductionism”. This refers to “the failure to identify an emotion, practice, or experience under the description by which the subject identifies it” (1985: 196) as when an experience is described in non-religious terms such as alpha brain waves and altered heart rate even though the subject himself describes it in religious terms of, say, mystical union with God. Descriptive reductionism also obtains inter-religiously, and “[t]o characterize the experience of a Hindu mystic in terms drawn from the Christian tradition is to misidentify it” (1985: 196-7).

Descriptive reductionism is contrasted with legitimate “explanatory reductionism” which “consists in offering an explanation of an experience in terms that are not those of the subject and that might not meet with his approval… The explanandum is set in a new context, whether that be one of covering laws and initial conditions, narrative structure, or some other explanatory model. The terms of the explanation need not be familiar or acceptable to the subject” (1985: 197). This occurs when, for example, historians employ terms such as socialization, ideology and feudal economy to explain past events.

It is the failure to distinguish between these two types of reductionism (descriptive reductionism, bad; explanatory reductionism, good) when applied to religious experience which leads to claims that accounts of religious experiences and the like should always be emically worded, a claim which “derives its plausibility from examples of descriptive reduction but is then extended to pre-
clude explanatory reduction. *When so extended, it becomes a protective strategy*” (1985: 197 – emphasis added). That is to say, he argues that such linguistic ambiguity is being used illegitimately to protect religious claims from being scrutinized from a perspective other than the religious perspective itself.

Proudfoot also discerns a form of protective strategy in the employment of the term “ineffable” which, along with synonymous expressions such as “beyond words” characterizes many accounts (e.g. CFD3, DH3, DH4), particularly of the mystical variety. He argues that “ineffability” is a grammatical rule rather than a descriptive adjective: the imputed ineffability of terms such as “God”, “Tao” “YHWH”, “Brahman” “Sunyata” and the like indicates that they are grammatical “placeholders”, words empty of content but serving a function in a sentence (such as the “it” in “it is raining”). Ineffable as a placeholder “preempts any ordinary connotations a term might have and gives it a special logical function. It serves to maintain, and perhaps even to create, a sense of mystery... *The term is prescriptive and evocative rather than descriptive*” (1985: 128 – emphasis added). That is to say, to describe an experience as “ineffable” *isn’t* actually describing it, but evoking it. Giving as examples the opening to the Tao Te Ching (“the Tao that can be told is not the eternal Tao. The name that can be named is not the eternal name” [Lao Tsu 1973: np]), and Eckhart’s remark that “God is ‘above names’ and ineffable” (Eckhart 1981: 205), he comments that these are “precise formulae that rule out in advance the appropriateness or adequacy of any description that might be proposed” (Proudfoot 1985: 129).

But although placeholders do not represent, they are not always entirely opaque: “*Tao* connotes ‘way’ or path’, and... *god* connotes personal agency” (1985: 129-30); thus it seems to the individual as though there *is* an objectified *something* there, the reified placeholder, which is the object of religious experiences; and the application to an experience of the term “mystical”, with its built-in ineffability, functions to ensure that the experience remains outside naturalistic explanations; it protects the experience from scrutiny. Thus the mystics’ experiences “are testimonies not to some direct perception but to the beliefs that enter into the identification of the experience” (1985: 154 – emphasis added).

Proudfoot’s analysis of the linguistic and grammatical implications of the terminology used in describing or denoting or identifying religious experiences (and, by extension, “Roses” in general) is subtle and significant. Although he is
not – or does not appear to be – claiming that his analysis proves that there definitely is no *Something Other* that is the (objective) referent of religious experiences, his work challenges the easy use of the terminology available. Along with Katz’s analysis, which he draws on at times, his insights make problematic any claim that Roses definitively demonstrate the reality of God, Brahman, the Tao, the Transcendent.

An important distinction that Proudfoot has elucidated is that between interpretation as description and interpretation as explanation. This, in the current enquiry, translates into a distinction between the religious interpretation that the individual person concerned might put upon her experience, and the naturalistic interpretation that might be put on it by an observer. Proudfoot takes it that the naturalistic and the religious interpretations are mutually exclusive, saying of mystical experiences that it would be odd “if someone claimed to have had a religious experience and then argued that the experience could be exhaustively explained as the effect of a pill he had ingested. It would be strange for someone to report a religious experience and to subscribe to a psychoanalytic or sociological explanation as providing a complete account of that experience. The words exhaustive and complete are important here” (Proudfoot 1985: 187). And elsewhere he remarks that “[i]f the distinguishing mark of the religious is that it is assumed to elude natural explanation, then the labelling of the experience as religious by that subject includes the belief that it cannot be exhaustively explained in naturalistic terms” (1985: 217).

A problem with this view is that it comes close to a God of the Gaps approach (Coulson 1958) whereby God is used to plug the gaps in an incomplete scientific explanation, as with the claims of Intelligent Design proponents who accept that evolutionary mechanisms explain certain aspects of human anatomy, but that, because evolutionary theory allegedly can’t explain what is termed “irreducible complexity”, an Intelligent Designer – aka God – must have stepped in to do that bit (Behe 1996; and see Young and Edis 2004). Proudfoot is assuming that a religious explanation is offered to fill in the gap left by an inadequate naturalistic explanation. But it is not necessarily the case that a religious explanation entails something that is “assumed to elude natural explanation” for that presupposes that “religious” and “natural(istic)” explanations operate at the same logical level. Yet in principle something can
be exhaustively explained at one level (a chemical reaction, for example) yet still have a valid explanation at another level (that of quantum physics).

There is a related problem in the distinction between “descriptive reductionism” and “explanatory reductionism”. I have no quarrel with the distinction being made, nor with its signifying a genuine difference to be aware of. The problem comes in the implication that the “explanatory reductionism”, by entailing a set of concepts which “need not be familiar or acceptable to the subject” comes close to explaining away the phenomenon, of assuming that, though we must be respectful of the other person’s view, it is nevertheless, in the long run, wrong. Well, maybe it is wrong, but then again maybe the analyst, the explanatory reductionist, is the one who is wrong because “the possibility cannot be excluded”, to borrow Bowker’s dry comment on the reductive explanations of Tylor, Durkheim and Freud, “that God is the origin of the sense of God” (Bowker 1973: 16).

Proudfoot’s opposing the religious with the naturalistic explanation for a given experience also runs foul of Lash’s criticism (below) of the tendency (by James and others) to regard “religious experience” as applying to a distinct “district” of human experience (Lash 1988); but if “religious” and “naturalistic” are different possible construings of one and the same experience, then it would not necessarily be odd “if someone claimed to have had a religious experience and then argued that the experience could be exhaustively explained as the effect of a pill he had ingested” (Proudfoot 1985: 187). Religious and naturalistic explanations are not necessarily mutually exclusive.

**Nicholas Lash**

A major problem with James’ position which Lash identifies is its dualistic dependence upon the assumption “that God is one of a number of possible ‘objects’ of human experience, objects that may compete with each other for our attention”, such that the quality of one’s relationship with God increases “in proportion as other objects are ignored and other relationships allowed to wither away” (Lash 1988: 59). Swinburne’s approach, too, Lash locates within the “broad framework” of Cartesian dualism (1988: 99); and he charges Hardy (and hence by implication Hay also, whose research is a continuation of Hardy’s) with a lack of “hermeneutical curiosity” (1988: 98) about the accounts he studies. In what follows, I briefly outline two of his challenges.
Lash traces the Jamesian dualism with regard to our experience of God back to Friedrich Schleiermacher and his “notorious identification of the feeling of absolute dependence with ‘being in relation with God’” (1988: 120). Schleiermacher takes God to be the origin (the “Whence”) of the experience of a feeling of absolute dependence (Schleiermacher 1928), but Lash contends that it is illegitimate to infer that there is something termed “God” which is the origin and explanation for those feelings, for “if we do attempt to name… the ‘whence’ of the feeling of absolute dependence, then the name that we give, the content of the account that we offer, must be derived from elsewhere: it is not, and it can never be, given in or furnished by the feeling itself” (Lash 1988: 127 – emphasis in original). That is, the feeling of absolute dependence cannot itself contain, or does not come with, its own identificatory tag like, say, Paddington Bear whose “whence” of Peru was written on a label round his neck. Rather, to speak of the “whence” of a religious experience such as that of absolute dependence is “a ‘grammatical’ remark; it does not constitute an empirical claim of any kind” (1988: 127 – emphasis in original). The feeling of absolute dependence (and by extension other varieties of religious experience) cannot be considered proof of the existence of a God, because the “whence” of the experiences is simply how we use the word “God”.

Lash, understandably as a Christian theologian, is concentrating on the use of the word God, arguing that it is a grammatical term, but the same argument is equally applicable to the more amorphous term Something There (Hay 2006), or Hardy’s “benevolent, non-physical power” (Hardy 1975: 1).

A second contention of Lash’s is that what gets termed “religious experience” should not be seen as confined “to some one particular ‘district’ of human experience…” (Lash 1988: 105). Taking issue with James’ understanding of the term, he argues that “any general account of human experience is mistaken, bewitched by the form of our language, if it proceeds on the supposition that there is any such thing as experience” (1988: 13); and the problem with most discussions of religious experience is that they proceed on the assumptions that “firstly, the notion refers to some particular kind or category of ‘experience’ or psychological state which may be phenomenologically distinguished from other kinds of conscious experience and, secondly, that ‘God’… is the name of a particular object or thing which we encounter or come across in enjoying the kind of experience which is called ‘religious’” (1988: 128-9); and he quotes
approvingly Karl Rahner who states that “experience of God must not be conceived as though it were one particular experience among others” (quoted in Lash 1988: 251 – emphasis in original).

What then is “religious experience”? It is, as Lash understands it, a way by which we make sense (or can make sense) of our experiences in general as human beings. Religious experience is not about God, but about us as human beings.

I find Lash’s position very appealing, particularly in the argument that strictly speaking we cannot have an experience of God since God is not a thing, not an ‘It’, and hence it is dubious to infer the existence of God from this particular subset of human experiences; and it does not follow that all so-called religious experiences (or Roses) are indeed experiences of the same “thing” i.e. they don’t necessarily have a common referent.

But there are a couple of problems. Whilst Lash’s argument based on the grammar of God and the grammar of religious experience is a crucial corrective for the tendency to reify Schleiermacher’s Whence into a Something There, there is an opposite danger of over-grammarizing, and (as with Proudfoot) of privileging the etic dimension of the analyst or observer at the expense of the emic dimension of the individual whose experience is under scrutiny. In a different context but applicable here, Wilfred Cantwell Smith observes that there is “a certain school of modern philosophers [who] have come from their studious examination of language to deny that prose is inherently a possible instrument for reporting transcendence” (Smith 1991 [1962]: 182), forgetting that words and sentences in themselves mean nothing: “it is only persons who mean something; language is their instrument” (1991 [1962]: 182). And Hick remarks that religious statements such as “God is a very present help in time of trouble” or “In the beginning was the Word and the Word was with God” entail the existence of “God”, and that “normal or typical users of such language have intended this entailment or presupposition” (Hick 1973: 27). That is, the language as it is actually used by all but philosophers and theologians qua philosophers and theologians is taken to refer to something. Now, it may well be so that there is no “something” to which the terminology refers, but it is implausible that the existence or non-existence of the alleged something (“God”) can be determined by reconstruing what are generally used as substantive nouns to be grammatical operators in disguise. Obviously the grammar of a statement can be
analysed, but such analysis cannot reveal the meaning intended by the person making the statement. If someone makes a statement intending to refer to what they believe to be an objectively existing state of affairs, it is not grammar that decides the validity or otherwise of their truth-claim, but ontology – does the alleged referent objectively exist or not? Grammar won’t tell you.

A further point concerns the claim that “religious experience” does not refer to a distinct subset or “district” of human experience but is a way in which we “attempt to give an account of our human experience” (Lash 1988: 127): what, then, are we to make of the fact that human beings do cluster together a number of experiences under the heading “religious experience”, and distinguish them from experiences which are not religious? If the meaning of a word is how it is used (Wittgenstein 1972 [1958]), then “religious experience” does have a meaning which distinguishes one type of human experience from others, the reason being that that is how we use the expression: namely to construe a subset of experiences as being “religious”.

Lash recognizes this problem, asking himself whether “in emphasizing the ordinariness of human experience of God, am I not in danger of underestimating the theological significance of those events and occurrences, those special moments, upon which accounts of religious experience habitually concentrate?” (Lash 1988: 250). Some experiences are indeed more important than others as far as our relationship with God is concerned, and the experiences which matter most “whether they be episodic in character… or whether they be of more extended duration… are at least as likely to have the character of responsibilityacknowledged, or suffering endured, as they are to have the character of aesthetic satisfaction or heightened feeling” (1988: 251 – emphasis added). Thus Lash is proposing that whilst there is no distinct “district” of experiences which are exclusively religious, or “of God”, nevertheless some experiences are more, as it were, transparent to or indicative of God – namely those (whether focal or background) with particular types of consequences or sequelae. This is consonant with Underhill’s comment quoted in chapter 1 that a focus purely on devotion may be just “a form of self-indulgence, unless it issues in some costly and self-giving action” (Underhill 1933: 19), and with the approach in the current enquiry where “spirituality” is understood to have both the vertical/diameter dimension and the horizontal/ circumference dimension. But it still sounds as though, in practice, there is a subset of human experiences
which are, at the very least, more likely to be understood as religious experiences (or more generally as “Roses”) than are others.

**Conclusion**

This brief consideration of the epistemology of religious experiences (“Roses”) is predictably inconclusive, there being plausible arguments on both sides as to why such experiences should/shouldn’t be considered as coming from, pointing to, and giving some sort of knowledge of, something such as Schleiermacher’s “Whence” or Hay’s *Something There*. It does, however, seem safe to accept that no such experience can be taken naïvely to confirm or prove the existence of whatever appears to be presenting itself to someone who undergoes such an experience – whether that be a “focal” experience which could be, as it were, date-stamped, or a “background” experience of living in the ongoing ambience or awareness, as it were, of God, or Brahman, or the Tao or however the purported *Whence* presents itself.

But in the absence of a knock-down argument either way, although one cannot make naïve inferences about the *Whence* from a batch of reported experiences, neither can one accord such experiences a naïve dismissal as all illusion, delusion, pathology or cognitive construction. The arguments against naïve acceptance of the experiences as being of an objective referent are themselves open to criticism, and either way the question still remains, *how come we have these experiences?* If there is indeed no distinct district of human experiences which are “religious experiences”, how come we nevertheless tend to construe certain experiences as religious? Or as “Roses”?

The model I am presenting suggests that the insights of evolutionary psychology can, if not actually answer those questions definitively, at least enable us to view them from a different perspective, and thereby (possibly) tip the balance one way or the other. Before that, however, there are two very different theologians whose work will provide considerable help to the current enquiry, John Hick and Alvin Plantinga. The next chapter will focus on religious pluralism, particularly as developed by Hick (1989); and the following chapter will draw upon the thinking of Plantinga (2000) and his development of the concept of the *Sensus Divinitatis*. 
Chapter 4: Of religious pluralism

Introduction
In this chapter I argue for a version of religious pluralism, principally as developed by Hick (1989) though with modifications. The reason for advocating pluralism is that in my view it offers a good explanation for the large number and wide diversity of religious traditions found in contemporary, historical and (as far as can be told) pre-historical societies, and in doing so it provides the universality required if evolutionary psychology (which deals in human universals) is to make a contribution to our understanding of spirituality. That religion is a human cultural universal is generally accepted – understood broadly, it is and has been a feature of all human societies in every time and place (Rappaport 1999); but I will in due course argue that this cultural universality arises from an underlying human psychological universal, a mental module which I term the “sensus transcendentis”, responsible for our religious sense, our spiritual awareness, our “Roses”.

But if a human psychological universal for a religious or spiritual sense exists, how come there is such a range and diversity of religions and of Roses? How come that our psychological universal doesn’t give rise to the same experiences in all people and hence the same religion in all peoples? Enter religious pluralism, bearing an account of how the many diverse religious and spiritual traditions and experiences are all human responses to the one reality – “the Real” to use Hick’s (1989) designation; and from a pluralist standpoint I will be arguing that it is our capacity to respond to “the Real” which constitutes the human psychological universal for which evolutionary psychology can (at least in part) offer an account.

The problem of religious diversity
There have been and still are a huge range of religious traditions, though exactly how many is impossible to state, for, “[i]n addition to a myriad of lesser groups, there are… at least four or five major religious communities each proclaiming a faith with a long and impressive, even brilliant, past and with the continuing creative allegiance of mighty civilizations… [and there is] the further fact of diversity within each tradition. Each tradition appears in a variety of forms” (Smith 1991 [1962]: 2). Thus, as well as the array of primal religions,
there are the various Axial religions: the Semitic group of Judaism, Christianity and Islam; the Indian group of Hinduism, Buddhism and Jainism; the Sino-Japanese group of Confucianism, Taoism and Shinto (Smart 1969); and so forth. Further divisions and sub-divisions result in a positive delta of religious traditions: in Christianity there are Orthodox, Catholic, Reformed, Protestant … further subdivisions yielding Amish, Anglicanism, Baptist, Brethren, Christian Science, Church of the Latter Day Saints, Methodist, Mennonite, Mormonism…

Neither are other religions monolithic – as evidenced by the Sunni, Shiite and Sufi strands of Islam and the Orthodox and Reform schools in Judaism (Armstrong 2000), the multiple strands of religious tradition lumped together under the designation of “Hinduism” (Smith 1991 [1962]), and the different flowerings of Buddhism in India, Tibet, Japan, China and, more recently, in the West (Mishra 2004; Humphreys 1985 [1971]).

In this diversity, a common feature of the Axial religious traditions, differentiating them from their primal precursors, has been identified as their soteriological function, a response to the unsatisfactoriness of human existence, and which entails “the bringing about of a transformation of human existence from self-centredness to Reality-centredness – a transformation which shows itself, within the conditions of this world, in compassion… or love” (Hick 1989: 164), a transformation variously termed salvation, enlightenment, liberation or fulfilment (hereinafter “s-e-l-f”) – and the immediate objection that the Christian understanding of “salvation”, for example, is not the same as the Buddhist concept of “enlightenment” receives consideration below.

A second, connected, feature of the Axial religions is that each refers to “something… that stands transcendingly above or undergirdingly beneath and giving meaning or value to our existence. This is referred to in a wide range of ways as God, or the divine, or the absolute, or the Tao, or the Dharmakaya, or the Spirit…” (Hick 1989: 172), with orientation to that “something”, being in right relation with it, bringing about s-e-l-f.

**Exclusivism, inclusivism, pluralism**

From within the religious discourse, there are three main stances towards the diversity of traditions: exclusivism, inclusivism and pluralism (Byrne 1995; D’Costa 1986), though other possibilities are discussed in the literature (Anderson 2008; Bowker 1995; Byrne 1995). All three take a realist stance
towards religious phenomena in presupposing that “religion succeeds in relating human beings to religious reality in some mode or other” (Byrne 1995: 3).

Exclusivism and inclusivism are further similar in that they are confessional, that is, they both take one particular religious tradition to be the one true path to s-e-l-f; they both “view the theoretical and practical structures of all religions in the light of one religion’s claim to have the definitive, normative account of the nature of the sacred and of salvation” (Byrne 1995: 17). In this way both exclusivism and inclusivism can be contrasted with pluralism, which, in theory at least, does not privilege one faith tradition over the others but remains agnostic about all such claims.

In the following accounts of exclusivism, inclusivism and pluralism I am principally drawing on examples from the Christian tradition as a matter of convenience, but the arguments apply, mutatis mutandis, to other religious traditions.

**Exclusivism**

“The God of ‘other religions’,” Emil Brunner is quoted as saying, “is always an idol” (Smith 1991 [1962]: 140), which neatly illustrates the exclusivist position; a more formal definition being that “[t]he exclusivist interpretation holds that the other religions are cognitive failures in the light of the dogmatic structures of the favoured religion” (Byrne 1995: 3). The exclusivist maintains that only one religious tradition is true and that s-e-l-f cannot be achieved unless the one favoured route is undeviatingly followed. Within Christianity one form of exclusivism is doctrinally expressed by the Catholic teaching, “extra ecclesiam nulla salus” (there is no salvation outside the church), the Council of Florence (1438-45) pronouncing that it “firmly believes, professes and proclaims that those not living within the Catholic Church, not only pagans but also Jews and heretics and schismatics, cannot participate in eternal life, but will depart ‘into everlasting fire which was prepared for the devil and his angels’, unless before the end of life the same have been added to the flock” (quoted in Netland 1991: 13), a loophole-free stance to which loopholes have subsequently been added (see below).

Being exclusivist, though, is far from being solely a Catholic prerogative, the Protestant equivalent to extra ecclesiam being that no salvation is possible outside Christianity, “so that missionaries were sent out to save souls who must
otherwise have forfeited eternal life” (Hick 1987: 17), and Plantinga asserts that “[h]uman beings require salvation, and God has provided a unique way of salvation through the incarnation, life, sacrificial death, and resurrection of his divine son” (Plantinga 1995: 41 – emphasis added); whilst Karl Barth has been summarised as maintaining that “any religion, as a human construct, including Christianity itself, in its institutional forms and speculative explorations, can be no more than a barrier against God; and the more it thinks it attains to God, the less it is capable of doing so” (Ward 1994:17). It is, for Barth, the Christian revelation, not the Christian religion which counts, for “[r]eligion is unbelief” (Barth 1956: 299) – so we have what would appear to be the ultimate in exclusivism in that it entails Christianity excluding religion per se, even the institutional manifestations of itself.

Exclusivism is not confined to Christianity. The Hebrew Bible is “trenchantly intolerant of any deviations from belief in the one true God. Other peoples do not have the right to choose to worship other gods and their ‘sin’ in doing so entitles the Hebrews to destroy them” (Young 2007: 49); and the exclusivist strand in Islam as manifested by the Wahabbi is well depicted in Ed Husain’s (2007) memoir The Islamist. Even Hinduism “widely hailed as the apotheosis of tolerance – is no exception. One finds in Shankara and Radhakrishnan vigorous argument against those who do not accept their particular perspectives on reality” (Netland 1991: 35), and Buddhism has its “judgments as to the salvific inefficacy of Hindu doctrine and practice – and by extension, of all non-Buddhist doctrine and practice” (Griffiths 1990: 158).

The premise of exclusivism is that the favoured faith tradition transcends all thought patterns and cultural constraints, even though “all religions seem to be historically and culturally conditioned in their forms of understanding” (Byrne 1995: 19 – emphasis in original), and for many within Christianity the exclusivist position has become increasingly untenable as the traditions of many other cultures have become better known, with a concomitant implausibility that the “immense spiritual riches of Judaism and Islam, of Hinduism, Buddhism, and Sikhism, of Confucianism and Taoism and African primal religion” (Hick 1987: 17) should be rejected as invalid and soteriologically ineffective.

Such interfaith awareness challenges the claimed exclusivism of any religious tradition, Christian or otherwise, but there are other problems with exclusivism particularly when applied to Christianity. There is a grave
inconsistency in maintaining that God is a God of love yet one who confines his revelation to only a segment of humankind, thereby condemning the rest to perdition. Any claim that everyone has a chance to hear and respond to the gospel falls foul of the empirical fact that for 2,000 years people have lived and died who have literally never heard the Christian message, living as they have in, say, pre-missionary Papua New Guinea; and what of those who have “heard” the gospel but in an incomprehensible or ludicrous form, or from people who have simultaneously abused them, which somewhat vitiates the plausibility of the Christian message? Or how about the entire human race up until the middle of the first century CE, before when there was no such thing as Christianity? “Can we really accept that the God revealed in Christ, a loving father of ‘generous, unlimited Divine love,’ has denied so many millions the means to salvation – through no fault of their own?” (D’Costa 1986: 67).

Attempts to square this situation with the demands of exclusivism are “painfully inadequate” (D’Costa 1986: 68).

Inaccurately characterising other religions in order to maintain an exclusivist position exacerbates the problem – Brunner’s dismissal of other religions as being “essentially eudaemonistic and anthropocentric... religions of self-redemption” completely misrepresents Islam, “which enjoins complete submission to the will of God, total acceptance of the Koranic revelation, and forbids all anthropocentric representations of God to a much greater degree than Christianity has done” (Ward 1994: 18, 19). Judaism, too, presents a major challenge to Christian exclusivism, given that the Hebrew Scriptures are part of Christian scripture and depict salvation as operative through the covenant between God and Israel: “such a testimony clearly indicates that God’s activity cannot be confined to the historical event of Jesus’ life, death and resurrection” (D’Costa 1986: 66). This seriously (I would say fatally) challenges the exclusivist view, for “[h]ow can it be maintained that the only way to salvation is explicit confession and surrender to God in Christ, if God has truly revealed Himself in Israel’s history before the coming of Jesus Christ?” (1986: 67).

The array of arguments to counter exclusivist claims for Christianity is developed at greater length elsewhere (e.g. D’Costa 1986; Hick and Knitter 1988; Ward 1994); and the difficulties with exclusivism urgently necessitates

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4 Although, as he subsequently changes his views (D’Costa 2000), in my view D’Costa’s arguments against exclusivism in this earlier book remain valid.
alternative paradigms to depict the relationship among different religious traditions.⁵

**Inclusivism**
Bob Ferris’s prospective mother-in-law in the TV sitcom *The Likely Lads* unwittingly expresses a type of Christian inclusivism when, discussing the forthcoming wedding, she pronounces that “[t]here are many roads to God, but I’ve always thought of the C of E as the M1” (Clement and La Frenais 1974: 184). Inclusivism is the contention that although one particular religious tradition holds the only fully true account of God, nevertheless other faiths could possess partial truths and their teachings can therefore be accepted to the extent that those teachings agree with the teachings of the one true faith. Christian inclusivism, for example, “affirms the salvific presence of God in non-Christian religions while still maintaining that Christ is the definitive and authoritative revelation of God” (D’Costa 1986: 80).

Inclusivism thus responds positively to the contention that no single tradition is the sole repository of wisdom and profundity, and that there are “many liberating ways to supreme value as a final goal, enshrined in different cumulative traditions and looking back to different supremely authoritative teachers” (Ward 1994: 310). However, it does not follow that God – to remain with theistic language – has inspired all religious traditions to the same extent, or that all recipients of the inspiration were equally receptive; and so it is possible that one tradition is normatively correct, and “[o]ther faiths... achieve cognitive success because they at some level approach the success of the favoured faith” (Byrne 1995: 3).

The changes over the centuries to the interpretations of the Catholic “*extra ecclesiam nulla salus*” doctrine illustrate inclusivism. Although the central tenets of the uniqueness of the Christian revelation and the Church’s sole authority are maintained, the constituency identified as belonging to the Church has expanded. The Council of Trent (1545-1563) pronounced that baptism into the church could be received “not only... with water... but also by desire. Such ‘baptism by desire’... could admit into the Church anyone who lived a morally good life but could not, for whatever reason, receive the sacrament of water

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⁵ For a comedian’s take on religious exclusivism, see appendix 2.
baptism” (Netland 1991: 21). The doctrine had acquired an “epicycle” (Hick 1989).

A further change, the addition of a further epicycle, occurred with Vatican II (1962-65) which extended the possibility of “eternal salvation” to those who, “through no fault of their own, do not know the Gospel of Christ or his Church⁶, but who nevertheless seek God with a sincere heart, and, moved by grace, try in their actions to do his will as they know it through the dictates of their conscience” (Netland 1991: 23-4, quoting from *Lumen Gentium* 16). Karl Rahner was a key figure in the Vatican II developments, and D’Costa (1986) gives a fine summary from which I draw the following points.

Rahner maintains that human nature includes an inbuilt “pre-reflective, pre-apprehension of God… which [he] calls ‘transcendental revelation’” (1986: 81); that is, God has implanted in us, or we have otherwise acquired, a faculty by which we are oriented to God prior to our actually apprehending God. This God to which we are oriented has acted and spoken through the life, death and resurrection of Christ; hence “[a]ll questions about God and human beings can only be answered with reference to Jesus” (1986: 82). This can only be mediated by the Catholic Church, but other religions can contain “supernatural elements arising out of the grace which is given to men as a gratuitous gift on account of Christ. For this reason, a non-Christian religion can be recognized as a *lawful* religion… without thereby denying the error and depravity contained in it” (Rahner, quoted in D’Costa 1986: 85). The idea then is that God is offering grace to all by implanting fragments of the truth in other religions, but we can only know which are the truthful fragments by whether or not they accord with the full-blown Christian revelation. But if a non-Christian can encounter fragments of the truth in another religion, it is possible for them to have accepted God’s grace even prior to hearing the Christian gospel – and hence Rahner’s famous formulation of “the anonymous Christian”, someone who is on the way to becoming a Christian and is already living “in the state of Christ’s grace through faith, hope and love, yet who has no explicit knowledge of the fact that his life is orientated in grace-given salvation to Jesus Christ” (Rahner 1976: 283). Other religions are seen as vehicles by which the individual may eventually come to Christ, who remains the sole and ultimate means of salvation.

⁶ See appendix 3 for Peter Cook and Dudley Moore’s particular view of the matter.
As with exclusivism, inclusivism is not a phenomenon confined to Christian- ity. The Vietnamese Zen master Thich Nhat Hanh writes of having shared the Eucharist with a Catholic priest, and continues: “People kill and are killed because they cling too tightly to their own beliefs and ideologies. When we believe that ours is the only faith that contains the truth, violence and suffering will surely be the result” (Hanh 1996: 2), and the devotions of the Hindu Mohandas ("Mahatma") Gandhi to Christ’s teachings are well-known (Ellsberg 1991).

Inclusivism is an attractive proposition to many, combining as it does a commitment to one faith tradition with openness to the insights and wisdom of others, and it addresses the implausibility that “the Real inspires prophets in only one tradition” (Ward 1994: 318). However, there are also problems with inclusivism, sharing as it does with exclusivism the premise that one particular tradition or revelation is normative – for can any religious system be the outcome of pure, unadulterated revelation, untouched by fallible human hand? – it being “abundantly evident today that each tradition has been deeply influenced by cultural forces which rest in turn upon a complex of geographical, climatic, economic and political factors” (Hick 1989: 7); and it has moreover been argued that concepts of the Deity tend to reflect aspects of the society in question: the relationship between Yahweh and Israel as portrayed in the Hebrew Scriptures parallels that between husbands and wives in Israel’s patriarchal society, suggesting that the biblical portrayal of God “is a result of the projection onto God of characteristics that actually belong to the biblical authors or their communities” (Young 2007: 35).

A further problem with Rahner-style inclusivism lies with its actual appli- cation: how can a Buddhist, say, be called an anonymous Christian, requiring only knowledge of Christ to complete his salvific quest, since “the quest associated with following the path toward nirvana is set in a unique pattern of belief and behaviour, [so] it cannot prepare Buddhists for the goods of the Christian eschaton” (Byrne 1995: 94, citing Jantzen 1984).

A further objection is that, as a matter of observation, if someone is committed to a faith tradition it is almost always that in which they were raised; one’s religious commitments “depends upon the accidents of birth” (Hick 1989: 2) rather than (by and large) on an unbiased choice, weighing up the pros and cons of various religious traditions before committing to one (or none). Some-
one being born into a religious tradition does not confer any special status to that tradition, any more than their being born into an English speaking society renders English the normative language for people born in other linguistic communities.

Inclusivism is an attractive possibility, particularly as a *confessional* position: be committed to your tradition, but open to the possibility/probability that truth is widely distributed. But in the absence of a knock-down argument with which everyone would agree as to why *this* tradition should be normative rather than *that* tradition or any one of *these* traditions, a third approach to religious diversity is called for.

**Pluralism**

Pluralism has its problems, as will be seen (below), but it does offer a way of understanding religious diversity which, unlike exclusivism and inclusivism, stands outside (or attempts to stand outside) any specific confessional position which privileges one tradition over all the others, though pluralists themselves are from within particular traditions: D’Costa (2000) identifies as pluralists Hick (1989) and Knitter (1985) from the Presbyterian and Catholic traditions respectively of Christianity, Radhakrishnan (1939) from the Advaitin school of (neo-)Hinduism, the Dalai Lama (1996) from Tibetan Buddhism, and Cohn-Sherbok (1994) from Reform Judaism. In what follows I concentrate on the pluralism as espoused by Hick, for the joint reasons that he is the closest of these to my own Protestant non-conformist tradition and, more pertinently, that the philosophical underpinnings of his position are of particular interest and use in the model I am seeking to develop. I do not follow him in all respects, though, and also draw upon Byrne (1995).

Pluralism contends that no single religious tradition can be or should be privileged above the others, and that all traditions offer contact with the Real and valid paths to s-e-l-f. Three propositions encapsulate the pluralist view: “(1) All major religious traditions are equal in respect of making common reference to a single transcendent, sacred reality. (2) All major traditions are likewise equal in respect of offering some means or other to human salvation. (3) All traditions are to be seen as containing revisable, limited accounts of the nature of the sacred: none is certain enough in its particular dogmatic formulations to provide the norms for interpreting the others” (Byrne 1995: 12); though the
references to equality in (1) and (2) should not be taken to imply equally efficacious, it being self-evident “that not all religious persons, practices and beliefs are of equal value. Indeed the great founders and reformers were all acutely dissatisfied with the state of religion around them” (Hick 1989: 299). However, although pluralism entails agnosticism regarding any particular form of religion being knowable “with sufficient certainty to enable such a faith to be the means of interpreting human religion”, it also entails that the religions “provide cognitive contact with transcendent reality and enough relational and practical knowledge about it to offer overlapping, connecting ways of living rightly toward it” (Byrne 1995: 6,13).

Following Hick, the term “the Real” names the sacred referent (or referents, or alleged referent[s]) to which the different Axial traditions seek to point or offer a route, though the various traditions have different conceptions of the Real which are to varying degrees incompatible, a striking incompatibility being between theistic traditions with their belief in a personal God (Yahweh, Allah, the Father, Shiva, Vishnu…) and non-theistic traditions positing among them a range of non-personal Absolutes (Brahman, the Dharmakaya, Nirvana, Sunyata, the Tao…). Using Hick’s (1989) distinction of personae to refer collectively to the theistic depictions and impersonae to refer collectively to non-theistic depictions, the situation is simply stated: the pluralist paradigm appears to require the Real to be simultaneously both persona and impersona, but how can the Real be construed in terms of both? How can “God the Father” be equated with “Nirvana”? If they can’t be equated, then either Christianity is false, or Buddhism is false, or both are false, but both can’t be equally valid/true/salvific – can they?

Pluralism resolves the problem by developing a Kant-inspired distinction between “the Real-in-itself” and “the Real-as-thought-and-experienced” (Hick 1989). Although we are embedded in and part of a real universe, we do not actually perceive anything as it is “in itself” but only as it appears to us, the input from the universe being filtered through and shaped by our physical senses and our cognitive apparatus, the innate “categories of the understanding” such as those of substance, causality, extension, time, space and so forth (Kant 1973 [1781]). The constructive activity of the mind/brain, which has been “massively confirmed” (Hick 1989: 240; citing, inter alia, Anderson 1975; Berger and Luckman 1967), gives rise to the distinction, in Kant’s epistemology, between
the “noumenon”, or the thing-in-itself, and the “phenomenon”, or the thing-as-it-is-perceived. This does not result in there being two worlds: there is just the one world, but “the noumenal world exists independently of our perception of it and the phenomenal world is that same world as it appears to our human consciousness” (Hick 1989: 241 – emphasis added). The noumenal world, the world-as-it-is-in-itself, is forever inaccessible to us7; it is only the outcome of the constructive activity of our mind/brain of which we have cognisance.

A straightforward application of Kantian epistemology to the question of religious diversity solves nothing since the categories are, according to Kant, a priori and, as such, human universals, so the Real as mediated purely through Kantian categories would appear the same to everyone. But the pluralist position is that the Real is refracted not only through the prism of the Kantian categories (or Kantian-type categories), but also through the prism of the thought patterns, mind-sets and particular conceptual categories characterising whichever culture one belongs to; hence “we always perceive [the Real] through the lens of a particular religious culture with its distinctive set of concepts, myths, historical exemplars and devotional or meditational techniques” (Hick 1989: 8).

Hence “the Real-in-itself” is postulated both as a necessary precondition for religious experience, ritual, practice and the like, and also as the focus to which all the religious traditions ultimately point, despite the contradictions between them at experiential level; and that the most we can say about the noumenal realm “is that it is the reality whose influence produces, in collaboration with the human mind, the phenomenal world of our experience” (Hick 1989: 243).

But we are left with the puzzle that it is all very well to claim that the Real, when refracted through the prism of different cultures, is experienced in a multitude of different ways as personae and impersonae, but what about the Real as it is in itself? Although we don’t experience it directly, can we nevertheless claim that the Real-in-itself is a persona, thus supporting the claims of those traditions for which the Real-as-experienced is a persona (Yahweh, Allah etc.); or is the Real-in-itself an impersona (Brahman, the Dharmakaya etc.), thus supporting the claims of those traditions for which “the Real-as-experienced is an impersona? The Real has to be one or the other –

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7 Somewhat like the view attributed to Jane Austen that all-male conversation is inaccessible to a female novelist – though one such conversation does occur in Mansfield Park.
doesn’t it? The law of non-contradiction surely obliges us to admit that it is “a necessary truth… that whatever is real is either personal or non-personal. So, by my lights there can be no such thing as Hick’s Real in itself” (Rowe 1999: 149).

Well, up to a point, Lord Copper. Rowe’s argument relies on an invalid application of the law of non-contradiction, because he is offering a forced choice between two options which do not cover all the possibilities. He is assuming that “is it personal or non-personal?” can validly be asked of the Real. Though the persona/impersona dichotomy is applicable to the Real-as-experienced, it does not follow that it is applicable to the Real-in-itself which, counter-intuitively, does not have to be either. One attempt to explain the contention that the Real is validly experienced in the guise both of various personae and of various impersonae without itself being an instance of either is to draw upon the “Complementarity Principle” from the world of quantum physics. This states, in effect, that both particle and wave theories are required to explain fully all the properties of light (Gribben 1984), but Hick’s (1989) application of this principle to the personae/impersonae duality, such that they are taken to be complementary descriptions of a single referent, is unsatisfactory. “Particle” and “wave” both refer to light at the phenomenal level; whereas “the Real-in-itself” and “the Real-as-experienced” refer to the Real at, respectively, the noumenal and the phenomenal level. The analogy doesn’t work.

To rectify these limitations (though probably introducing others), a different analogy draws upon the fantasy of Flatland (Abbot 1992 [1884]) in which two dimensional creatures, who are in effect geometrical designs (circles, ellipses, triangles, polygons…), inhabit a two-dimensional world such as the surface of a sheet of paper. Imagine that some Flatlanders have certain experiences which lead them to claim that Ultimate Reality is a vast circle; but other Flatlanders claim, on the basis of their experiences, that Ultimate Reality is a vast rectangle; in consequence one religious tradition of Flatlanders develops which claims that geometric salvation is to be gained by adhering to Circulism, and another that enlightenment depends on the revealed truths of Rectangulism. Which is the true religion? Which is the true depiction of the Real? Circle or rectangle?

In this two-dimensional world, it would seem that Ultimate Reality – “the Real” – cannot be both circle and rectangle. It must be one or the other (or neither – perhaps both sects are deluded). But if we three-dimensional super-
beings envisage a three-dimensional cylindrical object, such as a length of dowelling rod, we will discover that when looked at end-on it will present as a circle (that is, one of its cross-sections is circular), but when looked at side-on it presents as a rectangle (that is, another of its cross-sections is rectangular). Although for a Flatlander an object (which only possesses two dimensions) cannot be both a circle and a rectangle, we inhabitants of three-dimensional space discover that it can be both – depending, quite literally, on how we look at it. In mathematical terms, one projection onto a 2D screen such as Flatland of a length of dowelling rod is circular, and another projection from a different angle is rectangular, although the dowelling rod itself is neither exclusively circular nor rectangular, since “circular” and “rectangular” are adjectives that are not applicable to 3D objects. Did the Flatlanders but know it, the Real exists in a higher physical dimension, and their experiences of it are projections into their dimensionally-impoverished world of a circle and a rectangle. Flatlanders are right in believing that “the Real-as-experienced” cannot be both a circle and a rectangle simultaneously, but they are mistaken in inferring that therefore “the Real-in-itself” (the dowelling rod) must be either a circle or a rectangle but not both. Strictly speaking, it can’t be either; a three-dimensional object cannot be properly described using two-dimensional terms – it falls outside their “range of convenience” (Kelly 1955).

This analogy serves to show that descriptions which are mutually exclusive at one level of understanding can be conjoined at a higher (or meta-) level. And if the circle and rectangle are taken to represent the personae and impersonae respectively, and the dowelling rod represents “the Real-in-itself”, the analogy suggests that the personae and impersonae of different religious traditions are different projections of the Real from a (non-spatio-temporal) “fifth dimension” (Hick 1999); and that just as “circular” and “rectangular” cannot, strictly speaking, be applied to the dowelling rod, so neither persona nor impersona can, strictly speaking, be applied to the Real. The Real gives rise to the personae and impersonae of religious traditions, but in itself it is neither. Rowe’s objection that the Real has to be either personal or impersonal is analogous to claiming that the Flatlander’s Real has to be either circular or rectangular – well,
it doesn’t have to be. It can’t be. The Real-in-itself falls outside the range of convenience of the persona-impersona construct.

Like all analogies, the above is inadequate in many respects. One could ask how the supposed Kantian categories and supposed cultural concepts play their part in the above scheme? The answer is simply that this analogy doesn’t address those matters, its function is simply to make one point, namely that it is valid to claim that the different conceptions of “the Real-as-experienced” (and in particular the distinction between the theistic personae and the non-theistic impersonae) cannot be applied to “the Real-in-itself”, and hence there being contradictory claims across religious traditions concerning the nature of “the Real-as-experienced” does not sink Pluralism.

There are however several other possible objections to the pluralism paradigm, consideration of which will clarify the position adopted in the current enquiry.

1: Don’t truth claims conflict?

As well as the different claims they make concerning the nature of the Real, the different traditions also make a range of other, conflicting, truth claims. Thus the Hindu belief that “temporal existence is beginningless and endless” conflicts with the Jewish/Christian/ Islamic belief that “the universe began through the creative fiat of God and will end in divine judgment” (Hick 1989: 362); and the Islamic belief that Jesus did not die on the cross conflicts with the Christian belief that he did. There are also conflicts within the traditions, such as the Catholic/Protestant disagreement on whether or not the bread and wine of the Eucharist literally transubstantiates into the body and blood of Jesus. Given these and many other conflicting claims, how can pluralism be sustainable?

To tackle this, Hick identifies three categories of conflicting claims: i) those that concern a matter of (alleged) historical fact such as whether or not Buddha literally flew through the air from India to Sri Lanka and back, ii) those that are a matter of “trans-historical” fact such as whether or not reincarnation occurs, and iii) those that concern the nature of the Real and “the source and destiny of humanity and of the universe of which we are a part” (Hick 1989: 363), such as the persona/impersona dichotomy. As regards the first two categories,

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8 See appendix 1 for more detailed explanation of these terms.
interesting and puzzling though they are, pluralism does not insist – how could it? – that conflicting claims in those categories must somehow all be true simply because they are promulgated by religious traditions; the acceptance or rejection of such claims, irrespective of their alleged significance or otherwise to a religious tradition, depends upon interpretation of the evidence and inference to the best explanation, and pluralism takes an agnostic position towards such matters (though individual pluralists, like everyone else, will have differing views as to what, in any one instance, counts as the “best” explanation to which inference is made).

The undecidability of specific claims falling in the first two categories does not undermine pluralism’s principle argument about the differences between traditions concerning claims in the third category about the nature of the Real. The focus of pluralism is precisely those category (iii) differences; it is to explain how those differences have come about that the pluralist paradigm has been developed, and it is only to the extent that any category (i) and category (ii) conflicting claims impinge upon claims concerning the nature of the Real that they too are subsumed by the pluralist critique. As Hick suggests regarding category ii) claims:

“It does not seem to make any soteriological difference whether one believes that the world is or is not eternal and its history cyclical or linear, that we do or do not reincarnate, that there are or are not angels and devils and a hierarchy of heavens and hells… Such beliefs concerning matters of trans-historical fact vary in importance within the belief-system to which they belong; and at the top end of the scale they may be indispensible to a given doctrinal structure. *It does not however follow that that structure is itself indispensible for salvation/liberation.* On the contrary it suggests otherwise: for *it seems implausible that our final destiny should depend upon our professing beliefs about matter of trans-historical fact concerning which we have no definitive information.* It seems more likely that both correct and incorrect trans-historical beliefs, like correct and incorrect historical and scientific beliefs, can form part of a religious totality that mediates the Real to human beings, constituting an effective context within which the salvific process occurs” (Hick 1989: 369-70 – emphasis added).

It has however been argued that this dismisses too easily claims concerning trans-historical matters that different traditions *do* take “to be highly salvifically significant, *and actually are.* [Hick’s] assumption is that any disagreements that appear to be of this kind… must be based on a misapprehension of their own traditions by those who profess them” (Griffiths 1990: 161 – emphasis added).

But the claim that certain beliefs about certain issues (trans-historical or
otherwise) actually are salvifically significant belongs precisely to a confessional perspective that pluralism challenges, for there is no way outside the confessional stance to substantiate the “actually are” claim. Nor does pluralism necessarily entail that the beliefs held by the followers of a given tradition “must be based on a misapprehension of their own traditions”; since it is possible for someone to apprehend their own traditions accurately even though the tradition itself might well be labouring under a misapprehension of the soteriological (in)efficacy of other traditions. Given that both exclusivist and inclusivist stances from within any tradition entail the belief that many (most? all?) of the beliefs of other traditions are wrong, false, salvifically nugatory, it’s difficult to see as contentious the pluralist view querying the propositional statements and beliefs of all religious traditions.

2: Why postulate an unknowable “Real-in-itself”? 

The pluralist position, based on a distinction between “the Real-in-itself” and “the Real-as-experienced”, holds that we can know nothing about the former, only about the latter. But if nothing can be predicated of “the Real-in-itself”, then “[w]hy not omit the concept of the Real altogether, especially since we should not really say that it is real or unreal, in any case?… the expression ‘the Real’ seems almost vacuous” (Ward 1994: 311); and D’Costa argues that “the Real’s invulnerability leads... to its redundancy” (2000: 28). A related concern is that pluralism yields far too much to the role of culture, reducing religion to a cultural construct, since the distinction between the noumenal and the phenomenal overcomes the incompatibilities among different experiences of the (alleged) Real, but “only at a cost of suggesting a barrier to reference to the sacred as it is in itself which we cannot get across... Genuine cognitive contact with an object surely entails that something of how that object is perceived is down to its character”; and if the noumenal/phenomenal distinction is total, then any true beliefs we might have about “the sacred as it appears and as it is defined by my culture do not carry over into true beliefs about the sacred itself” (Byrne 1995: 37,39,38 – emphasis in original).

These are pertinent points, and here I diverge from Hick’s line that we can infer nothing about “the Real-in-itself”. The inaccessibility of a referent does not automatically entail our being able to know nothing about it, even though all such knowledge is, as critical realism recognizes, provisional and corrige...
In the Flatland analogy, the three-dimensional nature of the dowelling rod does partially determine what particular geometric shapes are perceived by Flatlanders, since only a limited set of projections onto the 2D world are possible; and although Flatlanders cannot apprehend the dowelling rod directly, their pluralist theologians (dowellogians?) could at least infer that the postulated Real Dowelling possesses the characteristics of being able to project (or be projected) into their world as a circle or rectangle, but not as, say, a pentagon or an outline of the Mona Lisa. No matter how we 3D super-beings manipulate a piece of ordinary dowelling, we can’t get it to project a pentagon or an outline of the Mona Lisa onto a 2D surface. Analogously, the nature of “the-Real-in-itself” constrains the types of ways in which “the Real-as-experienced” manifests in different traditions. Pluralism does not necessitate the impossibility of saying anything about “the Real-in-itself”.

Byrne, in his discussion of what we can know about the Real, comes at the matter from a different direction involving an exploration of the use of metaphor, such that what Hick takes to be different phenomena arising from the same transcendent noumenon can be seen as so many different metaphors for the Real. The fact that religious traditions offer conflicting accounts of the transcendent (the Real) can be accommodated in metaphor theory which allows that “conflicting metaphors used of the same thing can still have referential and cognitive worth with regard to it” (Byrne 1995: 153) though not all metaphors are successful – an example (not Byrne’s) is that the apparently conflicting descriptions of atoms as being miniature billiard balls and miniature solar systems are each useful in different contexts for conveying different atomic properties, whereas the plum pudding metaphor of atomic structure proposed by J. J. Thompson proved a cognitive and descriptive failure (Sukys 1999). Applying the possibility of successful and unsuccessful metaphors to the current enquiry, “[i]f we admit… successful metaphorical statements have cognitive consequences, then surely we can admit that a limited number of positive descriptions of the transcendent can be built up through reflection on human religious experience” (Byrne 1995: 150).

I am taking it, therefore, that “the Real” is not necessarily as unknowable as pluralism sometimes appears to require, though any knowledge we might have of it would probably be, to use Christian terminology, like seeing something “through a glass darkly” (1 Cor 13:12).
3: isn’t a soteriological criterion inappropriate?

Since the Axial religious traditions are concerned with the unsatisfactoriness of human existence, and offer a path to a “limitlessly better possibility” (Hick 1989, *passim*), pluralism offers a soteriological criterion to judge among them; but as far as our limited, fallible human judgement can determine all religious traditions would appear to offer potentially equally valid ways to enable “the transformation of human existence from self-centredness to Reality-centredness” (Hick 1989: 36). Arguments have been advanced that the soteriological criterion is inappropriate, since it entails lumping together concepts from the different religions such as “salvation”, “liberation”, “enlightenment” and “fulfillment”. Whereas in Christian terminology, “salvation” involves “repentance” and “belief in Christ” and so forth, for Buddhism “enlightenment” entails grasping the four noble truths and following the eightfold way: the two concepts (salvation and enlightenment) do not map onto each other, and to refer to both as a turning from self-centredness to Reality-centredness “is in danger of removing any substantial content to the notion of salvation and the different religious truth-claims, by collapsing and assimilating them together as ‘Reality-centred’” (D’Costa 1986: 43).

Agreed, Christian “salvation” does not map directly and coterminously onto Buddhist “enlightenment”, and it would do a disservice to both traditions to claim it does – Jantzen’s criticism, referred to above, of Rahner’s “anonymous Christian” concept is also relevant here. But at a more general level, all the traditions offer in some way or another an explanation for the unsatisfactoriness of the human condition and a path away from it towards s-e-l-f. Pluralism is not claiming that all the religions are in fact offering the same account of s-e-l-f, “merely that all religions must be alike in offering some means of relating salvifically to the sacred” (Byrne 1995: 85 – emphasis in original).

A related issue is that pluralism is often understood to claim that because (from a non-confessional standpoint) we cannot know for certain which (if any) religious tradition offers the most efficacious route to s-e-l-f, all routes must be equally valid, a stance termed “hard pluralism” (Ward 1990: 28), compared to “soft pluralism” which simply maintains that “the Real can manifest in many traditions, and humans can respond to it appropriately in them” (1990: 37), without claiming equally validity for them all. Hard pluralism, Ward contends, is
incoherent because it claims that “all (or at least all ‘great’) traditions are equally valid paths to salvation and equally authentic modes of experience of a Real; which is a completely unknowable postulate of the religious life” (1990: 37).

This is pertinent and, as Hick himself acknowledges, it is self-evident that “not all religious persons, practices and beliefs are of equal value” (Hick 1989: 299). His stance, and that of the current enquiry, is that it is certainly possible for one tradition to be more effective and more valid than the others, but we can’t tell for sure which it is, hence the pluralist is someone “who... doubts whether the detailed dogmatics of any particular religion can be known with sufficient certainty to enable such a faith to be the means of interpreting human religion” (Byrne 1995: 6).

As far as the current enquiry is concerned, however, the salvific efficacy of different religious traditions is not a critical factor. What is necessary for the sensus transcendentis model which is being developed is that the various religious traditions, both pre-Axial and Axial, represent differing ways of being open to and of responding to the Real, to Ultimate Reality. The model does not require all the different manifestations of openness to the Real being equally effective at aligning the individual – or the community – to the Real.

4: Not all religions necessarily have the same referent.

Unlike the soteriological issue, this objection is of particular relevance to the current enquiry. As pointed out earlier, evolutionary psychology concerns itself with human psychological universals; and the model being developed involves our being endowed with, as a universal possession, a mental module that is open to and responds to the Real or the Transcendent. But how does the pluralist know that the various referents which different religious traditions speak of (the Tao, God the Father, Allah, Nirvana and so forth) are ultimately manifestations (“as experienced”) of the same referent? There is one physical reality of which “intuitive physics” (Pinker 2002) is the mental correlate (see chapter 7), but is there just the one “Real”, the reality of which the proposed sensus transcendentis could be a mental module correlate? Pluralism maintains that the many personae and impersonae of religious traditions are different manifestations of the same “Real-in-itself”, but how do we know that they do have the same ultimate referent, rather than there being a manifold of referents? When a Hindu or a Sikh prays to God, “how can we [i.e. Christians] know
that in his intention it is the same God we worship?” (Pannenberg 1990: 103), and of course in turn the Hindu and the Sikh can, *mutatis mutandis*, enquire the same of the Christian. And, also of course, the (say) fundamentalist Christian and the (say) liberal Christian could ask the same of each other – is Calvin’s God, with his doctrine of double-predestination (Calvin 1962 [1536]), the same as that of former Bishop of Durham David Jenkins whose views on the virgin birth and the resurrection outraged traditionalists (Jenkins 2002)?

Pannenberg’s question is, in the light of these examples, easily answered by acknowledging that we can’t know. Logically it may indeed be possible that, instead of one single ultimate reality which we can term the Real, there is a whole manifold of noumenal Realss – but there is no way (at least currently) of distinguishing between the two cases. The notion of a unique “Real-in-itself” is simply a necessary postulate “if from a religious point of view we are trying to think... of the simplest hypothesis to account for the plurality of forms of religious experience and thought” (Hick 1989: 248). There is indeed no guarantee that all religions have the same referent, but again, *that is what is being postulated to account for the undeniable fact of there being a plurality of religious traditions.* The principle of parsimony, aka Occam’s razor, that “entities are not be multiplied beyond necessity” (Flew 1979: 236), is being wielded.

Byrne, exploring the question of reference at some length, considers that although the differences between religions are actual, not illusory, the pluralist thesis is that such divergences “do not count decisively when reference is judged” (Byrne 1995: 33 – emphasis in original), there being problems with the descriptive theory of reference since differing descriptions, even contradictory descriptions, do not necessarily mean that different referents are involved. Reference can still be valid even if a particular description is actually incorrect (his example is of referring to someone as the person holding a glass of whisky when in fact it’s a glass of coke – the incorrect description still refers to the person in question). So although the possibility of there being multiple referents cannot be logically or empirically disproved, the fact that different traditions offer differing descriptions of their referent does not entail there being a multiplicity of referents. Such a multiplicity is an unnecessary postulate, and for the purposes of this enquiry will receive no more attention.
5. Isn’t pluralism just another form of exclusivism?

A former proponent of the “exclusivism, inclusivism, pluralism” typology has subsequently sought to deconstruct it, claiming in particular that pluralism is in effect “yet another party which invites the disputants actually to leave their parties and join the pluralist one... [of] liberal modernity” (D’Costa 2000: 20), and that whichever religious tradition they come from “all pluralists are exclusivists” (2000: 83). That is, he maintains pluralists of every stripe have set up a belief system which belies its name in being as exclusive as any other belief system, its proponents maintaining that they are right and non-pluralists are wrong. This possibility of a self-undermining incoherence could of course be problematic for the version of pluralism this enquiry has adopted, were it not for the fact that, although D’Costa puts all three stances on a spectrum with pluralism and exclusivism at the two extremes and inclusivism in the middle (2000: 21), the three positions are of logically different types. Exclusivism and inclusivism are confessional stances, whereas pluralism is non-confessional, it is a philosophical hypothesis offering “the best available explanation... of the data of the history of religions. Pluralism is... a meta-theory” (Hick 1997: 163). D’Costa finds this distinction between pluralism and the other two stances “highly questionable” on the grounds that pluralism itself is “a philosophical faith with many epistemological, ontological and ethical presuppositions undergirding it” (2000: 46), that is, it is another form of confessionalism. It confesses “liberal modernity”.

Clearly D’Costa is right in that every philosophical, ethical, religious, theological, scientific, metaphysical, mathematical (etc. etc.) system has its assumptions and axioms, its “many epistemological, ontological and ethical presuppositions undergirding it”, but the fact that pluralism cannot escape the necessity for these does not invalidate its being meta- to other stances. Where exclusivism says that “path P is the only way to reach destination Z, and there are no other paths to Z”; and inclusivism says that “path P is the only way to reach destination Z, but there are other paths (Q, R, S & T) heading towards Z which get there provided at some stage they meet up with P”; pluralism asks “how come there are so many paths all seemingly heading towards Z? Maybe P, Q, R, S & T all reach Z eventually, independently of each other”, and offers an explanation for the multiplicity of paths. Pluralism, in other words, differs from exclusivism and inclusivism by not offering yet another path to Z, but points out
that, as far as one can tell, all, or most, of the available paths appear to lead to Z. It is a meta-theory because it is commenting on the theories that only P leads to Z (exclusivism) or that Q, R, S & T head towards Z provided they join up with P (inclusivism), but it does not offer another theory about how to get to Z. Since pluralism makes no claim that you have to be a pluralist to get to Z, it is not the exclusive stance that D’Costa claims it to be, and rather than pluralism inviting the disputants “to leave their parties and join the pluralist one” (D’Costa 2000: 20), it is content for “the disputants” to remain on their respective paths, whilst asking them to recognize the validity of other paths. To claim, as D’Costa does, that pluralism collapses into exclusivism, fails to do justice to the particular insights that pluralism offers.

**Conclusion**

Religious pluralism provides a particular understanding of the wide religious diversity we see in the world and throughout human history (and, as far as can be told, pre-history too) by maintaining that Ultimate Reality – “the Real” – is not experienced directly “in itself” but as mediated through constructs and categories of thought that differ from culture to culture, such that in some traditions “the Real-as-experienced” is theistic in form, and in other traditions it is non-theistic. Both theistic and non-theistic experiences, and (within these two sub-divisions) different forms of theism and non-theism are therefore all valid apprehensions of the Real.9

This provides the human universal to the understanding of which evolutionary psychology can make a contribution, for although neither theism nor non-theism can be claimed as denoting a cultural human universal, the capacity to be open to the Real, however it is actually manifested in experience, can be posited as a human psychological universal. Such a human psychological universal transcending culture would underlie the specific, culturally shaped experiences known as religious experience or, in my terminology, Roses.

The possibility of there being a human universal of being open to “the Real-in-itself” is not a new idea. Christian theologians in particular (but not exclusively) have over the centuries referred to an innate human capacity for being

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9 See appendix 4 for a more light-hearted view of religious pluralism.
aware of, and responding to, God. The best known term for this, coined by John Calvin, is the *Sensus Divinitatis*, and is the topic of the next chapter.
Chapter 5: Of the *sensus divinitatis*

Introduction

The focus of this chapter is Reformed theologian Alvin Plantinga’s version of the *sensus divinitatis* (Plantinga 2000), purportedly an innate human faculty whereby we gain knowledge of God. Plantinga has developed his model based on comments made by Thomas Aquinas and John Calvin, and given that he not only is a Christian exclusivist (Plantinga 1995), but also argues against naturalism in general and evolutionary theory in particular as offering a coherent account of our rational faculties and why we may depend on them (Plantinga 1993b), it might seem perverse for the current enquiry to draw upon his thinking. However, I will be arguing in due course that a modified version of his model of the *sensus divinitatis* can provide a crucial link between spirituality (particularly the “vertical” component) and evolutionary theory. The modifications I propose to make take into account not only the pluralist contention that non-theistic construals of the transcendent Real are as valid as theistic construals, but also the insights offered by evolutionary theory into human nature and our cognitive architecture.

There are numerous historical sources for the idea that we have an inbuilt capacity or faculty for an awareness of God (Holland 2007: 765 n2). Cicero praised Epicurus for perceiving “the existence of the gods on the impression which nature herself hath made on the minds of all men”, and he infers that, “since it is the constant and universal opinion of mankind, independent of education, custom, or law, that there are gods, it must necessarily follow that this knowledge is implanted in our minds, or rather is innate in us. That to which there is a general agreement through nature must infallibly be true; therefore it must be allowed that there are gods” (Cicero 1829: 26, 27).

Cicero’s logic can certainly be challenged, since a universal belief in something is not evidence for its truth (it could be a universal *false* belief); nevertheless, his argument that nature has “implanted” in humankind an idea of the gods is an early counter to “blank slate” models of human nature whereby the human mind is believed to be empty or blank until experience, and experience alone, gives it content (Pinker 2002).

Zoroaster used a term which “in effect postulates and designates a religious faculty in man” (Smith 1991 [1962]: 99); and Augustine of Hippo’s plaint that “Thou awakest us to delight in Thy praise; for Thou madest us for Thyself, and our heart is restless, until it repose in Thee” (Augustine 1907 [397]: 1) implies
the existence of an inbuilt ability or faculty of responding to God which needs activating or “awakening”.

Aquinas suggests in *Summa Theologiae* that “[t]o know in a general and confused way that God exists is implanted in us by nature” (quoted in Plantinga 2000: 170), and Calvin (1931 [1536]) uses the concept of innate knowledge of God derived from the operation of the *sensus divinitatis* as part of his argument that we humans cannot plead ignorance of God and his commandments as an excuse for our wrong-doing. We pick up on Aquinas and Calvin below.

Writing roughly a century after Calvin, Lord Herbert of Cherbury (regarded as the “father of deism”) argued that human beings are endowed with a religious sense that accounts for religion’s very existence (Preus 1987), and the 18th century New England divine Jonathan Edwards proposed a supra-physical “sense of the heart” which entails the perception not only of the fact of the “infinite excellency of God”, but also “a perception of meaning and value” (Hay 1987: 80). In the 20th and 21st centuries, Ernst Troeltsch refers to “the religious apriori within the human spirit – the innate orientation toward and the experience of the divine built into human nature” (Knitter 1985: 25); Rahner (as discussed in the previous chapter) referred to a “pre-reflective, pre-apprehension of God… which [he] calls ‘transcendental revelation’” (D’Costa 1986: 81); William Alston (1991) has developed the idea of “Mystical Perception” providing information about God which is on a par with knowledge of the external world provided by our sense perceptions; and Ian Markham in his critique of the “new atheists” refers throughout to the “spiritual sense” (Markham 2010: 4 and passim). But the name currently most associated with developing the idea of the *sensus divinitatis* is Alvin Plantinga, and to his ideas we now turn.

**Alvin Plantinga and the *sensus divinitatis***

The *sensus divinitatis* purportedly delivers not simply belief in but knowledge of God, so one of Plantinga’s necessary tasks is first to demonstrate how a belief can constitute knowledge. I believe many things, and I know many things (I believe), but although what I believe and what I know are (probably) overlapping, they are not automatically coterminous sets. I know I am Richard Skinner. I know I like eating bananas. I know Mount Everest is about 29,000 feet high… or do I? I certainly believe Mount Everest to be about 29,000 feet high, but do I know it? Well, I remember reading years ago that it had been
measured at exactly 29,000 feet but because that sounded too neat they had added on a couple of feet (heavy snowfall?), and I have checked Everest’s reported height in an atlas, on-line in Wikipedia, and in my copy of *Curious Facts for Curious Boys* which all pretty much concur, give or take a blizzard. So I am relying on memory and the testimony of others. But still, despite consulting these sources, can I truly claim to know the height of Everest? Is it knowledge that I have, or just a firm belief? Suppose tomorrow a reputable geographer announces that new measurements and calculations have revealed Everest to have been over 31,000 feet high for many centuries? Suppose over the following weeks all other reputable earth scientists, having examined the evidence, announce their support for this revised information – then my belief that Everest is 29,000 feet high vanishes, so it can’t have been knowledge in the first place. What I had had knowledge of, maybe, was that the official consensus had been that Everest was 29,000 feet high, but that consensus was (it now appears) wrong. Their belief was wrong, and therefore so was mine. I (and they) had had a belief, but it wasn’t knowledge.

This might seem an arcane point, typical of philosophers who would starve if they had to decide before eating a meal that they know rather than simply believe (or hope) that the (alleged) eggs and (putative) bacon in front of them are nutritious not poisonous, but it is important when it comes to the contentious area of belief and knowledge concerning God or, more broadly, the Real. When, if ever, does theistic belief count as knowledge of God? When, if ever, does belief in, or about, the Real, count as knowledge of a transcendent domain (realm, dimension, aspect of our total environment)?

In tackling this, two key terms in Plantinga’s epistemology need addressing, namely “proper function” and “warrant” (Plantinga 1993b), both necessary for an understanding of whether a particular a belief arising through the operation of a cognitive faculty or module (including the sensus divinitatis) can constitute actual knowledge. Although Plantinga (1993a, 1993b, 2000) writes at length about them, here only a brief outline is possible in which much of Plantinga’s subtlety is lost, but it will be sufficient for the purposes of the current enquiry.

**Proper function**

For the formation and deliverance of beliefs, we need to have “epistemic faculties that function properly… A belief has warrant for you only if your
cognitive apparatus is functioning properly, working the way it ought to work, in producing and sustaining it" (Plantinga 1993b: 4). “Proper function” refers to the operation of a mechanism (or indeed a biological organ) which is carrying out the function for which it is designed. The proper function of car brakes is to slow the car when the brake-pedal is depressed; the proper function of a clock is to depict accurately the passage of time; and so on – and it seems pretty well self-evident that the proper function of an artefact is simply that which the artefact is designed to do, and similarly it is easy to specify, at least roughly, when it is malfunctioning, namely when it is not performing the function for which it is designed.

We also speak quite happily of the function of biological organs: the function of the heart is to pump blood round the body, the (or a) function of the kidneys is to keep the blood clean and chemically balanced; and “the fact that these organs are supposed to do these things, the fact that they have their functions, is quite independent of what we think they are supposed to do. Biologists discovered these functions; they didn’t invent or assign them” (Dretske, quoted in Plantinga 1993b: 5).

However, the notion of proper function applied to a biological organism is more problematic. It is hard to argue, for example, that an oak tree in itself has a proper function. It just is. Yes, it might function within the entire ecosystem to, say, help maintain the oxygen in the atmosphere, but it is pushing it to claim that helping maintain the oxygen balance is its proper function, that for which it was designed. As Plantinga puts it: “What is it… for a natural organism – a tree, for example, or a horse – to be in good working order, to be functioning properly, to be functioning the way it ought to, to be functioning in accord with its design plan? Isn’t a trout decomposing in a hill of corn functioning just as properly, as far as nature herself goes, as one happily swimming around chasing minnows?” (Plantinga 1993b: 195 – emphasis in original).

Plantinga is making the counter-intuitive point that in the absence of what he calls a “design plan” one cannot talk about something having a “proper function”, for a proper function of something is the function specified for it according to the design plan. And although we might consider that a decomposing trout is not functioning properly as a trout, it is, as it were, “functioning” perfectly well in its capacity as a dead trout – it is decomposing according to the natural laws that govern the fate of dead organisms in general. Decompose is
what – it could be argued – dead organisms are supposed to do. This argument cannot plausibly be applied to artefacts. It doesn’t work to say that a broken car brake is functioning perfectly well as a broken brake, for that is to miss the point that the brake was designed to slow the car, and failing-to-slow-the-car is not part of the design specification of car brakes, there is no design plan for a “broken brake” (cynical built-in obsolescence aside).

Although artefacts such as car brakes do have a design plan, it is contentious to claim that a biological organism has a design plan – this is the area of “special creation” of the species; and indeed the so-called “argument from design” supporting belief in the existence of a God received a severe blow from Darwinism, with God as the designer of organisms being ousted by the “blind watchmaker” of natural selection (Dawkins 1986) which works to no design plan by which the functioning of the organism can be judged. Hence, Plantinga’s argument goes, there is no “proper function” of organisms if one takes a naturalistic stance, whereas a theistic stance which entails a creator God who has divine purposes in mind for his creatures – and hence, as it were “design plans” for them – supports the concept of “proper function” being applicable to natural entities as well as artefacts. From a theistic perspective, the proper functioning of (say) a human being would be (in general terms) that human being functioning as God intended.

This argument that “proper function” cannot be applied to biological organisms if one adopts a naturalistic stance is part of Plantinga’s argument against naturalism and in favour of theism; but for the purposes of the current enquiry it is not necessary to expand on this here. All we need for now is the concept of the “proper function” of some entity being its functioning according to its design. The question of whether or not an organism can be said to have a proper function when it is viewed through the naturalistic lens of evolutionary theory is important, and will be further considered later (p 222), but the relevance now is that the “proper function” of our cognitive faculties is an essential element in deciding whether or not our beliefs have warrant.

**Warrant**

“Warrant” is Plantinga’s answer to the epistemological questions: “what is it that distinguishes knowledge from mere true belief? What further quality or quantity must a true belief have, if it is to constitute knowledge?” (Plantinga 2000: 153).
On the face of it, these are odd questions, but it is fairly easy to dream up scenarios in which someone can have a belief that happens to be true, but which cannot really be deemed knowledge because the grounds for that belief are suspect or downright illegitimate. Plantinga gives the example of an optimistic mountaineer who believes the weather tomorrow will be good for climbing despite terrible forecasts. As it turns out, the forecasters are wrong and the weather is ideal, but although the mountaineer’s belief that the weather would be good was true “it didn’t constitute knowledge” (Plantinga 2000: 153) – it was simply optimism that struck lucky. However, this example might be considered unconvincing since someone “believing” the weather will be good tomorrow is not claiming that belief to be definite knowledge – it is an expression of hope or expectation. A clearer example would be my belief that the summit of Ben Nevis is roughly 4409 feet above sea level, a belief based on your say-so (without my referring to other sources of information, not even *Curious Facts for Curious Boys*), and which is a justified belief because I know you are extremely knowledgeable, you have never lied to me, and I am not aware of any reason why you should suddenly start lying, so I am justified in accepting your statement. But unknown to me mountain heights is your one area of ignorance, and not wishing to admit your ignorance you pluck a figure out of a book of random numbers, alighting on the right answer by sheer luck; so my consequent belief about the height of Ben Nevis happens to be a true belief, but was acquired by means that denies it the status of knowledge.

Gettier (1963) famously proposed other equally (or even more) implausible but logically possible scenarios, but their implausibility does not invalidate the conclusion that it is possible for someone to hold a true belief, and be justified in holding that belief, but under circumstances that deny that belief the status of knowledge.

What is needed to convert justified true belief into actual knowledge is, according to Plantinga, warrant, namely “that further quality or quantity (perhaps it comes in degrees), whatever precisely it may be, enough of which distinguishes knowledge from mere true belief” (Plantinga 2000: 153), and for a true belief to have warrant, and thus to count as knowledge, Plantinga argues that a number of conditions have to be satisfied.

First, one’s cognitive faculty, through the operation of which one has come to have this belief, needs to be “functioning properly, subject to no disorder or
dysfunction” (Plantinga 2000: 153 – emphasis added), not impaired by, say, too much alcohol or organic brain disease. Hence the belief of the man who mistook his wife for a hat (Sacks 1985) was unwarranted because his cognitive faculties, disturbed by a neurological disorder, were not carrying out their proper function.

Second, there has to be a design plan for the cognitive faculty – that is, a way in which it is supposed to work so that, by comparison with which, it is possible to determine whether or not the faculty is indeed functioning properly: “[h]uman beings and their organs are so constructed that there is a way they should work, a way they are supposed to work, a way they work when they work right; this is the way they work when there is no malfunction” (Plantinga 2000: 154 – emphasis in original). Briefly, then, the cognitive “organ” or faculty by which a particular belief comes into existence needs to be working as it was designed (“by God or evolution” [2000: 155]) to work.

Third, the design plan for the cognitive faculty has to be “a good one, one that is successfully aimed at truth” (2000: 156 – emphasis in original) – which may seem self-evident, but it is logically possible for the cognitive faculty to be aimed not at truth but at usefulness. There are cases “where the design plan is not aimed at the production of true… beliefs but at the production of beliefs with some other virtue” (1993b: 16), such as someone whose belief that they will recover from a disease is not justified by the statistics, but which actually functions to improve their survival chances, hence the purpose of the cognitive faculty under those circumstances “is not to produce true beliefs. [It is] instead aimed at something else: survival” (1993b: 13). Thus our cognitive faculties may be functioning perfectly well according to their design plan, yet deceive us. This distinction between a truth-directed faculty and a usefulness-directed faculty will arise again later on in connection with evolution, in which the processes of natural selection, it can be cogently argued, operate on what works rather than what is true (Ruse 2006), a distinction Plantinga uses to argue against naturalism – “natural selection isn’t interested in true belief, but in adaptive behavior” (Plantinga 2000: 231).

Fourth, the environment needs to be appropriate for the functioning of the cognitive faculty in question, i.e. that in which it has been designed to operate – if, for instance, one is subjected to extremes of temperature, as on a long trek across the Arctic, one’s cognitive faculties will be deleteriously affected (Geiger
2009), and beliefs we acquire under such circumstances (such that there is a mysterious extra person in the party) lack warrant because the cognitive faculties are trying to work outside their designed-for range.

In summary, according to Plantinga a belief has warrant for someone “only if that belief is produced in [them] by cognitive faculties functioning properly (subject to no dysfunction) in a cognitive environment that is appropriate for [their] kind of cognitive faculties, according to a design plan that is successfully aimed at truth” (Plantinga 2000: 156). It should be noted that, curiously, even a false belief can have warrant if it “is produced… by cognitive faculties successfully aimed at truth and functioning properly in an appropriate environment” (1993b: 55); but if it is a true belief that has warrant, then it constitutes knowledge.

The sensus divinitatis: Aquinas/Calvin model

Both proper function and warrant are necessary factors in the model of the sensus divinitatis faculty as Plantinga develops it. This faculty, according to him, is part of our “epistemic establishment” (1993b: 48), that set of cognitive modules we have which produces beliefs on a wide range of topics such as “[o]ur everyday external environment, the thoughts of others, our own internal lives… the past, mathematics and logic, what is probable and improbable, what is necessary and possible, beauty, right and wrong, our relationship to God, and a host of other topics” (1993b: 42). The modules involved include those pertaining to “self-knowledge, memory, perception, knowledge of other persons, testimony, a priori knowledge, induction, and probability” (1993b: 48), each of which is responsible for delivering beliefs – my belief, for instance, that the Battle of Hastings was in 1066 comes through the testimony of others (I cannot know or have beliefs about such an historical event through direct participation) and memory (of school history lessons and subsequent reading); whereas my beliefs concerning my own current state of being (thirsty but alert) are based on direct self-awareness; and so forth. Plantinga is proposing that the sensus divinitatis is another cognitive faculty which is responsible for delivering beliefs concerning God.

Plantinga’s proposal is that the sensus divinitatis has a proper function which is indeed the apprehension of God and the deliverance of warranted beliefs about God; it delivers not simply an awareness of God, but what
Plantinga considers to be *basic beliefs* about God – true beliefs which are justified and warranted, and hence constitute knowledge of God. However, this faculty is prone to malfunction – does not fulfil its proper function – because of the consequences of sin.

Since he is suggesting a model involving the *sensus divinitatis* as a human cognitive faculty which delivers theistic *beliefs*, it is important for him to determine the criteria which obtain for those beliefs to count as *knowledge*; and since the current enquiry will be developing an alternative to the *sensus divinitatis*, these criteria are significant in that context too. For current purposes I am accepting Plantinga’s starting position; later, I will offer modifications based on a pluralist, not theist, presupposition.

Plantinga begins with comments found in the writings both of Thomas Aquinas and John Calvin who, though otherwise unlikely bed-fellows, “concur on the claim that there is a kind of natural knowledge of God” (Plantinga 2000: 170). Taking Aquinas’ comment that “[t]o know in a general and confused way that God exists is implanted in us by nature” (2000: 170), Calvin “expands this theme into a suggestion as to the way in which beliefs about God can have warrant; he has a suggestion as to the nature of the faculty or mechanism whereby we acquire true beliefs about God” (2000: 170). It is this “faculty or mechanism” that is the focus of my attention.

Plantinga identifies Calvin’s basic claim as being that “there is a sort of instinct, a natural human tendency, a disposition, a nisus to form beliefs about God under a variety of conditions and in a variety of situations” (2000: 171). This claim is made explicit in Calvin’s commentary on a biblical passage from Paul’s letter to the Romans. Paul writes:

“For the wrath of God is revealed from heaven against all ungodliness and wickedness of men who by their wickedness suppress the truth. For what can be known about God is plain to them, because God has shown it to them. Ever since the creation of the world his invisible nature, namely his eternal power and deity, has been clearly perceived in the things that have been made. So they are without excuse...” (Romans 1: 18-20).

And in his commentary, Calvin writes:

“By saying, that God has made it manifest, he means, that man was created to be a spectator of this formed world, and that eyes were given him, that he might, by looking on so beautiful a picture, be led up to the Author himself” (quoted Plantinga 2000: 171).
This view Calvin later developed:

“There is within the human mind, and indeed by natural instinct, an awareness of divinity [sensus divinitatis]. This we take to be beyond controversy. To prevent anyone from taking refuge in the pretense of ignorance, God himself has implanted in all men a certain understanding of his divine majesty... Since, therefore, men one and all perceive that there is a God and that he is their maker, they are condemned by their own testimony because they have failed to honor him and to consecrate their lives to his will... there is, as the eminent pagan [i.e. Cicero] says, no nation so barbarous, no people so savage, that they have not a deep seated conviction that there is a God... Therefore, since from the beginning of the world there has been no region, no city, in short, no household, that could do without religion, there lies in this a tacit confession of a sense of deity inscribed in the hearts of all” (quoted in Plantinga 2000: 171).

“The basic idea,” Plantinga sums up,

“is that there is a kind of faculty or cognitive mechanism, what Calvin calls a sensus divinitatis or sense of divinity, which in a wide variety of circumstances produces in us beliefs about God. These circumstances... trigger the disposition to form the beliefs in question; they form the occasion on which those beliefs arise. Under these circumstances, we develop or form theistic beliefs – or, rather, these beliefs are formed in us; in the typical case we don’t consciously choose to have those beliefs. Instead, we find ourselves with them, just as we find ourselves with perceptual and memory beliefs. (You don’t and can’t simply decide to have this belief, thereby acquiring it.)” (2000: 172-3 – emphasis in original).

Plantinga’s last point is particularly important; he is asserting (correctly, I believe) that perceptual and memory beliefs are not the result of deliberate choice; they arise spontaneously. I cannot choose to believe that I am looking at a tree when my visual sense tells me it’s a house; I cannot choose to believe that I had cornflakes for breakfast when my memory tells me I had toast. Similarly, Plantinga is contending, under the right circumstances the operation of the sensus divinitatis results in our having a belief about God that we do not actively choose but which is presented to us (this is much the same point James is arguing in his Will to Believe [1917])

The awareness of God “is natural, widespread, and not easy to forget, ignore or destroy” (2000: 173), a suggestion Plantinga illustrates by remarking that “[s]eventy years of determined but unsuccessful Marxist efforts to uproot Christianity in the former Soviet Union tend to confirm this claim” (2000: 173);
though I note, in keeping with my pluralist advocacy, that much the same can be claimed for Buddhism in occupied Tibet.

Although the model that Plantinga is developing entails the *sensus divinitatis* as an innate faculty, it is not being suggested that actual knowledge of God *per se* is innate, more that “[t]he capacity for such knowledge is indeed innate, like the capacity for arithmetical knowledge” (2000: 173), and just as it requires a degree of maturity for the capacity for arithmetical knowledge to acquire actual content of arithmetical knowledge, so too “the development of the *sensus divinitatis* requires a certain maturity (although it is often manifested by very young children)” (2000: 173). The manifestation by “very young children”, which has some empirical evidence (Kelemen 2004), will be addressed later.

Thus Plantinga is suggesting a model whereby there is a faculty for knowledge of God, the *sensus divinitatis*, which: a) is innate; b) is hard to eradicate; c) is a capacity for knowledge of God rather than propositional knowledge itself; d) does not emerge fully formed but requires maturation; and e) when it is functioning properly it forms theistic beliefs “in response to the sorts of conditions or stimuli that trigger the working of this sense of divinity” (Plantinga 2000: 173).

What though are these circumstances which trigger beliefs about God? It would appear that Calvin drew upon the argument from design, contending as he does that God “revealed himself and daily discloses himself in the whole workmanship of the universe” (2000: 174), which Plantinga glosses as “the marvellous, impressive beauty of the night sky; the timeless crash and roar of the surf that resonates deep within us; the majestic grandeur of the mountains… the ancient, brooding presence of the Australian outback; the thunder of a great waterfall” (2000: 174). And lest we are so carried away by the beauties of nature we take them to be the lone revelation of the existence of God, Plantinga adds other circumstances which (he contends) also trigger the *sensus divinitatis*, such as “an awareness of divine disapproval upon having done something wrong, or cheap, and something like a perception of divine forgiveness upon confession and repentance” (2000: 174). The *sensus divinitatis*, then, is a belief-making mechanism which “resembles other belief-producing faculties or mechanisms” (2000: 174), and operates in a range of circumstances to bring knowledge of God (though I note that no mention is
made of the cruel side of creation, “evolutionary evil” and the like [Southgate 2008], which takes some of the gloss off the beauties-of-nature rhapsodising).

There are further features of Plantinga’s model to note. First, there is basicity. A basic belief is one that is not derived from other more basic propositions but which itself can become the basis for further inferences. Such beliefs can be those derived from sense perceptions (such as knowing that I am looking at a tree – this knowledge is not the outcome of a process of inference from some even more basic perception such as it seeming to me that I am being appeared to by a tree-like entity, requiring me to infer that I indeed am being so appeared to); or memory (I remember having cornflakes for breakfast, I don’t infer it from other perceptions such as seeing cornflakey crumbs on my jacket); and so forth. According to Plantinga’s model, the sensus divinitatis also delivers basic beliefs about God – they are not arrived at by a process of inference from other perceptions (this is similar to Alston’s argument concerning “mystical perception” [Alston 1991] as a analogue of sense perception). He gives several examples, such as seeing the night sky or being in the Australian outback, and becoming aware of belief that there is a God, but that belief is not inferred from perceiving the sky or the outback, “it is rather that, upon the perception of the night sky or the mountain vista or the tiny flower these beliefs just arise within us. They are occasioned by the circumstances; they are not conclusions from them” (Plantinga 2000: 175). Likewise, he considers that the experience of guilt also gives rise to a belief concerning God, a belief that is not the end result of, say, syllogistic reasoning, but a belief which rises up naturally: “I don’t take my guilt as evidence for the existence of God, or for the proposition that he is displeased with me. It is rather that in the circumstances – the circumstances of my clearly seeing my guilt – I simply find myself with the belief that God is disapproving or disappointed” (2000: 175 – emphasis in original).

A second feature of the model is that of what he terms “proper basicity with respect to justification” (2000: 177), by which he means that theist belief arising from the operation of the sensus divinitatis not only is basic but also is justified in that the individual “is within his epistemic rights, is not irresponsible, is violating no epistemic or other duties in holding that belief in that way [i.e. by means of the sensus divinitatis]” (2000: 178). A belief is justified, in Plantinga’s understanding, if the individual holding it has considered contrary evidence and arguments to the best of his ability rather than just blindly accepting the belief,
and concludes that on balance it is true. Even if it turns out that a given belief (such that the sun circles the earth) is actually wrong, the falsity of the belief does not, in itself, render the belief unjustified if the individual concerned is not aware of the contrary evidence, is not refusing to consider contrary evidence, has no means of knowing that there is contrary evidence, or if they know and have considered the contrary evidence but it seems to them insufficient to counter the evidence they have in favour of their belief. It is Plantinga’s contention that the theistic belief delivered through the operation of the *sensus divinitatis* is justified in this understanding of the term.

Third, Plantinga contends that the model offers “proper basicality with respect to warrant” — theistic belief arising from the operation of the *sensus divinitatis* “can… be properly basic with respect to warrant” (2000: 178-9 – emphasis in original). That is to say, "[i]t isn’t just that the believer in God is within her epistemic rights in accepting theistic belief in the basic way… this belief can [also] have warrant for the person in question, warrant that is often sufficient for knowledge. The *sensus divinitatis* is a belief-producing faculty… that under the right conditions produces belief that isn’t evidentially based on other beliefs” (2000: 179). Since, in Plantinga’s scheme, the *sensus divinitatis* has been designed and created by God with the express purpose of delivering true theistic beliefs, then when it is carrying out its proper function, “it ordinarily does produce true beliefs about God” which constitute knowledge (2000: 179).

A fourth feature of the model concerns “natural knowledge of God”. The *sensus divinitatis* is posited as being part of our original cognitive equipment, our “fundamental epistemic establishment with which we have been created by God” (2000: 180), and hence the theistic beliefs it delivers constitutes natural knowledge of God. The *sensus divinitatis* is part of our original human nature. This is to contrast it with a process that Plantinga posits in an extended version of the model, one which is *not* part of our original human nature but (Plantinga contends) is God’s way of dealing with the sin-induced malfunctioning of the *sensus divinitatis*.

This latter process depends on Calvin’s notion of the “internal instigation of the Holy Spirit (IIHS)” which, the contention is, comes into play as part of “the divine response to human sin and the human predicament… [namely] the fallen condition into which humankind has precipitated itself” (2000: 180). God has had to instigate a process to rectify matters, and part of that process is the
working of the Holy Spirit within the individual. This IIHS would not have come about had it not been for sin, whereas the *sensus divinitatis*, Plantinga maintains, “would no doubt have been a part of our epistemic establishment even if humanity had not fallen into sin” (2000, 180).

Although this added extra falls outside the current enquiry, it helps highlight another aspect of Plantinga’s basic model. His description of the alleged IIHS, requiring it to be added at a later stage by God, rules it out as being a product of evolution; whereas the origin of the *sensus divinitatis* is not so clear cut. Following Aquinas and Calvin, Plantinga writes of the *sensus divinitatis* as being part of human nature (2000: 170 and *passim*); for his two mentors, living long before Darwin, evolutionary theory was not an option for explaining the existence of the *sensus divinitatis*. Plantinga’s own position on evolution however is captured in a remark on how, in his view, God brought about creation: “Perhaps it was by broadly evolutionary means, but then again perhaps not. At the moment, ‘perhaps not’ seems the better option” (quoted in Ruse 2006: 25), and part of the perhaps-not-ness is that, in his view, evolutionary theory is self-undermining: because “natural selection isn’t interested in *true belief* but in *adaptive behavior*” (Plantinga 2000: 221) our cognitive faculties are inherently unreliable, and so any arguments we come up with in support of evolutionary theory itself cannot be relied on. Plantinga believes that organisms “are created by a conscious agent (God) according to a design plan” (2000: 154), implying that God underwrites the truthfulness of the deliverances of the cognitive faculties (including the *sensus divinitatis*) when they are functioning properly according to their design plan.

Fifth, Plantinga discusses whether the operation of the *sensus divinitatis* and the knowledge of God to which it gives rise constitutes actual perception of God. Though acknowledging the case made by Alston (1991) that there can be and *is* perception of God, and that there are many instances of “indirect perception” of God whereby “the perception of God is mediated by the perception of something else” such as the night sky, Plantinga contends that there are nevertheless cases in which “God doesn’t seem actually *present*, or *presented*, even though various beliefs about him – that he is powerful, glorious, to be worshiped, obeyed, thanked – arise” (2000: 182 – emphasis in original). From this observation he concludes that the operation of the *sensus divinitatis* “doesn’t necessarily involve *perception* of God” (2000: 182 – emphasis added).
Nor, it would seem, does the knowledge of God obtained through the operation of the *sensus divinitatis* necessarily constitute religious experience. Certainly, “the operation of the *sensus divinitatis* will always involve the presence of experience of some kind or other... [a] common component is a sort of awe, a sense of the numinous; a sense of being in the presence of a being of overwhelming majesty and greatness...” (2000: 183). But whether the *sensus divinitatis* knowledge of God comes *by way of* religious experience (rather than being accompanied by, or actually constituting, what he terms a “doxastic experience” – that is, the experience of gaining a belief) he is agnostic, deciding that “we can be satisfied with an account of how (on the model) the *sensus divinitatis* does in fact work; given that account, the answer to the question whether this is by way of experience is unimportant and optional” (2000: 183-4).

If I have understood him correctly, Plantinga claims that although the acquisition of a belief (or knowledge) is an experience in its own right, the *operation* of the *sensus divinitatis* is not (or not necessarily) by means of experience. The situation is unclear, and I propose to leave it at that.

In summary then, we have a model in which God has endowed us with a cognitive faculty, the *sensus divinitatis*, which delivers theistic beliefs that, when the faculty is functioning properly (as God designed it to do) are warranted beliefs and constitute knowledge. This knowledge is “basic” knowledge, not derived, deduced, inferred or abducted from other beliefs. It is knowledge of God.

**Challenges and modifications**

Plantinga’s epistemological position can be and has been challenged. Swinburne, for example, argues that the proper functioning of an organ or faculty doesn’t require reference to what God or evolution purportedly designed the organ or faculty to do, but is simply “its functioning in ways (normal to the species) conducive to the survival, health, or flourishing of the organism in various respects including holding true beliefs” (Swinburne 2001: 204). Fales questions whether Plantinga has satisfactorily circumvented those epistemological problems involving implausible but logically possible scenarios in which we have unwittingly come to “know” something by ingeniously illegitimate means, claiming that “the Gettier bulldog still has a firm grip upon his ankle” (Fales 2003: 354); and in his discussion of Reformed epistemology Sudduth
draws out implications of Plantinga’s model that since the task of the *sensus divinitatis* is purportedly to deliver theistic beliefs, there is therefore “something incorrect, improper, or defective in holding theistic belief on the basis of theistic arguments”, which moreover suggests “that both theistic unbelief and non-basic theistic belief are indications of cognitive malfunction” – implications that Sudduth argues are too restrictive, for “surely it is plausible to suppose that people often do hold some of their theistic beliefs at least on the partial basis of evidential considerations” (Sudduth 2003: 312, 313).

It is, however, not necessary for present purposes to address such challenges to Plantinga’s general epistemological position, for this reason: the *sensus divinitatis* is offered by Plantinga as the description of a module or faculty that delivers beliefs, and as such it is (if it exists) part of our cognitive equipment along with other belief-delivering faculties such as perception and memory. The knowledge-status of any belief delivered by any of these other faculties is open to the same kinds of challenge (is it justified? warranted? true?) to which the deliverances of the *sensus divinitatis* can be subjected, and the *sensus divinitatis* does not have to be better at meeting those challenges than the other cognitive faculties for it still to count as a (plausible) cognitive faculty itself. Other belief-delivering faculties are known to be fallible, as with the problem in law courts where both perception and memory errors render eyewitness statements less than wholly reliable (Engelhardt 1999) – but this does not prevent our still considering them to be faculties that deliver beliefs upon which much of our putative knowledge is based. Gettier-type problems should perhaps encourage us to be cautious in according knowledge-status to our beliefs, because of the possibility that we have unwittingly acquired a given true belief by epistemically illegitimate means involving outrageous coincidence and luck – but that in itself does not invalidate the *sensus divinitatis* any more than it invalidates memory, perception or any of the other cognitive faculties.

Admittedly the challenges to Plantinga’s position do pose a problem for Plantinga himself, as he is seeking to use an extended version of the *sensus divinitatis* model to argue that specifically Christian beliefs (“trinity, incarnation, Christ’s resurrection, atonement, forgiveness of sins, salvation, regeneration, eternal life” [Plantinga 2000: 241] are warranted; but the aim of the current enquiry is far more modest – namely to argue that there exists a cognitive faculty by the operation of which *H. sapiens* has contact with, intimations of,
openness to, the Real – picking up, as it were, “signals of transcendence” (Berger 1971) – and that this faculty has evolutionary roots. This does not require such a faculty being any less fallible than memory, perception and the rest, so what I am taking from Plantinga is that such a cognitive faculty could plausibly exist and, as with other cognitive faculties, deliver beliefs that have warrant.

There are however two significant modifications to make to Plantinga’s model, precisely because he is arguing from a theistic (more specifically, Christian; even more specifically, Reformed) position, whereas I am advocating a pluralist position and offering a naturalistic account for the existence of the module or faculty in question. Since in the pluralist paradigm the term “God” simply refers to one of a range of possible manifestations of the Real as experienced (the personae), and that the Real is experienced non-theistically in some traditions (the impersonae), the term sensus divinitatis is not entirely appropriate. Admittedly, strictly speaking the term sensus divinitatis does not refer to God but to the divine, but nevertheless it is strongly associated with delivering theistic belief and hence is unsuitable to cover the experiences of the transcendent Real which fall in the impersonae category. Therefore I propose henceforth to use a term which will cover the range of personae and impersonae by which the transcendent Real is experienced, and have settled on the term “sensus transcendentis”.

I am also, it must be noted, not taking on board Plantinga’s suggestions concerning the additional “faculty” of the “Internal Instigation of the Holy Spirit” (IIHS) whereby the alleged malfunctioning of the sensus divinitatis allegedly brought on by alleged human sin are counteracted by the actions of the Holy Spirit. I am interested in, broadly speaking, the evolutionary roots of human nature, and by Plantinga’s own admission the IIHS (if indeed it, or something like it, actually exists) is not part of the original package of human nature; and what he considers to be the “noetic effects of sin” (that is, blindness to theistic truth) can be alternatively construed under the model I am developing as the consequences of the transcendent Real being mediated through different cultural categories of thought, as suggested by the pluralist paradigm. I am, therefore, sticking with the sensus transcendentis alone – which is pan-cultural, and not incorporating something (the IIHS) which is applicable to a single tradition. I am clearly, though, advocating a fully evolutionary view, not
requiring, as it were, God or some conscious agent to ensure that evolved
cognitive faculties deliver the truth.

**Conclusion**
The *sensus divinitatis* as proposed by Plantinga offers a template for the *sensus transcendentis* model which I am developing, with its possessing a
“proper function” in the delivering of beliefs which have warrant, but which is
susceptible to some form of malfunction.

Whereas the *sensus divinitatis* is said to be designed to deliver awareness
or knowledge of *God*, the *sensus transcendentis* has been shaped (I will con-
tend) by evolutionary processes to deliver awareness of the Real, analogous to
the way by which our other cognitive faculties (perception, memory and so
forth) have contact with other aspects of our total environment and deliver
beliefs about those aspects.

The previous discussion highlighting the universality of religious traditions
and the wide range of “Roses” identified by James (1902) and others are highly
suggestive, such that something along the lines of a *sensus transcendentis* is a
plausible hypothesis for explaining – or at least contributing to an explanation of
– these phenomena. But if the *sensus transcendentis* is a part of human nature,
how did it come into being? As frequently adumbrated, I will be drawing upon
evolutionary theory to answer this question; and that is the subject of Section II.
SECTION TWO:
EVOLUTIONARY MATTERS
Chapter 6: Of evolutionary theory

Introduction

The purpose of this chapter is to provide the context for an explication of evolutionary psychology which will, in due course, be a lens through which to look at spirituality. Biological evolution, gene-culture coevolution and the evolution of language are all briefly addressed, in preparation for focusing specifically on evolutionary psychology in the following chapter.

Evolutionary Theory

There are many fine accounts of the theory of evolution and its history (e.g. Dawkins 2009; Pallen 2009; Ridley 1993; Ruse 2006), and as there is neither space nor necessity to give a whole mass of details here, I will restrict myself to a very abbreviated account before focusing on human evolution.

In 1859 Charles Darwin published *On the Origin of Species by Means of Natural Selection*. He had been working on his theory for many years following his five year voyage (1831-36) as intellectual companion to Captain FitzRoy of the HMS Beagle, which was charting the coast of South America. Able to pursue his primary interest in natural history, Darwin made detailed observations of the birds and reptiles on the Galapagos islands, noting that despite clear similarities they differed not only from those on the mainland, but also from island to island (Rogers 2011). Becoming convinced on his return to England that the island forms were genuine species, he concluded that the idea of the fixity of species was untenable and that a process of “descent with modification” takes place, such that in this instance ancestors of the islands’ birds and reptiles, having come from the mainland, had spread and diversified on the islands. But although he well knew how animal and plant breeders improve their stock over the generations by selecting which organisms to breed from, the means by which nature could similarly select for change remained mysterious to him until famously he read Malthus’s (1973 [1798]) tract which argued that “state support of the poor only exacerbates problems, for population numbers always outstrip potential food supplies” (Ruse 2006: 15) – and this “struggle for existence”, Darwin realised, resulted in the mechanism of natural selection when allied with the vast reaches of time that geology increasingly disclosed (Lyell 1830-33).
The logic of natural selection is easy: in any population of organisms there is variation in phenotypic characteristics. Those individuals whose characteristics confer an advantage, however small, over other members of the population will, “owing to [their] particularly well-adapted combination of inheritable characters, give rise to the next generation” (Mayr 1993: 37), and those advantageous characteristics will spread throughout the population. Thus when it comes to fleeing from a predator, faster gazelles are at an advantage compared with slower gazelles, so (other things being equal) fleetness of foot will be selected for, and any genetic predisposition for such fleetness will spread through the ensuing generations. On the other hand, as Darwin observed, “we may feel sure that any variation in the least degree injurious would be rigidly destroyed. This preservation of favourable variations and the rejection of injurious variations, I call Natural Selection” (quoted in Ruse 2006: 16).

For the birds and reptiles that Darwin observed on the Galapagos islands, the ancestral founder populations will have faced environmental challenges (such as climate, potential sources of food, possible predators) different from the challenges faced by the mainland population, hence what constituted favourable variations being selected for in the island populations would have been different from what constituted favourable variations being selected for in the mainland populations; and as the generations passed, the island populations and the mainland populations diverged until, as Darwin recognised, they were species distinct from each other.

Tracing the above process forwards in time shows how one species can split into two or more daughter species, particularly if the populations in question become geographically separated (“allopatric speciation”) as with an island population and a mainland population; but tracing the process backwards in time illuminates the theory of common descent, namely that “every group of organisms [is] descended from a common ancestor, and… all groups of organisms, including animals, plants, and micro-organisms, ultimately go back to a single origin of life” (Mayr 1993: 36). The further back in time we go, the more that ancestral species converge with each other such that, for example, the chimpanzee lineage and the hominid lineage (which gave rise eventually to *H. sapiens*) are found to have split about six million years ago (Mithen 2003), and “the common ancestor of people and budgerigars lived about 310 million years ago” (Dawkins 2009: 254).
Darwin’s “descent with modification” depends upon variation of characteristics within a population, and on heritability – the passing on of a characteristic from one generation to the next; but in the early years a major problem for Darwin’s theory was the lack of a suitable mechanism of inheritance, the belief at the time being that characteristics of parents are “blended” in the offspring, a process which would have resulted in favourable variations being diluted to insufficiency within a few generations. The actual “particulate” (i.e. genetic) mechanism of inheritance was established in the early 1860s by the Moravian monk Gregor Mendel, but though he had presented a paper on his work in 1865 and published in 1866, Darwin remained unaware of this work which would have resolved the diluting problem, since the “particles” (read “genes”) in being passed from generation to generation would not be blended. Mendel, on the other hand, had read the *Origin* before publishing his paper, but regrettably and extraordinarily he failed to make the connection (Pallen 2009).

Mendel’s work remained effectively unknown for several decades, before his discoveries were independently rediscovered at the start of the 20th century (Pallen 2009), giving rise in time first to population genetics (Fisher 1930) and eventually neo-Darwinism (Dobzhansky 1937) in which classical Darwinian theory is integrated with genetic theory, and of which mainstream evolutionary theory consists today. Today, the further developments of gene-culture co-evolution (Durham 1991), developmental systems theory (Oyama et al. 2001), niche construction theory (Odling-Smee et al. 2003), evolutionary developmental biology (Carroll 2005) and epigenetics (Carey 2011) are enriching the field immeasurably.

**Evidence**

Although it is not the aim of this enquiry to establish the truth of evolutionary theory, but to develop a model to demonstrate how a particular aspect of it plausibly can mesh with an understanding of spirituality on the presupposition that evolutionary theory is at least in the neighbourhood of truth, it will be helpful to give a brief indication of the empirical evidence in favour of such a presupposition.

Although direct evidence for speciation, in the sense of seeing it happen in front of our eyes, tends to hard to come by since the mills of natural selection generally grind agonisingly slowly, evidence for the operation of natural
selection itself is found in a number of phenomena such as the development of bacterial resistance reducing the efficacy of antibiotics, the development of insect resistance to insecticides such as DDT, and (to give some more specific examples) the divergence both biochemically and in their breeding times of two populations of apple maggot fly parasitizing apples and hawthorns respectively (Ruse 2006); alterations in the characteristics of finches’ beaks on the Galapagos islands over several consecutive years of drought (Weiner 1994); and genetically-based differences in phenotypic traits in guppies subjected to different predators (Reznick et al 1997). Rogers (2011) argues that polyploid hybrids in plants (whereby the number of chromosomes in the offspring is doubled) constitute new species; Callaghan (1987) contends that there have been a number of examples of observed speciation; and Endler (1986) lists over 100 research projects in the literature demonstrating the operation of natural selection on a wide range of organisms.

Indirect evidence for common descent of species is, by contrast, considerable, and comes not only from many different sources but from many different types of sources as outlined by Ruse (2006). From biogeography we have the observation that “the inhabitants of islands resemble the organisms on their closest mainland, rather than on mainlands far away” (2006: 39), yet similar places often have dissimilar inhabitants: “there is a considerable degree of resemblance in the volcanic nature of the soil, in climate, height, and size of islands, between the Galapagos and Cape Verde Archipelagoes: but what an entire and absolute difference in their inhabitants! The inhabitants of Cape Verde Islands are related to those of Africa, like those of the Galapagos to America” (Darwin, quoted in Ruse 2006: 40) – an observation more plausibly explained by evolution than by special creation.

With palaeontology, Ruse notes that the fossil record is “roughly progressive, which is what we would expect were evolution true, but it also shows the kinds of sequences we would expect from evolution” – a notable example being the series of fossils leading to the modern horse (2006: 40, 41), each member of the sequence highly plausibly being derived from the previous member by “descent with modification”.

Morphology gives numerous instances of homology – similarity between the parts of organisms of very different species, such as the front limbs of vertebrates which have different functions: “the hand of a man, formed for grasping,
that of a mole for digging, the leg of the horse, the paddle of the porpoise, and
the wing of the bat [are] all... constructed on the same pattern, and... include
the same bones, in the same relative positions” (Darwin, quoted in 2006: 42).
This and other homologies are “powerful evidence of common ancestry, with
one initial form having been moulded to various ends” (2006: 11).

Embryology shows that organisms which are very different as adults
(humans and chickens, for instance – or the aforementioned budgerigars) have
embryos that are very similar “because they are descended from common
ancestors. There is no other good reason” (2006: 42). Likewise, the existence of
vestigial organs such as “the wings of flightless birds, the limb remnants of
‘limbless’ vertebrates like snakes and whales, the eye sockets of eyeless fish,
and in humans such things as the appendix and the coccyx” are best explained
in evolutionary terms as “relicts and evidence of the past – of past ancestors,
that is, shared with organisms that still (as did the ancestors) use these features
for their own adaptive ends” (2006: 42,43).

The field of molecular genetics is concerned with the comparison of
equivalent genes across different species, and the variations in proteins that
different genes code for such as cytochrome-C which is part of the “electron
transport chain” in cells of plants, animals, and many unicellular organisms. The
extent to which cytochrome-C and other proteins differ among various species
enables “family trees” of the species to be constructed, which converge “rapidly
and decisively, on a single great tree of life” (Dawkins 2009: 325) as the theory
of evolution predicts.

It is the cumulative and mutually supporting evidence from such an array of
sources that “points strongly to the truth of the fact of evolution” (Ruse 2006:
43), though it is important to acknowledge that the mechanism of natural
selection, which remains central to the theory of evolution as we know it,
continues to be challenged. The core understanding is that random changes –
mutations – in the genome occur from time to time during reproduction, and
though the vast majority of mutations are lethal, some confer a slight adaptive
advantage to the organism such that it is statistically more likely to survive and
reproduce than conspecific organisms without that mutation. The strong version
of this account assumes that all traits of a given species have arisen as benefic-
ial adaptations, but Gould and Lewontin (1979) argue that although many traits
of a given organism are adaptive, many are better understood as non-adaptive
side-effects arising from other changes in the organism, and that evolutionists are too fond of dreaming up unwarranted “just-so” stories to impute an adaptive role to such traits; others argue against the concept of “atomistic (one trait at a time) mechanisms of natural selection”, drawing upon the insight of evolutionary development (“evo-devo”) to argue *inter alia* that “the whole process of development, from the fertilized egg to the adult” is significant in constraining what variations in phenotypes become available for “ecological variables” to operate selectively on (Fodor and Piattelli-Palmarini 2010: 26, 27); and with epigenetic effects (how genes are switched on and off in cells, and their transgenerational influence) also being increasingly understood (Carey 2011) the picture grows ever more complex.

Nevertheless, it remains the case “the main engine of evolution is seen as natural selection – the preferential survival and reproduction of some genetic forms rather than others” (Lea 1999: 17), and the current enquiry works on that assumption, along with the assumption (which is more of a truism) that even if not each and every trait of a given species is an adaptation in the sense of separately conferring survival/reproductive advantage to its possessors, nevertheless the entire suite of traits of a species is, on balance, adaptive rather than maladaptive.

**Human evolution**

Around eight million years ago, Africa and Eurasia collided creating the highlands of Kenya and Ethiopia, and the earth’s crust cracked to form the Great Rift Valley, and the eastern side the forest and woodland largely gave way to savannah, or open terrain (Corballis 1999). This is the area, it is now generally reckoned, where human evolution began, and although the dates ascribed to various stages in human evolution change as new fossils are discovered, radiometric techniques for dating them are refined, and molecular evidence (from e.g. mitochondrial DNA and Y-chromosome studies) comes to the fore, the human lineage appears to have separated from that of our closest relatives, the great apes, around six to eight mya (Renfrew 2007), though some put it as recently as five mya (Ruse 2006). A proliferation of ancestral and collateral species has been identified, including *Homo habilis* (c. 2.5 mya) who is also regarded as the first member of the genus *Homo* with which began “the evolution of distinctively human characteristics... Brain size began its spectacular
increase [and] stone tools were developed" (Corballis 1999: 60), with “our ever-changing battle with climate and food resources” (Oppenheimer 2007: 94) driving that evolution.

According to a recent interpretation of the evidence (Renfrew 2007), the first of several waves of dispersal out of Africa took place at the start of the Pleistocene period about 1.7 mya. Anatomically modern humans (AMH) evolved in East Africa perhaps as long ago as 150,000 years ago, with their particular “out-of-Africa” dispersal put at around 60,000 years ago, Australia being colonized by at least 45,000 years ago, and Europe 40,000 years ago, in due course displacing their various cousin species. Ceramic technology had been established by 26,000 years ago, the domestication of plants and animals by about 10,000 years ago, and writing was invented by 5,000 years ago, by when “the foundations of the modern world had been laid” (Mithen 2003: 3). *H. sapiens* had arrived both anatomically and culturally.

**Culture**

There is a “remarkable… lack of internal genetic variation” of the human species of today (Ruse 2006: 185), suggesting that there can have been only very limited genetic changes in *H. sapiens* since the dispersal; for had the different populations of AMH on the various continents each evolved considerably away from the ancestral population in Africa they would today vary even more widely from each other, having to all intents and purposes been genetically isolated from each other from the time of the African dispersal up until the possibility of rapid global travel in very recent centuries. This implies that the changes in human behaviour that have occurred and the human diversity that we see are cultural rather than biological in origin, and hence any real understanding of *H. sapiens* requires cultural processes to be taken into account, along with how genes and culture might interact in a form of co-evolution (Durham 1991, Boyd and Richerson 2005, Richerson and Boyd 2005).

Culture refers to information that an individual acquires through teaching, imitation and other forms of social transmission; it is “not inherited through genes, it is acquired by learning from other human beings…” (Dobzhansky, quoted in Wilson 2000 [1975]: 550). Claims that culture is unique to human beings (White 1959) are sometimes countered by claims of cultural transmission in other species such as chimpanzees who learn by imitation to use
twigs to extract termites from termite mounds (Goodall 1971), but the vast
difference in degree between the culture of *H. sapiens* and the alleged culture
of any other species arguably amounts to a difference in kind. A longstanding
view of culture is that it concerns socially transmissible *behaviour* including the
making of artefacts, such that “[s]pecifically and concretely, culture consists of
tools, implements, utensils, clothing, ornaments, customs, institutions, beliefs,
rituals, games, works of art, language, etc.” (White 1959: 3), though culture
can also be understood as “ideational”, that is, concerned with ideas, values
and beliefs, of which observable behaviour is the manifestation (Durham 1991).

Cultures change (our tools now include the internet and Exocet missiles
instead of – or as well as – smoke signals and clubs), and prior to the rise of
sociobiology and evolutionary psychology, theories of cultural evolution had
gone in and out of anthropological fashion. White (1959) takes the term
“evolution” to be synonymous with “change and development” rather than in a
narrower, Darwinian sense involving variation, inheritance and natural selection
(or an analogue), and understands cultural evolution and biological evolution to
be independent processes; the latter not shaping the former, nor vice versa.

A clear example of how White’s scheme of culture is divorced from genetics
concerns the incest taboo, worth mentioning because of the contrasting view of
incest-avoidance offered by evolutionary psychology, as discussed in the next
chapter. The incest taboo in White’s view is an “invention” (1951: 86 – his
inverted commas) to ensure exogamy, which in turn enables alliances between
families to be formed, which in turn increases cooperation, which in turn
increases security against enemies and predators, and increases efficiency in
acquiring the necessities for life. Thus the incest taboo is seen as ultimately
increasing the security and hence survivability of the group. “Prohibitions
against incest and customs of exogamy were the products of sociocultural sys-
tems...” and no-one “would want to argue that any cultural form is determined
by genes and chromosomes” (1959: 89, 21-22).

**Culture and evolution**

White’s contention in that last sentence is no longer true unless “determined by”
is taken utterly literally, for modern evolutionary theory has permeated main-
stream social and psychological anthropology giving rise to “models of culture
that are based on evolutionary processes” (Flinn *et al* 1994: 327), and concepts
of cultural evolution which "have almost nothing in common" with the "progressive evolutionary theories debated by generations of anthropologists" (Richerson and Boyd 2005: 59). These include the notion of cultural evolution analogous to Darwinian genetic evolution (Dawkins 1989 [1976], Durham 1991, Richerson and Boyd 2005); claims that genes keep culture "on a leash" (Wilson 1978: 167); the possibility that culture itself feeds back to influence genes – or, more accurately, to influence the differential inheritance of genes leading eventually to changes in the gene pool (Boyd and Richerson 1985; Durham 1991; Richerson and Boyd 2005); and arguments that culture (aka civilization) has accelerated genetic evolution up to a hundred-fold (Cochran and Harpending 2009), as well as the complete opposite that little if any genetic evolution has taken place in H. sapiens over the last 50,000 years or so (Diamond 1992).

According to Darwinian theory genetic variations which improve the survival and reproductive chances of their possessors will spread through the population in succeeding generations, and likewise, it is argued, cultural variations also have an impact on the survival and reproductive chances of their practitioners, with the result that "some cultural variants spread and others diminish, leading to evolutionary processes that are every bit as real and important as those that shape genetic variation" (Richerson and Boyd 2005: 4). Cultural evolution, however, is potentially a far faster process than genetic evolution, and human cultures can change "even more quickly than the most rapid example of genetic evolution by natural selection" (2005: 43), such as the shift from sedentary farming to buffalo hunting by Plains Indians, and the "complex artifacts, institutions, and behaviors we associate with [them]" which arose after the introduction of horses around 1650 (2005: 43).

The advantage that cultural evolution has over genetic evolution is not only its rapidity, but also its allowing a cumulative assembly of adaptations over many generations, " adaptations that no single individual could evoke on his or her own" (Richerson and Boyd 2005: 45). Moreover, cultural transmission entails imitation of and learning from not only parents but also others in the social environment whether of a different or the same generation, which breaks the genetic link between what the individual acquires and his genetic forebears. Imitation is crucial since to imitate is less costly than to find out something for oneself (such as which foods are safe to eat – the first taste of a potential new foodstuff could be the last taste of anything), so "imitate the successful" is a
good heuristic or rule-of-thumb in a stable environment. However, such a procedure is less than perfect in a changing environment such as climate fluctuation during the Pleistocene. For if everyone simply imitated the behaviour of everyone else, however successful that behaviour had been in previous conditions, no adaptation could occur to respond to changed circumstances and the old behaviour would become maladaptive. Hence the necessity of “information producers” as well as “information scroungers” (Richerson and Boyd 2005: 112), that is to say, individuals who are innovators (taking the risk of trying previously avoided potential foodstuffs when the usual resources have all failed) as well as those who are imitators. Cultural evolution requires both, with the innovators being the equivalent of the genetic mutations; the difference being that cultural evolution can track a changing environment far faster than can genetic evolution.

We thus have a “dual inheritance” model (Boyd and Richerson 1978), which entails human beings possessing “two major information systems, one genetic, and one cultural… both of these systems have the potential for transmission or ‘inheritance’ across space and time… both have profound effects on the behavior of the organism, and… both are simultaneously co-resident in each and every living human being” (Durham 1991: 9 – emphasis in original). This then raises the question of how genes and culture interact and co-evo...
of the basic color terms... [and] a tight clustering of the focal points rather than a culturally arbitrary scatter” (1991: 216-7). A very basic set of eleven focal categories emerged, and languages with fewer than the eleven manifested a sequence of which colours were linguistically discriminated: all languages had terms for black and white; if a language has a third colour term it was for red; if a fourth term, it was for green or yellow; a fifth term would be for the other of yellow or green; then blue, then brown, then (though now in no particular order) purple, pink, orange and grey (1991: 217-8). That is to say, all the tested cultures divided up the colour spectrum in a non-arbitrary fashion, a finding supported by evidence from the neurophysiology of colour vision that “the nervous system codes spectral radiation according to its wavelength in a way that creates a kind of biological categorization of the spectrum” (1991: 218).

Genes, it can be inferred, create a visual system that divides up the spectrum in the same way for all of *H. sapiens*, and the linguistic terms follow those cleavage lines. Culture, in this instance, would appear to be constrained by genes (though see Roberson *et al* [2005] for a contrary view).

A second interactive mode Durham identified entails culture mediating genes – that is, a cultural innovation leads, eventually, to genetic change in the relevant human population. This has occurred in tropical West Africa where slash-and-burn practices, clearing land for agriculture, create places where warm, sunlit pools form. These pools are the ideal habitat for malaria-bearing mosquitoes, which have a knock-on effect on pools of the human gene variety. Malaria is, obviously, bad news for humans. However, the “S” allele (gene variant), which gives rise to the lethal condition of sickle-cell anaemia when an individual inherits two sickle-cell alleles (one from each parent), actually gives protection against malaria to an individual who has inherited only one sickle-cell allele (“S”) from one parent and an unmutated allele (“A”) from the other parent. Moreover, such an individual, despite the S allele, does not develop sickle-cell anaemia – the presence of the unmutated “A” allele provides protection. Hence in malarial areas, there is selection pressure *in favour of* “SA” individuals, protecting them against malaria. In consequence, there is a much higher prevalence of the “S” allele in the local population than is the case in non-malarial areas, despite its lethality for individuals who inherit a double dose (Durham 1991).
Other examples of gene-culture interaction which have been proposed include the change in humans to a less robust physique with the development of effective projectile hunting weapons, the development of lactose-tolerance among pastoralist communities, the evolution of language along with the necessary vocal apparatus, and the development of human cooperation (Boyd and Richerson 2005); and even (though more speculatively and provocatively) the development of higher-than-average intelligence of Ashkenazi Jews has been attributed to cultural pressures, including endogamy and anti-Semitism, purportedly favouring the selection of genes underpinning intelligence (Cochran and Harpending 2009).

**Language**

Integral to all known human societies is language (Pinker 1994), the coming of which marked the eighth and last of what some have identified as a series of major transitions in the evolution of life, namely the transition from primate societies to human societies (Smith and Szathmáry 1997). With language, our forebears became “what might loosely be called ‘fully human’”, constituting as it does a unique characteristic, for although all animals communicate, “only humans, so far as we know, are possessed of languages composed, first, of lexicons made up of symbols… and second, of grammars, sets of rules for combining symbols into semantically unbounded discourse” (Rappaport 1999: 4). Language enables reference to that which is not present “even when that referent is thousands of miles away or thousands of years back in history” (Bickerton 2009: 47), markedly differing in this respect from animal communication systems which deal only with the immediately present, such as a vervet’s suite of alarm calls responding to the presence of eagle, leopard or snake – it is the immediate danger that is signalled; the vervet cannot make reference to an eagle that was circling above yesterday, or a leopard that might appear a week tomorrow (Bickerton 2009). The symbolic nature of language releases us from the purely literal, enabling us to re-create the world rather than simply “reading-off from what is already there” (O’Hear 1997: 39), and so permits the development of the consciousness of one’s belief as “something separate from the world it is representing, and hence as [the believer’s] representation of his world” (1997: 37). And although this current enquiry does not fully endorse Katz’s (1978) strong constructivist position, nevertheless it is
hard to disagree with his general assertion that language is necessarily involved in the construction and interpretation of religious experience, and that "the mystical experience must be mediated by the kind of beings we are. And the kind of beings we are require that experience... involve memory, apprehension, expectation, language, accumulation of prior experience, concepts and expectations" (1978: 59). It is not simply that language allows us to communicate our experiences to others, it also permits us to represent those experiences to ourselves, and without the symbolic, representational character of language, without the tropes of “metaphor, symbol, analogy, parable, paradox” that characterize religious language (Honderich 1995: 768), religion, religious experiences and spirituality could not exist.

But for all that, the origins of language – the when, how and why it evolved – are greatly disputed. Dating the emergence of language is problematic because of the obvious fact that language leaves no fossils, and attempts to infer the linguistic abilities of ancestors from the nature of their surviving artefacts could well “seriously underestimate the antiquity of language” since many sophisticated artefacts such as baskets, clothing and tents “rot into nothing quickly after [the] departure [of those who made them], obscuring their linguistic competence” (Pinker 1994: 352). The anatomy of skulls might seem a proxy for language skills, with their imprints of wrinkle patterns of their former brain contents revealing, for example, in Homo habilis the presence of Broca’s area, which in humans is implicated in language use. But there is no guarantee that H. habilis used Broca’s area for language, since “even monkeys have a small homologue to Broca’s area” (Pinker 1994: 353), and monkeys are not credited with possessing language. Moreover, language use also involves sub-cortical areas of the brain (Lieberman 1998) which could not leave imprints on their host skulls.

This leaves the field open to a range of views for when language evolved. Bickerton (1990) locates “protolanguage”, a postulated precursor to language proper resembling pidgin languages and the grammarless language of two-year old children, as far back as two mya; whereas Donald on the other hand, puts the evolution of protolanguage much later, at around 130-100 kya. Either way, all agree that the evolutionary advantages of language are considerable: it permits the acquisition of information from others, avoiding the time-consuming and possibly dangerous trial-and-error procedure of gaining that knowledge directly by experience (Pinker and Bloom 1992); it enhances social inter-action
by reducing the time and effort needed to build social ties otherwise mediated by the physical grooming of others (Mithen 1996); it allows the tribal retention of crucial information on which their survival could well depend, such as how to survive a potentially catastrophic depletion of resources; and it contributes to the faculty of “mental time travel”, which gives the possessor the advantage of being able to relive past events and imagine, and hence plan, the future in episodic detail (Corballis and Suddendorf 2007). These factors and others enhance the genetic fitness of the individual either directly, or through being a member of the language-using tribe.

The evolution of language can also be understood as one example of gene-culture interaction, since the learning of a given language is a cultural process, distinct from any predisposition or instinct to acquire language, but its enhancing the fitness of the individual will “ultimately impact on the [biological] evolutionary trajectory of the learning mechanisms for language” (Kirby 2007: 677) – that is, over evolutionary time those individuals whose fitness was enhanced by their language-acquisition statistically left, by definition of “fitness”, more descendants, thus spreading through the population whatever might be the genetic underpinning for language acquisition. Thus language as a cultural artefact feeds back into language acquisition as a biological mechanism.

**Conclusion**

The main aim of this scamper through evolutionary theory in general and the evolution of *H. sapiens* in particular has been to clear the ground for the introduction of evolutionary psychology. I am accepting that the evidence which can be adduced in favour of evolutionary theory is extremely strong and that “descent with modification” and “natural selection” together provide a compelling account (albeit incomplete, as all scientific theories are incomplete and corr-igible) of how all non-human species, both extant and extinct, have come into being. I am also accepting that those selfsame processes have given rise to the human species as well – a point well expressed by the description of our being the “third chimpanzee” (Diamond 1992) – but that our biological evolution has given rise to the capacity for culture, resulting in cultural attainments outstripping those of any other species by so many orders of magnitude as to be qualitatively virtually incomparable. These attainments – including language and the concomitant capacity for symbolic representation, art, music, technology
and religion – are so considerable, though, that the temptation can be overwhelming to regard ourselves as a special species: our bodies, yes, are the result of evolutionary processes, but surely not our minds? They must have come about by some non-material processes, surely? Well, it is the contention of evolutionary psychology that the human mind as well as the human body is a product of evolutionary processes, and that an understanding of our capacity for various cultural flowerings – including religion, which is of particular significance for the current enquiry – is enhanced by adopting an evolutionary perspective; and this is the subject matter of the next chapter.
Chapter 7: Of evolutionary psychology

Introduction
In this chapter I present some of the principles of evolutionary psychology and the evidence in its support. The purpose is to establish that the evolutionary psychological perspective both is valid and can offer an insight into the origins of our capacity, our faculty, to experience what I have termed “Roses”, the vertical/diameter dimension of the target phenomenon of spirituality.

The origins of evolutionary psychology
The discipline of evolutionary psychology has its roots in Darwin’s *The Origin of Species* (1968 [1859]) in which he hints that his theory of descent with modification powered by the mechanism of natural selection could be applicable to humankind, a hint which he develops in his subsequent books *The Descent of Man* (1871) and *The Expression of the Emotions in Man and Animals* (1998 [1872]). However, it was not until over a hundred years after the *Origin* that advances in the theoretical understanding of evolutionary biology with Hamilton’s (1963, 1964) work on social behaviour, inclusive fitness and kin selection, Williams’ (1966) dismantling of simplistic group-selectionist models, and Trivers’ (1971, 1972) work on reciprocal altruism and parental investment allowed these hints to lead first to the development of sociobiology which seeks to draw the social behaviour of animals into the fold of biological explanation (Wilson 1975), and then to evolutionary psychology itself which applies evolutionary thinking to human behaviour in general and to the human mind in particular (Barkow, Tooby and Cosmides 1992).

Two currents of thought come together in evolutionary psychology: first, the adaptationist approach in evolutionary biology whereby natural selection is understood to work on the variations within a given population such that those organisms which are better adapted to their environment are more likely to survive, reproduce, and have their genes preferentially represented in subsequent generations (Williams 1966); and, second, the “modularity of mind” approach in cognitive psychology, whereby the human mind/brain is understood to consist of a set of “mental modules” with specialised functions, rather than it being simply a general purpose information processor with just two or
three properties such as memory and reason (Fodor 1983; Tooby and Cosmides 1992, 2005).\textsuperscript{10}

The claims of evolutionary psychology are contentious, and a distinction can usefully be drawn between the general field of enquiry which adopts an evolutionary perspective on human behaviour and psychology, and the particular articulation of it by writers such as Pinker (1998; 2002), Buss (1994; 2005) and Tooby and Cosmides (1992; 2005). Buller (2005) refers to these latter as developing a new paradigm (Kuhn 1962), and, following him, I refer to their views as “strong”, and the contrary position, which accepts that the human mind is a product of evolutionary processes whilst not adopting the new paradigm, as “weak”. These terms are not intended to carry moral evaluation of the positions thus labelled; and as will become apparent, I favour a watered-down version of the strong position – call it “strongish”.

\textbf{The Environment of Evolutionary Adaptedness}

A key concept in evolutionary psychology, borrowed from John Bowlby (1969) of “attachment theory” fame, is that of the Environment of Evolutionary Adaptedness (EEA). Our mental modules, it is argued, evolved in response to the challenges of the physical, social and biotic environment in which our hunting/gathering ancestors lived, the environment, in effect, of the Pleistocene age (c. 1.8 mya to 10 kya). However, this does not imply that the EEA was invariant for a couple of million years, but that there were recurrent aspects of it to which the evolving human organism had to adapt, and the problems our ancestors faced and had to overcome in order to survive and reproduce successfully included the needs to “recognize objects, avoid predators, avoid incest, avoid teratogens when pregnant, repair nutritional deficiencies by dietary modification, judge distance, identify plant foods, capture animals, acquire grammar, attend to alarm cries, detect when their children needed assistance, be motivated to make that assistance, avoid contagious disease, acquire a lexicon, be motivated to nurse, select conspecifics as mates, select mates of the opposite sex, select mates of high reproductive value... interpret social situations correctly, help relatives... along with a host of other tasks” (Tooby and Cosmides 1992: 110). Of course, many of the challenges that faced our

\textsuperscript{10} The modular approach to understanding human nature was prefigured in the “Theory of Archetypes” developed by the psychologist Carl Jung. See especially Stevens (1982).
ancestors still face us today, yet there are some circumstances that have changed, not only (in the “developed” world) regarding resources with ready access to food, water and shelter, but also in our social environment with the immense rise over the past two or three centuries in global travel, not to mention the contemporary blossoming of virtual societies on internet social network sites, by means of which we are able to interact with hundreds, maybe thousands, of other people; yet (the evolutionary psychology argument goes) because of the conditions encountered in the EEA, our mental modules dealing with social relationships still “expect” Stone Age numbers in the region of 150 (Dunbar 1992; 2010).

With cultural evolution being many orders of magnitude faster than genetic evolution (Richerson and Boyd 2005), some modules have become maladaptive: when our ancestors lived in an environment where obtaining food was uncertain and erratic, it was adaptive to stoke up on high octane food when obtainable in order to survive the periods of scarcity, but this continuing penchant for sweets and fats is “maladaptive in [environments] with fast-food restaurants” (Bjorklund and Blasi 2005: 829). Human nature is therefore “a hodgepodge of special genetic adaptations to an environment largely vanished, the world of the Ice-Age hunter-gatherer” (Wilson 1978: 196), and psychiatric problems have been attributed to the fact that there is a mismatch between our actual environment and that for which our evolved nature is prepared to encounter (Adriaens and de Block 2011; Stevens and Price 1996).

The concept of the EEA has been criticized as being “little more than a figment of our nostalgia for an idealized past” because “the notion of a specifiable environment of evolutionary adaptedness doesn’t correspond to any identifiable reality” (Tattersall 2002: 170-1). But this is to misunderstand the concept. The EEA does not refer to a comprehensive set of unchanging characteristics (climatric, physical, social, biotic) which persisted for millennia but no longer obtain; it refers, for any specific organism, to “the set of reproductive problems faced by members of that species over evolutionary time” (Hagen 2004: §2). Physical evolution occurred over evolutionary time to meet the relevant challenges of the environment; strong evolutionary psychology simply maintains that the evolution of the mind also occurred to meet relevant challenges.
Massive Modularity

Although the "modularity of the mind" idea is particularly associated with Fodor (1983), evolutionary psychology has developed his insight with a hypothesis of "massive modularity", positing the existence of "hundreds or thousands of functionally dedicated computers (often called modules)" (Tooby and Cosmides 1995: xiii). The basic logic of the modules is specified by our genetic program (Pinker 1998), and each is said to be "domain-specific", that is, each has evolved to deal with a particular challenge posed by the environment and exigencies of life. This is in contrast to the view that the mind is "domain-general", capable of employing the same approach to all the multiple challenges we face and our ancestors faced.

Solving the huge array of challenges, strong evolutionary psychology claims, could not be performed by the kind of mind envisaged by the "Standard Social Science Model", characterised – or caricatured – as the "blank slate" model (Pinker 2002; Tooby and Cosmides 1992, 2005), an image derived from the empiricist John Locke’s (1964 [1690]) notion of the mind being like a white paper without any writing on it. Tooby and Cosmides argue that:

"[T]he traditional conceptual framework for the social and behavioral sciences… was built from defective assumptions about the nature of the human psychological architecture… The most consequential assumption is that the human psychological architecture consists predominantly of learning and reasoning mechanisms that are general-purpose, content-independent, and equipotential… That is, the mind is blank-slate like, and lacks specialized circuits that were designed by natural selection to respond differentially to inputs by virtue of their evolved significance" (Tooby and Cosmides 2005: 6).

Or as Pinker puts it more straightforwardly: “The mind cannot be a blank slate, because blank slates don’t do anything” (Pinker 2002: 34).

The metaphor often used to convey the idea of massive modularity is that of the Swiss Army knife (Tooby and Cosmides 1992), with its array of tools designed each to cope with one of the many cutting, screwing, stabbing, sawing, bottle-opening, horses’ hooves de-stoning, teeth-picking, sharpening, tweezering tasks that confront the average rambler. This metaphor conveys well the concept of “domain specificity”, the claim that “adaptations evolve to solve problems in particular domains, and therefore are less well suited to solve problems in other domains” (Hagen 2004 §10), but has its limitations (see below).
Proposed modules are said to be encapsulated, or informationally isolated; that is, a given module cannot take into account information available to the rest of the organism’s brain. An example of encapsulation is the functioning of the visual system, such as its response to stereoscopic images as used in the current fashion for 3D films. Put on the special spectacles and the images leap out of the screen, and the conscious knowledge we have that they are projections on a 2D screen makes no difference to how our visual system processes the information it is receiving. The visual system is informationally isolated from other knowledge we might have, and this characteristic of being informationally isolated contributes to the speed with which modules work. It is contentious, however, whether the mental modules of evolutionary psychology should be regarded as always rigidly encapsulated (Cundall 2006 – see below).

**Mental modules**


I propose to offer a brief account of intuitive physics, and longer accounts of intuitive psychology and language acquisition. I also give an account of the evolutionary account of incest aversion which, though not a single module in its own right, illustrates the need for a module for kin recognition, also necessary in an evolutionary psychological account of intuitive morality (Hauser 2006). This last has a chapter to itself, being the basis for the horizontal dimension or circumference of our spirituality.

**Intuitive physics**

Intuitive physics refers to an innate sense that the physical world operates in a particular way, its core intuition being the concept of the object “which occupies one place, exists for a continuous span of time, and follows laws of motion and force” (Pinker 2002: 220).
The presence of an intuitive physics faculty has been demonstrated by a range of experiments with babies and young children, relying on their boredom threshold. Familiarity breeds boredom, and when a baby sees the same old thing occurring their attention wanders, but if something unexpected occurs “they perk up and stare” (Pinker 1998: 317). By manipulating various items behind a screen and then removing the screen to reveal different outcomes, researchers gain an insight into what expectations their baby subjects have by monitoring their resultant stares: “if the baby’s eyes are only momentarily attracted and then wander off, we can infer that the scene was in the baby’s mind’s eye all along. If the baby stares longer, we can infer that the scene came as a surprise” (Pinker 1998: 317). Babies are surprised if the set-up is manipulated so that it appears that one solid object has passed through another, or so that what appears to be two parts of a single item poking out of different edges of a screen and moving in unison are then revealed to be two separate items, or so that one object apparently causes another object to move without physical contact: three- to four-month-old infants “see objects, remember them, and expect them to obey the laws of continuity, cohesion and contact as they move” (Pinker 1998: 319).

Other elements of intuitive physics include the expectation that large objects don’t go into smaller objects and that unsupported objects fall (Baron-Cohen et al 2001), but we don’t need infants to see intuitive physics at work. It manifests itself in the general (but erroneous) expectation that if something falls from a moving object it falls vertically (it doesn’t – the forward inertia it possesses results in its following a parabolic path to the ground), and in the expectation that if an object is whirled horizontally about on a piece of string and the string breaks, the subsequent trajectory of the object is curved (it isn’t, at least not in the horizontal plane – it travels along the tangent from where the object was when the string broke; the only curving is as it simultaneously falls under gravity). This is what we intuitively expect, even if we have a physics degree and know the equations that say otherwise.

Intuitive physics, these last examples demonstrate, is not the same as Newtonian physics; motion in the former is “something closer to the mediaeval conception of impetus, an ‘oomph’ that keeps an object in motion and gradually dissipates” (Pinker 2002: 220). This makes evolutionary sense: as every schoolboy used to know, Newton’s first law of motion states that an object will remain
in its state of rest or of uniform motion unless acted upon by a force (Feather 1959). However, we rarely if ever come across objects not acted upon by a force; objects moving through the air encounter air resistance, objects moving on the ground encounter friction. This, obviously, was as true in the EEA as it is today, and our intuitive physics did not evolve in order to parse what happens to moving objects into inertia (the tendency to maintain constant motion) and these opposing forces, but to provide a useful, pragmatic expectation of what happens in the real physical world. Hence it is “natural to conceive of objects as having an inherent tendency toward rest” (Pinker 1998: 321). Intuitive physics is an adaptation to the physical world as experienced, not to a mathematical abstraction.

**Intuitive psychology: the Theory of Mind**

Our species could be designated *Homo psychologicus* (Humphrey 1984), for we are natural psychologists, capable of inferring other people’s states of mind (beliefs, hopes, intentions) with a fair degree of accuracy. This capacity for intuitive psychology was dubbed “Theory of Mind” (hereafter “ToM”) by psychologists Premack and Woodruff who describe it as the faculty by which “[an] individual imputes mental states to himself and to others (either to conspecifics or to other species as well)” (1978: 515). It is in operation when I know that the car-keys are in the sitting-room, but I realise my wife believes they are in my coat pocket, or when John thinks that Jane believes that Gill is in love with him: John and I are attributing states of mind to others which differ from our own, and we are able to make reasonable predictions about, and give reasonable explanations for, the behaviours of those other people.

ToM is not a culturally transmitted ability, and the inferences about other individuals to which its operation gives rise “are not taught, as are reading or arithmetic; their acquisition is more reminiscent of that of walking or speech” (1978: 525 – emphasis added). Its status as a human universal in adults is well attested (Bjorklund and Blasi 2005), though it functions poorly in individuals on the autism spectrum (Baron-Cohen 1995); but it would seem that ToM is not totally confined to *H. sapiens*, shared as it is by some other species, at least in a rudimentary fashion, if observations on some other primates are anything to

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11 See “a note on inference” below (p. 159)
go by. ToM can be seen at work in (or, more accurately, inferred from) the behaviour of two chimpanzees Belle and Rock, in which they seek to deceive each other, and detect the deception of each other, over the location of a banana cache. A series of observations of their interactions saw Belle leading Rock and the rest of the chimp group “in the wrong direction and as Rock foraged for nonexistent tidbits, running back to the food cache. Occasionally an extra piece of food was hidden away from the main cache. Belle took to leading the group to this, then rushing over to the main food pile while Rock was engaged in eating the single piece. Eventually Rock caught on to this, too, and began to ignore single food pieces. At this point, the frustrated Belle could only respond with temper tantrums” (Tattersall 1998: 45-6, summarised from de Waal 1983).

Belle and Rock were each clearly imputing certain intentions to the other and adjusting their behaviour accordingly, in what turned into an escalating “arms race” of manoeuvre and counter-maneouvre (though see Penn and Povinelli [2007] who argue that no animals other than humans possess a ToM).

In the human animal, ToM can be seen – or inferred – to develop in the first few years of life, notably with results of the “false-belief” test. In this, a child is shown, say, a cornflakes box and asked what they think is inside it. The answer they give is, unsurprisingly, *Cornflakes!* The child is then shown that the box actually contains something else, such as ribbons, and is then asked what someone else (their Daddy, say), who hasn’t seen inside, would think is in the box. The responses differ according to the age (or, more accurately, the developmental stage) of the child. Whereas young children answer that Daddy would think there are ribbons in the box (that is, attributing to Daddy the knowledge that they, the child, now has), older children correctly answer that Daddy would think there are cornflakes in the box even though the child knows the true answer is ribbons (Bjorklund and Blasi 2005). That is to say, younger children attribute to someone else the same belief that they now have; whereas the older children can distinguish what they *know* to be the case and what someone else *would think* to be the case. They can attribute a false belief to someone on the basis of their current knowledge and what they (falsely) believed earlier regarding the contents of the cereal box.

We are clearly not born with a fully functioning ToM, but it emerges as part of our developmental sequence, with most three-year-olds failing the false-belief
test, and most five-year-olds passing it, and there is evidence that ToM develops "at about the same time and in the same sequence in most children around the world," (Bjorklund and Blasi 2005: 840 – citing Avis and Harris 1991, Baron-Cohen 1995, Leslie 1994).

Baron-Cohen has developed a model involving four mechanisms, of which ToM is just one, which "might underlie the universal human capacity to mindread" (Baron-Cohen 1995: 31), the other three mechanisms being an Intentionality Detector (ID), an Eye-Direction Detector (EDD), and a Shared-Attention Mechanism (SAM).

The ID is concerned with detecting volition in the environment, responding to activity which could be that of an agent, such as "the universal movements of all animals: approach and avoidance" (Baron-Cohen 1995: 33). This system develops in early infancy (Bjorklund and Blasi 2005).

The EDD is concerned with interpreting eye gaze, with three functions: it "detects the presence of eyes or eye-like stimuli, it computes whether eyes are directed toward it or toward something else, and it infers from its own case that if another organism's eyes are directed at something then that organism sees that thing" (Baron-Cohen 1995: 38-9). This develops at around nine months (Bjorklund and Blasi 2005).

And the SAM is concerned with the relations among an Agent, the Self, and a (third) Object and for detecting what another person’s attention is fixed on, for example “[Mummy-sees-(I-see-the-bus)] or [John-sees-(I-see-the-girl)]” (Baron-Cohen 1995: 45). This mechanism develops over the first 18 months of life (Bjorklund and Blasi 2005).

Then there is the Theory of Mind itself which “is a system for inferring the full range of mental states from behavior… It has the dual function of representing the set of epistemic mental states and turning all this mentalistic knowledge into a useful theory” (Baron-Cohen 1995: 51).

The operation of an Intentionality Detector is well illustrated by Heider and Simmel’s (1944) findings. They played a short silent film to three groups of subjects showing geometrical shapes moving about, then asked them to write an account of what they had seen. With only three exceptions (out of 114), the subjects “interpreted the picture in terms of actions of animated beings, chiefly of persons” (1944: 259). They were ascribing intentions and agency to things which they consciously knew full well did not have intentions and agency: the ID
automatically kicks in to ascribe such agency. Dittrich and Lea (1994), using moving letters on a display screen, have demonstrated that only relatively simple stimuli are required to produce “a convincing illusion of animate, purposeful movement” (1994: 265); and preschool children viewing scenes of coloured balls moving about and apparently interacting with each other, “differentiated between intentional movement patterns of [the] balls and the nonintentional control events where the movements were desynchronized” (Dasser et al 1989: 365), suggesting that “infants are predisposed to see the world as inhabited by intentional agents and artifacts” (Cundall 2006: 383 – citing Johnson 2003).

The Eye-Direction Detector has been demonstrated in a number of studies showing that two-month old infants “looked almost as long at the eyes as at a whole face but looked significantly less at other parts of the face”, and that six-month old infants “look 2 to 3 times longer at a face looking at them than at a face looking away” (Baron-Cohen 1995: 39, 40 – citing Hainline 1978; Haith, Bergman and Moore 1977; Papousek and Papousek 1979).

The Shared-Attention Mechanism similarly has experimental backup. In the phenomenon of “gaze monitoring” which is seen in infants from about nine months onwards, “the infant turns in the same direction that another person is looking at and then shows gaze alternation, checking back and forth a few times to make sure (as it appears) that it and the other person are both looking at the same thing, thus establishing shared visual attention on the same object” (Baron-Cohen 1995: 48 – citing Butterworth 1991; Scaife and Bruner 1975).

The proposed modularity for these mechanisms receives support from Baron-Cohen’s work on autism, a condition he dubs “mindblindness” (1995) as it describes the inability to read, or see into, other people’s minds – autistics are unable to infer another’s state of mind, and perform poorly on the “false belief” tasks, as with the ribbons in a cornflakes pack. Yet this inability to “mind read” can occur in conjunction with high levels of intellectual functioning in non-social spheres of life, as evidenced by the life of the autistic biologist Temple Grandin (Grandin and Scariano 1986; see also Sacks 1995), which, coupled with evidence that how one performs on ToM tasks is independent of general verbal performance, supports the contention that “theory of mind is not simply a function of general intellectual functioning” (Bjorklund and Blasi 2005: 841).
Finally there is also evidence that ToM and its confederates in mindreading require appropriate environmental input during a critical period of development if they are to function properly, significant factors including “the social skills of children’s teachers, the number of adults and older children that a preschool child interacts with daily, and family size, especially the number of older siblings a child has” (Bjorklund and Blasi, 2005: 841-2 – citing Lewis et al 1996; Ruffman et al 1998; Watson et al 1999).

There are claims that ToM is not a module. Buller objects that “possessing a theory of mind involves more than the ability to pass the false-belief test” (Buller 2005: 195), since even children under two (i.e. who wouldn’t pass the false-belief test) begin to show signs of understanding other minds, and he instances their ability to imitate the intended actions of others, and to attribute goals to others. However, Baron-Cohen’s postulated suite of modules addresses considerably more than false-belief tests, with the ID, EDD and SAM being in evidence before the age of two (Bjorklund and Blasi 2005), and in reviewing all the evidence, another commentator concludes that “there is ample evidence to support the contention that ToM knowledge is modular… There is physiological and cognitive evidence that there are specific areas and computational resources devoted to ToM processing. ToM processing is, in many ways, uncontrolled and impervious to other relevant knowledge we might have” (2006: 383), though warning that ToM processing cannot be completely modular because “[i]nformational encapsulation is violated” (2006: 380) when our having a belief about someone else’s state of mind is affected by other knowledge we have about that person. This suggests that some cognitive systems are not fully encapsulated and hence not fully modular in the Fodor sense, a position which accords with that of a modified “strong-ish” evolutionary psychology adopted in the current enquiry.

A note on “inference”

“Inference” and its cognates has been used to describe the action of ToM, and will be used again when the sensus transcendentis model is presented. However, “inference” is an ambiguous term, and a note of clarification may help. “Infer” in ordinary speech and in logic refers to a conscious process: the detective sees footprints in the mud, measures them, and is able to infer that a man with size ten feet passed this way after it had rained. It is done consciously
– we see one thing (footprints) and by application of reason we infer from it something else that we can’t see (a man with size ten feet). If, on the other hand, we actually see a man with size ten feet, we don’t say that from the fact that we can see a man with size ten feet, we infer that a man with size ten feet is present. Seeing the man means we don’t have to enter into a process of inference. Perception renders inference unnecessary. When used by evolutionary psychologists, though, to describe the operation of ToM, “infer” is not intended to convey such a conscious process, and it approaches the meaning of “perceive” (or “apprehend” or “be aware of”). “Infer” here is intended to have the same immediacy (in the sense of being unmediated as well as the sense of rapidity) as “perceive”. There is a similarity here with Plantinga’s notion of the sensus divinitatis delivering basic beliefs about God, ones not arrived at by a process of inference from other perceptions (Plantinga 2000; and see discussion in chapter 5 above)

The term “construe” as used in Personal Construct Psychology (Kelly 1955; Procter 2008) is particularly helpful here, as it refers to how the whole person (not just the intellect) responds and makes sense of things. When we construe a situation as being, say, “dangerous” or a person as “friendly” we are not carrying out a conscious, logical sequence of processes but responding as a whole person – construing is “just as emotional as it is semantic or cognitive” (Procter 2008: 2). Our ToM would be better understood as a construing mechanism or faculty, rather than an inference mechanism; but the evolutionary psychological literature uses the term “infer” and I will continue to follow suit, though regularly coupling it with “construe”.

The Language Acquisition Device

The evidence for a genetic basis for language acquisition is considerable, entailing a specialized module or suite of modules evolved through the process of natural selection (Pinker and Bloom 1992), and which requires appropriate linguistic stimuli during a critical period of development for it to be activated (Lenneberg 1967). The range of evidence for a language acquisition device (LAD) is summarised by Pinker and Bloom:

“... individual humans are proficient language users regardless of intelligence, social status, or level of education. Children are fluent speakers of complex grammatical sentences by the age of three, without benefit of formal instruction. They are capable of inventing languages
that are more systematic than those they hear, showing resemblances to languages that they have never heard, and they obey subtle grammatical principles for which there is no evidence in their environments. Disease or injury can make people linguistic savants while severely retarded or linguistically impaired with normal intelligence. Some language disorders are genetically transmitted. Aspects of language skill can be linked to characteristic regions of the human brain. The human vocal tract is tailored to the demands of speech, compromising other functions such as breathing and swallowing. Human auditory perception shows complementary specializations toward the demands of decoding speech sounds into linguistic segments" (Pinker and Bloom 1992: 451).

To explain briefly just some of these lines of evidence (for a comprehensive coverage see Laurence and Margolis 2001): first, language acquisition occurs despite the fact that “the knowledge acquired in language acquisition far outstrips the information that is available in the environment (i.e. the ‘primary linguistic data’)" (Laurence and Margulis, 2001: 221), a phenomenon known as the “Poverty of the Stimulus” (Chomsky 1966). What children hear spoken around them and to them does not contain sufficient grammatical information to explain their/our ability to master it. In their linguistic environment children are not subject solely to well-formed, grammatical sentences; what they hear are often “ungrammatical utterances due to speech errors, false starts, run on sentences, foreign words and phrases, and so on… this means that children have to settle on a grammar that actually rejects a good number of the utterances they hear” (Laurence and Margulis 2001: 230 – emphasis in original), suggesting an innate capacity to infer the correct grammar despite the misleading empirical data of ungrammatical utterances. Children, of course, do make errors, yet the nature of their errors, and of the errors they don’t make, adds a further line of evidence in support of the innateness (also known as the “nativist”) argument. They will say things like “goes” instead of “went”, and “holded” rather than “held”, but they “never say ‘He didn’t a few things’ on analogy with ‘He didn’t eat’, or ‘Ate he something?’ on analogy with ‘Is he happy?’ The nativist explanation is that children have a highly circumscribed hypothesis space that’s fixed by a rich set of language-specific biases” (2001: 236).

A third, related line of evidence arises from a study of pidgin and creole languages. A pidgin is a makeshift language, such as those which developed in colonial times when slaves and labourers from different language backgrounds worked together on the plantations, and consists of “choppy strings of words
borrowed from the language of the colonizers or plantation owners, highly variable in order and with little in the way of grammar" (Pinker 1994: 33). However a pidgin can transmute into a full complex language when a group of children is “exposed to the pidgin at the age when they acquire their mother tongue. That happened, [the linguist Derek] Bickerton has argued, when children were isolated from their parents and were tended collectively by a worker who spoke to them in the pidgin... [T]he children injected grammatical complexity where none existed before, resulting in a brand-new, richly expressive language... called a creole” (1994: 33). That is to say, in creolizing their pidgin language, the children managed to bring to it the grammar that a pidgin lacks, again leading to the inference of there being an innate factor. It could be contested that the resulting grammar actually derived from the mother-tongues which the children had heard, if not yet spoken (Lea, personal communication); but even if this were the case it would not invalidate the inference of there being an innate factor, for the “poverty of the stimulus” argument can still be set against the possibility of the children inferring a grammar from the mother-tongues then having to use it on the “choppy strings of words” of the pidgin. It is implausible that such a two-stage task would be easier than a one-stage task of inferring a grammar from a mother-tongue and simultaneously using it with that same mother-tongue; hence at the very least the pidgin-to-creole transmutation supports, and plausibly strengthens, the original Poverty of the Stimulus argument.

The phenomenon of feral children (NcNeil et al 1984; Newton 2002) provides a supportive line of evidence to complement the pidgin-to-creole data, for these are children such as Victor, the so-called “Wild Boy of Aveyon” (Itard 1962) who, growing up in a non-linguistic environment, fail to acquire language even when returned to a human community. Information on such feral children, however, is mainly anecdotal and can only be considered as suggestive; but better documented are instances of non-feral children who, having been deprived of linguistic stimulus during their critical years, fail subsequently to acquire language. One such is Chelsea who, hearing-impaired but misdiagnosed as mentally-retarded, was never exposed to a natural sign language, and when as an adult, following a proper diagnosis, she was fitted with a hearing-aid, attempts to teach her a language have failed despite her relatively normal intelligence. With typical utterances such as “The small a the hat” and
“Breakfast eating girl”, her use of language is “often so ungrammatical that it is unintelligible” (Laurence and Margolis 2001: 237; citing Curtiss 1988). Work with other deaf children exposed to sign language at different ages has also provided extensive data demonstrating a critical period for language acquisition, whereby “native signers do better than early signers, and early signers do better than late signers” in tests on morphology and syntax (2001: 237). As with the “incest aversion” module (see below), if a child does not have the relevant input during the critical period, which for language acquisition “ends abruptly at puberty” (Ridley 2003: 168), the LAD shuts down and ceases to be available even when linguistic stimuli are subsequently present.

A fourth line of evidence for a genetic basis to language acquisition derives from the argument that if language is an instinct rather than one among many learned behaviours, then specific genetic malfunction should selectively disrupt language: “Disrupt these genes or neurons, and language should suffer while the other parts of intelligence carry on; spare them in an otherwise damaged brain, and you should have a retarded individual with intact language, a linguistic idiot savant” (Pinker 1994: 45). There are indeed a number of neurological or genetic impairments that selectively affect language, such as “Broca’s aphasia” which involves damage in the frontal lobe of the brain’s left hemisphere. This can lead to an inability to speak, or to speak with peculiarities like omitting grammatical endings, such as the “–ed” of a past participle, or the “–s” of a plural; or being unable to analyse the grammar of a sentence to answer correctly the question, “The lion was killed by the tiger; which one is dead?”, whilst remaining unimpaired in other faculties (Pinker 1994: 47-8).

The genetic component of some language impairments is indicated by statistical studies, a striking example offered by Pinker being a family in which the grandmother is language-impaired as are four of her five children. The offspring of the linguistically normal daughter are also linguistically normal; but of the offspring of the four linguistically-impaired siblings, eleven are language-impaired and twelve are linguistically-normal; a pattern suggestive of genetic rather than environmental causality. Moreover, most of the afflicted family members “score in the normal range in the nonverbal parts of IQ tests” (Pinker 1994: 49), the selective damaging of a faculty implying that there is a specific something there to be damaged – namely, the putative LAD.
Objections are raised about the plausibility of there being a LAD. It has been argued that language cannot be one of the mental modules because, being specialized, they would not have access to the workings of each other, whereas “language has general access and cuts across all our sensory modalities. We certainly are free to talk about whatever we see, hear, or feel” (Donald 2001: 37). Donald is clearly correct in saying that we are free to talk about whatever we see, hear, or feel, but that is not at issue. It is the acquisition of language which, evolutionary psychology proposes, occurs by the operation of a mental module. How we consciously use language is another matter. I acquired the ability to speak English through the interaction of the innate LAD with the linguistic stimuli in the social environment in which I was raised – I didn’t have a choice about acquiring English, it just happened. Having acquired English I choose when, if and how to use it, but this in itself does not invalidate claims for the LAD being a module as postulated by evolutionary psychology.

**Kin detection (Incest avoidance)**

To consider incest in an enquiry concerned with spirituality may seem odd, but to do so fulfills two functions. One is the general one of illustrating evolutionary psychological claims and the evidence in its favour, the other is the more specific function of highlighting the importance of “kin detection”. Being intuitively aware who is one’s kin would have been immensely important in the EEA to ensure certain behaviours were instinctively avoided (such as sex with near kin) and certain other behaviours were instinctively enacted (such as altruism towards near kin). The best way to ensure that incest avoidance occurs is for there to be incest aversion – that is, avoidance achieved not by requiring a conscious decision-making process (“better not – after all, she is my sister”), but an unconscious, reflex feeling (“not with my sister!!”). Research into incest aversion strongly suggests the existence of an intuitive kin-detection faculty, which also plays its part in the evolution of altruism, considered in the next chapter.

Incest taboo is commonly recognised as constituting a human universal (Brown 1991), and one possible explanation for its ubiquity is that “human beings, being observant and intelligent, spot the consequences of matings between close relatives and make safety laws about them” (Bateson 1983: 491), a problematic explanation given that “nobody… has claimed that such
knowledge is universal” (1983: 491); indeed, it is an “implausible idea that prehistoric peoples intentionally established the incest taboo as a form of genetic hygiene” (Smith 2007: 202).

An alternative explanation is that the taboo is a collective expression of individual aversive feelings (Smith 2007), for Darwinian logic predicts that because procreative sex with very near relatives carries an increased likelihood of genetic defects in any offspring and hence lowered “fitness” (Ruse 1982), natural selection will favour those who mate exogamously. Since an inbuilt aversion to sex with near relatives would be advantageous, the question arises as to the mechanism by which the individual instinctively recognises those to avoid having sex with. An answer was offered by the anthropologist Edvard Westermarck (1925), who argued that the key factor was extended childhood co-residence, for which there are several strands of evidence.

**Kibbutz children**

Children raised on Israeli kibbutz were separated from their parents soon after birth and brought up in age-related groups of six to eight children, even sleeping together in dormitories. As adults, “sexual relationships or marriage between peer-group members are virtually nonexistent” (Smith 2007: 205), implying that co-residency at a young age rather than the actual genetic relatedness to be the key factor; and the discovery that there were after all a few kibbutz marriages (Leavitt 1990) only serves to sharpen understanding of the parameters under which the proposed mechanism of prolonged co-residency works. These marriages had occurred between kibbutzniks who were either i) from different peer groups (in which case the marriages fall outside the hypothesis, since the partners weren’t raised together; or ii) from the same peer group but had joined it after the age of six (suggesting there to be a critical age by when such an avoidance mechanism needs to be primed if it is to operate in later life); or iii) from the same peer group before the age of six but for under two years (suggesting that there is a minimum time length of childhood intimacy for such a mechanism to become primed).

This last point is further supported by “genetic sexual attraction”, the phenomenon of relatives, separated at an early age, experiencing a strong sexual attraction on being reunited, found in one study to occur “in over 50% of relatives reunited after early separation” (Smith 2007: 206, citing Greenberg and
Littlewood 1995); and whereas most incestuous sibling relationships are short-lived, those few which do involve lasting attachments are between siblings who “had been separated from each other when they were babies” (Bateson 1983: 493, citing Weinberg 1956).

**Simpua marriages**

Further evidence comes from *simpua* ("little bride") arranged marriages in Taiwan, in which an infant girl was adopted into the family of the husband-to-be, and the two children raised together, the marriage being consummated when the partners were adolescent. These marriages were less successful in terms of passing on genes to subsequent generations than marriages in which the partners met for the first time as adolescents (Bateson 1983; citing Wolf and Huang 1980).

Leavitt (1990) claims that the apparently similar custom of the Arapesh (Mead 1935) constitutes a counter-example, but there the betrothal, generally leading to successful marriages, occurs when the girl is seven or eight, and the boy several years older, outside the time-frame identified in the kibbutz and simpua examples. The alleged “failure” of the Arapesh to demonstrate incest-avoidance behaviour simply underscores the idea that evolved incest-aversion is primed before the age of seven or eight.

**Cousins**

Cousin-cousin relationships provide an interesting corroboration to the co-residency hypothesis, based on a distinction drawn between cross and parallel-cousins. Cross cousins are related by virtue of their being the respective offspring of a brother and sister, whereas parallel cousins are related by being the respective offspring of two brothers or two sisters. In a monogamous society, cousins (whether cross or parallel) generally share 12.5% of the same genes by common descent; but in cultures which practice sororal polygyny (a man’s several wives are sisters), parallel cousins are often half-siblings in having different mothers but the same father; whereas cross cousins are not half-siblings. Therefore in these societies parallel cousins are likely to be genetically related twice as strongly as are cross cousins (25% compared with 12.5%), which leads to the prediction that sexual relationships between parallel cousins are far more likely to be considered incestuous, and hence taboo, than such
relationships between cross cousins; and indeed anthropological data reveal that “where sororal polygyny is practised, there is far more probability that parallel cousin marriage will be banned” (Ruse 1982: 263). Moreover, in these societies parallel cousins who might well be half-siblings are likely to have been brought up in the same household, that of their joint father, whereas cross cousins will have been brought up in separate households, those of their respective fathers (Bateson 1983), resulting in the co-residency factor priming the kin-recognition/incest-avoidance mechanism for parallel cousins but not cross cousins. All this boils down to the fact that the cultural norm in these societies regarding cousin marriages is consonant with, and may be explained by, genetic logic.

**Other mechanisms**
The evidence so far given supports the contention of there being an intuitive heuristic of “avoid sex with someone you were brought up” which, in the EEA, would have roughly coincided with avoiding sex with one’s siblings. But the evidence which supports the Westermarck Hypothesis for incest avoidance with siblings or quasi-siblings can’t explain other forms of incest aversion (Smith 2007). One suggestion addressing incest aversion beyond the sibling-sibling relationship is the “Shared Mother Hypothesis” which involves the individual intuitively inferring the relatedness (or otherwise) of others as they interact with the individual’s mother (Smith 2007), which would explain daughters generally not being sexually interested in their fathers. Aversion to mother-son sex can be explained by Westermarck-type hypothesis, the selection pressure again being the susceptibility to inbreeding depression of any offspring of a mother-son union.

**But incest occurs**
These various strands point clearly to an evolutionary biological basis for incest aversion and its accompanying taboo, but one problem is that *incest still occurs*. Full brother-sister marriages occurred in Roman Egypt (Bateson 1983); and royal incest has been practised in a number of societies (Wilson 1998). In all these cases, though, there is good evidence of other factors at work. The sibling marriages of Egypt concerned the preservation of property (Bateson 1983, citing Hopkins 1980), while the deleterious effects of royal inbreeding were
counterbalanced by “the monopolistic retention of extraordinary resources, especially when those resources gave one access to innumerable lesser wives and concubines who, although they could not bear future kings, could certainly bear children” (van den Berghe, quoted in Ruse 1982: 263). The incest-avoidance mechanism, that is, contends with cultural and environmental factors concerning preservation or enhancement of power and status, property arrangements, and the need to maintain the family in existence. Other things being equal, inbreeding is not ideal, but if the alternative to it is either impossible or has unacceptable consequences regarding dispersal of property, endogamy may become the preferred option to deal with exceptional circumstances.

What, though, of incest which cannot plausibly be explained by the above power and status arguments, for incest does occur from time to time within the monogamous nuclear family (Smith 2007). The theory allows for this: incest will not be aversive if the mechanism fails to be potentiated or primed by relevant early experiences (such as childhood co-residency). It is also worth noting that there is often insufficient distinction made in the literature between non-procreative sexual behaviour and sexual behaviour that is (potentially) procreative: Leavitt regards the kibbutz evidence to be undermined by Shepher’s admission that sexual play does take place among the children. Yet Leavitt himself quotes Shepher that “[t]his sexual play begins in infancy, is intensive during early childhood, and is somewhat less intensive in the first school years” (Leavitt 1990: 981). Given that another few years would have to pass before a six-year old girl becomes fertile, such sexual play is non-procreative and hence incest-aversion at that age would be unnecessary. It is potentially procreative incestual sexual activity that risks inbreeding depression and hence requires an incest-avoidance mechanism to evolve which operates at the relevant age.

**Objections to Evolutionary Psychology**

The strong evolutionary psychology position with its claims to “massive modularity” is been under attack since its inception (Buller 2005; Dupré 2001, 2003; Fodor 2001; Rose and Rose 2000). Some objections have been commented on regarding specific candidate modules; here I wish to acknowledge briefly some of the more general objections to the whole enterprise and proposals of strong evolutionary psychology. A more extended discussion can be found in Hagen (2005).
Some argue that *H. sapiens* has many mental abilities that are difficult to explain by a strong modularity concept; for example the ability to do higher mathematics. Referring to the abstruse proof by Andrew Wiles of Fermat's Last Theorem (Singh 1997), Mithen asks “if minds are just adapted for solving the problems of hunting and gathering how could this proof have been devised? How indeed could Fermat have thought of a last theorem, or even a first theorem?” (Mithen 1996: 47). A module for higher mathematics seems highly implausible.

But no-one is proposing that a module for solving problems of higher mathematics evolved in hunting-and-gathering times. Whereas an intuitive capacity for elementary arithmetic would have adaptive significance (“three lions have gone into the cave and two have come out, three minus two equals one, so there must still be a lion in there”), and there is evidence for our possessing “intuitive mathematics” at that level (Bjorklund and Blasi 2005), no evolutionary psychologist claims there is a module for solving quadratic equations or differentiating ‘x’ with respect to ‘y’. Mathematical thinking in adults builds on modular “core knowledge systems” (Spelke 2000), so the absence of any specialised modules for arcane mathematical procedures cannot vitiate the evidence for the existence of the core modules.

A group of researchers “who see great value in applying evolutionary thinking to psychology and behavior” (Henrich et al 2010: 62) offer a WEIRD critique, that being an acronym for “Western, Educated, Industrialized, Rich, Democratic” societies, their point being that much of the data of the behavioural sciences in general, including evolutionary psychology, have been garnered from members of these societies, and from a certain subset in particular, such that “a randomly selected American undergraduate is more than 4,000 times more likely to be a research participant than is a randomly selected person from outside of the West” (2010: 63). This extreme bias raises the question of whether the researchers are justified “in assuming a species-level generality for their findings?” (2010: 61) since WEIRD people constitute “a certainly narrow and potentially peculiar subpopulation” (2010: 63). As applied to evolutionary psychology, this translates as asking whether (say) the purported theory of mind module or the incest-avoidance mechanism can be claimed as human universals.
Their impressive empirical review of “studies involving large-scale comparative experimentation on important psychological or behavioral variables” (2010: 61) focuses on “those domains which have largely been assumed... to be de facto psychological universals” (2010: 62). They noted that the data on several faculties concerned with colour perception, emotional expression and false belief tasks showed “universal patterns” (2010: 69), and that they could identify “many domains in which there are striking similarities across populations [i.e. not just within WEIRD populations]” including theory of mind (2010: 78), yet there were many “basic psychological processes” that “vary dramatically across populations”, such as “aspects of visual perception, memory, attention, fairness motivations, categorization, induction...” (2010: 78-9).

These findings should lead to caution in claims for the universality of various postulated modules where the evidence is derived mainly from WEIRD populations; yet although these authors do not specifically refer to language acquisition or incest-avoidance, it is hard to see that these, along with theory of mind, could be accused of being overly WEIRD-biased, given that they are based on considerable trans-cultural data (Shepard 1992). The critique, however, justifiably warns of the danger of seeing universal modules where what is observed may be culturally specific ways of responding to environmental challenges, and it is only sensible to heed their warning that there are “no strong grounds to make a priori claims to the ‘fundamentalness’ or the likely universality of a given psychological process” (Henrich et al 2010: 79).

Buller (2005) offers a considered and well-nuanced critique of evolutionary psychology, eschewing the “vitriol” found in many published criticisms of evolutionary psychology, and dismissing those who crudely depict evolutionary psychologists as “biological determinists” and/or the discipline as “culturally pernicious” (2005: 4). (He does not name them, so I will: Dupré 2001; Rose and Rose 2000; Tattersall 1998).

There is not the space here to do Buller’s own views full justice, so I will pick up on just a few points. He argues that there is no such thing as a universal human nature, but rather that “human populations are characterized by evolved psychological variation, *multiple minds*, rather than a single ‘mind’ that is universal within human populations” (2005: 14 – emphasis in original). This point is similar to a contention of the above-mentioned WEIRD authors. He also gives a clear and detailed account of the growth of the human brain, how it involves the
proliferation of neuronal pathways that are then pruned back under the influence of environmental input, hence “although an adult human brain can be characterized by ‘modular’ information-processing structures, these are environmentally shaped, not ‘genetically specified’, outcomes of development” (2005: 134 – emphasis in original). That is, he maintains that even though strong evolutionary psychology acknowledges the importance of the environment in triggering the activation of the development of a module, it fails to take sufficiently into account the environmental input into the development of any such modules in a given organism.

This is a fair point, along with the added objection that according to the current state of knowledge there are totally insufficient genes in the human genome to underpin all the “hundreds or thousands” of proposed modules, since it appears “that [the brain’s] higher cognitive structures are vastly under-specified genetically compared to its more peripheral sensory structures [such as olfaction]” (2005: 130). But a distinction needs to be made between whether the mind is massively modular, and, if it is, how it comes to be so in the individual (ontogeny) and how it came to be so in the species (phylogeny). Logically, strong evolutionary psychology could be right in its answer to whether and wrong in its answer to one or both hows, and Buller’s points concern the hows. His arguments do not impinge on the evidence that the human mind is modular.

Another possible problem concerns the original claim that mental modules are informationally encapsulated. Buller, adducing evidence for cross-modal connections, for example between auditory and visual areas of the cortex regarding speech perception, argues that the “degree of informational overlap in our brains shows that brain circuits are not ‘domain specific… [but are] domain dominant” (2005: 139 – emphasis in original), that is, modules have a dominant but not exclusive function. Information encapsulation, however, is not a prerequisite for strong evolutionary psychology despite the Swiss Army knife metaphor (Tooby and Cosmides 1992) which implies there is a set of independent modules which do not interact. The theory-of-mind-related modules proposed by Baron-Cohen (1995) have to interact with each other for their proper functioning, and a distinction can be drawn between the original proposal by Fodor (1983) of informationally encapsulated modules, and that of evolutionary psychology which “takes all mechanisms, with or without information
encapsulation, to be modules" (Hagen 2005: 163). Psychological adaptations often share components “and interact with each other to produce adaptive behavior” (Confer et al 2010: 111).

**Conclusion**

Evidence has been presented for the existence of a number of the modules that the version strong evolutionary psychology posits; with references to some of the others. Much of the evidence is comprehensive and appears strong, but in the light of the arguments of Buller (2005) and Cundall (2006) in particular, it seems wise to adopt a nuanced position such as Cundall’s, referred to above. He argues that “there might be cognitive systems that are not fully encapsulated and thereby not fully modular” (2006: 385), a position located between the strong and weak versions of evolutionary psychology, allowing for there to be strictly domain-specific modules, a general central-processing system, and variants in between.

A strict “massive modularity” model does not have to be adopted for the purposes of the current enquiry, since it is my aim to argue that another module (or, possibly, suite of modules) with which we have been endowed by evolution is one whose domain (whether domain-specific or domain-dominant) is that of spirituality. That argument will not depend on whether or not the mind is *massively* modular, only on whether modularity *per se* is a valid approach to construing the human mind, and the evidence and discussion in this chapter presents my case that that is so.
Introduction
A contention of evolutionary psychology is that nature has designed our universal sense of right and wrong (Hauser 2008), giving *H. sapiens* an evolved faculty of “intuitive morality” to go with our other intuitive faculties such as those of intuitive physics and intuitive psychology. This is of particular relevance to the current enquiry, since later I am taking the essence of the “horizontal” dimension of spirituality to be altruism, particularly two varieties which I term “weak Good Samaritan Altruism” (referring to general altruistic behaviour, particularly when directed at a stranger) and “strong Good Samaritan Altruism” (referring to altruistic behaviour directed at someone who belongs to a group, tribe or nation which is actually hostile to one’s own). Of course, it can be argued that altruism is not the same as morality, and it is not even a simple subset of morality, since it is possible to behave in a way that is altruistic but generally agreed to be immoral – as in taking the rap for your spouse’s drink-driving offence. Nevertheless, because altruism is about a particular way of behaving towards others (putting their interests above self-interest [Flew 1979]), it acts as a useful proxy for the more complex phenomenon of morality in general (Haidt [2009] identifies five foundations and four principles of morality).

I intend therefore first to make a few comments about intuitive morality in general, then to concentrate more specifically on the evolutionary basis for altruism and how that links with spirituality.

Evolution and ethics
There are at least two types of possible relationship between evolution and ethics (or morality – I will be using the terms virtually synonymously): one is to view evolutionary theory as *prescriptive*, capable of determining or at the very least shaping ethical theory; the other is to view evolutionary theory as *descriptive*, explaining how the moral capacity of human beings arose. The former is known as “evolutionary ethics”; the latter as “the evolution of ethics” (Woolcock 1999). It is this second, descriptive account which is the proper concern of the current chapter since it addresses the evolutionary underpinnings of what has been identified for the current enquiry as the horizontal/circumference dimension of spirituality.
Nevertheless, a few words are in order about the prescriptive approach in order to emphasise that this is not the route taken by evolutionary psychology. This is necessary because some critics of evolutionary psychology erroneously charge it with condoning unethical behaviour such as rape (Tattersall 1998) on the grounds that it offers a (possible) adaptiveness-based explanation, as though ethical principles could be based on evolutionary processes, and that an evolutionary explanation were the equivalent of an ethical exculpation.

Evolutionary ethics, which refers to the attempt to derive normative ethical principles from the facts and processes of evolution (Schloss 2004), can be traced back to Herbert Spencer (1820-1903) who sought to construct a “strictly scientific morality” derived from evolution which he saw as inevitably entailing progress (Farber 1998: 40). He opposed social policies which mitigated the effects of natural selection, writing of those who defended the Poor Law that, “[b]lind to the fact that under the natural order of things, society is constantly excreting its unhealthy, imbecile, slow, vacillating, faithless members, these unthinking, though well-meaning, men [i.e. defenders of the Poor Law] advocate an interference which not only stops the purifying process but even increases the vitiation” (quoted in Ruse 2004: 29).

Such thinking was opposed by many, with the principle philosophical argument against evolutionary ethics being, and remaining, the “Naturalistic Fallacy”, advanced by G. E. Moore (1903) but with its origins going back to David Hume’s (2000 [1739]) is/ought distinction, referring to the illegitimacy of deriving “ought” statements from “is” statements. Moore’s target was all ethical systems which did not take “the good” to be a simple notion which cannot be defined or analysed; and hence cannot be derived from other things such as natural objects. But to claim, as evolutionary ethics does, that “we ought to move in the direction of evolution simply because it is the direction of evolution”, is to identify “the good” with another notion (alleged evolutionary progress), and hence is fallacious (Farber 1994: 110).

To illustrate that what ought to be the case cannot be derived from what is the case, Ruse offers the eradication of small-pox, a product of evolution, by the World Health Organization. Unsurprisingly accepting this as a good thing (though perhaps Spencer would disagree – unless he contracted it, of course), he argues, rightly in my opinion, this to demonstrate that there is “nothing sacrosanct about evolution. What is good, or what one ought to preserve or
encourage, is not necessarily what has evolved or is evolving, even if this evolution is along Darwinian lines” (Ruse 1982: 269).

Whether the philosophical objection to evolutionary ethics had much impact outside philosophical circles is debatable, but what certainly brought the traditional form of evolutionary ethics into wide disrepute was its association with particular social doctrines (“social Darwinism”), notably eugenics with its premise that if evolution requires “the fit” to flourish at the expense of “the less fit”, then killing off those perceived to be less fit was aiding evolution and therefore a good thing; whereas striving to keep alive the less fit was contrary to evolution and therefore a bad thing. Then, having started with eugenic proposals “to weed out the lower classes, as well as non-European races, by selective breeding, oppressors repeatedly invoked the name and prestige of biology, along with Social Darwinist distortions of evolutionary theory, to justify exploitation. The notion on fitness was twisted to preserve white dominance in the United States through so-called intelligence testing, bolstered by false, but seductive, biological theories. It also figured in the ravings of the Nazis” (Midgley 2002: 9).

As Midgley asserts, eugenic proposals were a distortion of evolutionary theory, and the evolutionary ethics which allegedly legitimised eugenics fell out of favour. There have been revivals of different forms of evolutionary ethics, no longer crudely trying to derive ethical principles from evolutionary theory but in arguments that an evolutionary understanding of human beings can help identify what constitutes the human good (Farber 1994), but there is a tendency among opponents of evolutionary psychology to claim that its advocates are attempting to derive ethical norms from evolutionary principles. Tattersall claims that “some of the more literally minded of the evolutionary psychologists have taken to defending rape as an ‘adaptive’ behavior, since it is one more way for males to spread their genes around” (Tattersall 2002: 178). This presumably refers to the two contending hypotheses concerning rape, namely i) that human rape behavior is a by-product of men’s adaptation for pursuit of casual sex with multiple partners, or ii) that rape is an adaptation in and of itself because it promotes success in competition for mates (Thornhill and Palmer 2000). Whether or not either theory is correct, the authors are explicit that they are not defending rape on the grounds that it may be an evolved behaviour and that to do so would be to commit the naturalistic fallacy (2000: 5 and passim). They are
seeking to explain the possibility of rape in evolutionary terms, but “[n]o one knows, nor is there currently enough evidence to decide the question either way. A better question is whether or not a rape adaptation in humans is conceivable. Here, I think the answer is clearly yes. That rape might be an adaptation is a reasonable hypothesis to pursue, and the proper framework is intersexual conflict” (Hagen 2004: np). The wrongness of rape is not mitigated by its origins.

This diversion into evolutionary ethics has been to emphasise that the claim of evolutionary psychology that we have an evolved intuitive morality should not be taken as a pronouncement on the content of any ethical system. Indeed, our intuitive morality would seem to favour kin over non-kin, and the in-group, or “us”, over the out-group, or “them” (Hauser 2008), which are biases the ethical legitimacy of which could be consciously challenged by invoking the Golden Rule (Singer 1991).

Hauser (2006) bases his account of intuitive morality on an analogy with language acquisition, though he misses a trick in failing to note that if the language acquisition device is LAD, then a morality acquisition device would surely be…

However, his account is comprehensive, and I propose simply to pick out two or three of his arguments before homing in on the phenomenon of altruism which is, to repeat, the horizontal dimension or circumference of spirituality.

**Intuitive morality**

Arguing that we have a moral faculty “equipped with a ‘universal moral grammar’” (2006: xv), Hauser makes use of a number of experiments to demonstrate that our moral intuitions are “fast, automatic, involuntary, require little attention, appear early in development, are delivered in the absence of principled reasoning, and often appear immune to counter-reasoning”, in contrast to conscious reasoning which is “slow, deliberate, thoughtful, requires deliberate attention, appears late in development, [is] justifiable, and open to carefully defended and principled counterclaims” (2006: 36). In particular, he presents a series of “trolley problems” in which the basic scenario is that someone, call him Jim, is on an out-of-control trolley on a railway line. Jim cannot stop the trolley – the brakes have failed – but he knows he can flip a switch which will divert the trolley onto a branch line. Suppose there are five
hikers ahead on the line oblivious to their danger, and no-one on the branch line – is it morally permissible for Jim to flip the switch? Research shows that as well as the obvious answer of yes, the instinctive response of most people is also to say that Jim would be morally culpable if he didn’t flip the switch. But suppose as well as the five hikers on the main line there is one hiker, also oblivious to danger, on the branch line: now is it morally permissible for Jim to flip the switch, given that if he does so, that lone hiker will die though the other five will live? If you say yes, it is morally permissible to flip the switch with the result of the lone death instead of five deaths, Hauser reports that “you are like thousands of subjects [he has] tested in experiments” (2006: 37). Now suppose that Jim isn’t on the trolley but on a bridge, and this time there isn’t a branch line option, but standing beside Jim is a very large man. Jim realises that a heavy weight – of, coincidentally, the mass of the large man – dropped in front of the trolley will halt it and save the five hikers. Is it morally permissible for him to shove the large man off the bridge onto the track below? It would result in the death of one man and saving the lives of five, but although this is exactly the same arithmetic outcome as in the previous scenario, most people, according to Hauser (and as I, for another, would expect), respond instinctively that such an action is not morally permissible. But what of those few who do claim that it is morally permissible to sacrifice the large man in this way for the sake of the five (and there are some)? Hauser refers to another thought experiment, though one not involving a trolley (except of the hospital variety): there are five critically ill people in a hospital, each needing an immediate organ transplant if they are to live. Enter a healthy man. Is it morally permissible to kill him and use his organs to save the lives of the other five? 98% of those asked “judged this act as impermissible” (2006: 142 – regrettably, Hauser says nothing further about the remaining 2% and how they would respond if they were the healthy man in question). Yet on a utilitarian calculus the outcome of killing the healthy man is identical to the second of the trolley problems – divert the trolley, killing one and saving five. The major difference between the scenarios, though, is that in the first one the death of the lone hiker is a regrettable by-product, as it were, of the action required to save five (an action, the diverting of the trolley, which would take place even if the lone hiker weren’t there), whereas in the large-man-over-the-bridge scenario and the organ-transplant scenario, the single individuals concerned are being used as the means of saving the lives of others – saving
the others wouldn’t be an option in their respective absences. That the general intuition is that, regrettable though it may be, it is morally permissible to bring about the death of the lone hiker as a foreseen but unintended by-product of acting to save the lives of the others is the philosophical “principle of double effect”. But this principle was articulated “after years and years of debate and scrutiny” by philosophers, whereas “[e]veryone listening to these dilemmas… judges them immediately, without any sense of thinking through the problems and extracting the underlying principles” (2006: 38). There is an immediate gut response, even if later, conscious, reasoning then takes place.

Similar thought-experiments, undertaken using American and Taiwanese students but with further information given about the fictional dramatis personae, showed that subjects preferred to save “kin over non-kin, friends over strangers, humans over nonhumans, and politically safe or neutral individuals over politically abhorrent monsters. In both cultures, subjects judged that it was permissible to save an unknown person over an endangered gorilla, and to sacrifice several people with politically abhorrent views (e.g., Nazis) over one person with politically and emotionally neutral beliefs. These results held across both groups, even though the Taiwanese students tended to follow Eastern religions that favor inaction over action” (2006: 133-4). All that might sound like, as Basil Fawlty would say, a statement of the bleedin’ obvious – but that is precisely the point; these responses chime so well with the intuitions of most of us that they are obvious. They are what sociologist Peter Berger refers to as “of course’ statements” (Berger 1966). But how come we have those intuitive responses? How come on hearing them we shrug and say “of course”? If our conscious, reasoning self acknowledges that actually people are of equal value, or rather that there is no logical reason to say that kin are on the whole intrinsically better people than non-kin, or that friends are on the whole better than strangers, then is it right to favour kin over non-kin? Friends over strangers? Why do we instinctively do it? It is, Hauser argues, that individual moral judgments “reflect evolved, universal decision-making processes that increase genetic fitness” (2006: 134).

There is a lot more than could be said but not the space to say it all. I propose therefore in the rest of this chapter to elaborate the proposal that moral judgments “increase genetic fitness” by considering the phenomenon of altruism.
The evolution of altruism

In evolutionary theory, altruism has been dubbed “the central problem” (Wilson 1998: 165) since altruistic behaviour in any species appears to be contrary to natural selection, entailing as it does one organism behaving in such a way as to benefit another organism to its own possible detriment. A simplistic understanding of Darwinian mechanisms suggests that since (statistically speaking) altruists are less likely to survive and reproduce than are non-altruists, there should be a preferential propagation down the generation of the genes of non-altruists compared with genes of altruists. And by this calculus, altruism should in the long run be selected out; selfishness should reign triumphant. Yet that manifestly is not the case, with chimps helping each other in a fight, vampire bats feeding blood to hungry conspecifics, ground squirrel’s alarm call, and the phenomenon of social insects (Cosmides and Tooby 1992), not to mention, in the human sphere, the sharing of blood through blood donor schemes (Titmuss 1970), and the actions of people such as Andrew Parker who, when a ferry capsized in Zeebrugge harbour, turned himself into a human bridge, allowing the others to crawl to safety over him whilst endangering his own life (BBC 1987).

Moral and Evolutionary Altruism

To account for the widespread occurrence of such apparently perverse (in evolutionary terms) behaviour, a number of evolutionary mechanisms have been posited. First, though, it is necessary to distinguish between two different but related uses of the term “altruism”, for which, following Ruse (1986b), I use the terms “moral altruism” and “evolutionary altruism”.

*Moral altruism* refers to behaviour which is performed by a moral agent acting in his or her capacity as a moral agent, with the intention of benefiting another organism (whether of the same species or not) although it carries, or may carry, a cost to that agent. Only organisms which have some capacity for reflective thought and decision-making, and can make a conscious choice between different courses of action, are capable of moral altruism. Andrew Parker, in turning himself into a human bridge, chose take that course of action. He could well have done differently – getting himself to safety as quickly as
possible, and hang everyone else – but no, he chose to remain for the sake of strangers. His action, deliberately chosen, is an instance of moral altruism.

But a lapwing which lures a predator away from a chick-filled ground nest by feigning a broken wing is also risking her life to protect her others – her young (Smith, J.M. 1993) – but this is an instinctive response triggered by the circumstances. No-one seriously suggests that the lapwing ponders what course of action to take – feigning a broken wing is what lapwings do in those circumstances. Her behaviour looks altruistic, and is altruistic in the sense that she is endangering herself for the sake of her chicks, but it is not the outcome of conscious, deliberate choice. It is not moral altruism but evolutionary altruism, altruism that has an pay-off in evolutionary terms.

Evolutionary altruism, then, refers to behaviour by an organism which, like moral altruism, benefits another organism at the agent’s own individual cost, but which actually results in an increase in the agent’s “inclusive fitness” – that is to say, although the behaviour is detrimental to the agent as an individual organism by decreasing its survival chances, it benefits the agent’s genes by increasing their chances of being represented in future generations. The behaviour of the lapwing in enticing the predator away from the chick-filled nest improves the chances of survival (and hence, in due course, of reproduction) of the chicks, and so the genes of the “altruistic” lapwing have a greater chance of being represented in future generations than of a “selfish” lapwing who flies away and allows her chicks to be predated. This illustrates the principle that in evolution, “it is not the survival of the individual that matters but of the offspring of that individual” (Smith 1993: 193).

Moral altruism and evolutionary altruism involve identical types of behaviour but they differ in the presence and absence respectively of motivation (Singer 1981), and “there is no implication that evolutionary ‘altruism’… is inevitably associated with moral altruism (where this is the original literal sense, implying a conscious being helping others because it is right and proper to do so)” (Ruse 1986b: 98). Evolutionary altruism involves “expectation (not necessarily conscious expectation) of return from an evolutionary perspective. This kind of altruism is metaphorical” (2001: 192).

Although the focus here is on altruism, the same distinction arises in the evolutionary use of its antonym “selfish”, particularly as applied to the activity and function of genes, about which “definitions of altruism and selfishness are
behavioural, not subjective. I am not concerned here with the psychology of motives” (Dawkins 1989: 4 – italics in original).

A Taxonomy of Altruisms
There is a range of different behaviours which can all be classed as “altruistic” of either the evolutionary or moral kind, and it is part of my argument that, of this family of altruisms, the evolutionary members are the precursors of what, in *H. sapiens*, are the moral members. That is, the claim that altruism is based on the functioning of an intuitive, evolved faculty is supported by the widespread occurrence of altruistic behaviour throughout the animal kingdom which, in the absence of a culture, can only have arisen through evolutionary processes. Evolutionary altruism in its various guises constitutes an intuitive faculty, upon which human moral altruism is subsequently built – much as the ability to do higher mathematics builds on the far more elementary functioning of our intuitive mathematics – and without that grounding of evolutionary altruism, moral altruism could not come to be.

There follows a rough typology of altruism, evolutionary and moral, ordered according to the increasingly indirect relationship, either genetic or social, between the agent and the beneficiary of the behaviour being considered. For simplicity’s sake I have excluded some behaviours which could conceivably come within the altruism family, such as the parasitism (or rather, the consequence of the parasitism) of cuckoos: by laying their eggs in their nests they induce the “foster” mother to hatch and rear the cuckoo chick to the detriment of her own chicks – and hence to the detriment of her genetic fitness (Dawkins 1989 [1976]), which could be reconstrued as, say, “unintended altruism”.

1. Parental altruism
Parental altruism is better known as parental care, and refers to the investment of time and energy in raising young, time and energy which could otherwise be spent on the well-being of the parent. It is altruistic behaviour because it benefits the offspring to the cost of the parent, but in most species this cannot count as “moral altruism” since it is clearly a consequence of evolved, instinctive behaviour, such as that of the lapwing faking a broken wing, rather than the free choice of a moral agent. Wilson comments that parental care is not altruism “in the strict genetic sense” (1980: 55), by which he means that such behaviour by
the organism is a consequence of genetic selfishness, since the chances of the genes being represented in future generations are enhanced by the parent’s altruism. Parental care therefore counts as “evolutionary altruism” because the evolutionary benefit of enhanced genetic fitness, accruing from the behaviour, has driven the evolution of parental altruism.

From this account it would seem obvious that from an evolutionary perspective parental care is inevitably advantageous, but things are not that straightforward. Consider the case of the pelican “insurance” chick. Holmes Rolston (2006 [1987]) reports that the white pelican typically lays two eggs and so begins to rear two young; but in time the stronger of the two ousts the other from the nest, and this weaker chick is henceforth ignored by the parent pelicans. The second “insurance” chick functions to increase the chances of one viable chick surviving – if anything untoward happens to the favoured chick in the early days, its not-yet-abandoned back-up sibling takes over the role of gene-carrier-in-chief; but if the favoured chick survives, the back-up chick is not needed and, becoming a drain on resources, its ejection from the nest is advantageous. No parental care there, for it is the genetic calculus that shapes the outcome, not an absolute directive that pelican (or other) parents must care for their young come what may.

It would be a waste of time to look through the moral lens at the behaviour of pelican parents towards the insurance chick and construe the pelican parents’ behaviour as immoral, the very antithesis of “moral altruism”. We might not like this aspect of the natural world, we might consider it cruel, wasteful, unpleasant, we might consider it to be an example of “evolutionary evil” (Southgate 2008), but the pelicans themselves are hardly blameworthy moral agents consciously choosing chickicide. The evolutionary lens alone is sufficient to examine their behaviour and how it has come into existence; the moral lens is not required.

All this might seem a long way from the actions of human parents where the parent-child attachment, and in particular the mother- (or mother-substitute-) child attachment, is so strong (Bowlby 1969). It is easy to believe that parental altruism is also natural to – that is, an evolved characteristic of – H. sapiens, but without “insurance chick” complications… But not so fast; there are complications.

First, a general point, is that there is good evidence for infanticide being significant in many human societies both past and present (Williamson 1978),
indicating that parental altruism is not so hard-wired into the human psyche that it always prevails, whatever the environmental or cultural circumstances.

Secondly, there are regrettably regular instances of parental neglect reported and investigated (Packman 1975), about which the evolutionary psychologists Martin Daly and Margo Wilson (Daly and Wilson 1988; 1994; 1998; Wilson and Daly 1992) predicted that children would be more at risk from step-parents than from genetic parents, the evolutionary logic being that unlike one’s biological children, stepchildren do not carry one’s genetic endowment to subsequent generations:

“Parental investment is a valuable resource that can be parasitized by nonrelatives, and animals manifest a wide range of complex adaptations for countering such parasitism… It would thus be surprising if the relatively ‘selfless’ motivational and emotional states of parental solicitude were readily and fully engaged by a new mate’s offspring from a prior union… By this reasoning, a differential risk of violent lapses of parental solicitude is just one, relatively extreme, consequence of the fact that genetic parents’ solicitude generally exceeds that of stepparents” (1994: 208).

Research spectacularly confirmed the prediction, with U.S. data indicating “that the youngest children (0-2) incurred about 100 times greater risk at the hands of stepparents than of genetic parents” (1994: 207), and Canadian data showing a 70-fold factor. The argument is not that stepparents are predisposed to harm their stepchildren, but that stepparent solicitude is (statistically) weaker than that of genetic parents, backed up by “ample evidence of men’s reluctance to assume child support obligations to the offspring of other men” (Wilson and Daly 1992: 307 – citing a range of studies).

Although there is (quite rightly) moral condemnation of child abuse whether by genetic or step-parent, this evidence supports the view that parental altruism is an evolutionary phenomenon, for the differential between abuse by step-parents and abuse by genetic parents is inexplicable from a purely moral perspective. Of course, this does not remove the moral (or rather, immoral) dimension from child abuse by step-parents, nor does it reduce parental altruism to a form of disguised selfishness just because the parent’s genes (or, more strictly, copies of their genes) benefit, for “selfish genes sometimes use selfless individuals to achieve their ends” (Ridley 1996: 20). The altruism that parents display towards their children has evolutionary roots without that
detracting from the behaviour fulfilling the condition of benefitting another 
organism at the parent’s own individual cost.

Since a parent and a child are, by definition, kin, parental altruism is strictly 
speaking a subset of the next category, kin altruism.

2. Kin altruism
Behaving altruistically towards kin (not just one’s offspring) is common in the animal kingdom. For example, with many species of birds an individual that sees a predator will give an alarm call which alerts the other birds to the danger but simultaneously puts itself at greater risk (Smith 1993 [1958]). This apparently maladaptive behaviour is explained by the concept of kin selection (Hamilton 1964) whereby the increased risk to the continued survival of the bird making the alarm call is more than outweighed by the decreased risk to its relatives in the flock, and “the more closely are the members of the flock related, the greater the risk an individual will run to confer a given advantage to the other members of a flock. If the flock is merely a random sample of the whole population, selection will not favour the running of any risk at all” (Smith 1993 [1958]: 195). The so-called “social insects” such as ants and bees are often cited as a striking example of kin selection in action. A worker bee is a sterile female who “spends her life looking after her children”, the explanation offered being that because the curious genetics of the hymenoptera order of insects makes a female genetically closer to her sisters than to her own daughters, “a female [bee] does more to preserve her own genes if she stays at home and looks after her sisters than if she goes out and starts a family of her own” (1993 [1958]: 196). Altruistic behaviour is reported in many other species such as monkeys and whales, a phenomenon explicable by the kin-based nature of many such groups, such that when, for example, whales go to the help of an injured individual, “it may be that the overall probability that a random member of the school is a relation is so high that the altruism is worth the cost” (Dawkins 1989: 100).

Looking through the evolutionary lens, it makes genetic sense for an organism to be altruistic towards relatives since they carry a share of the same genes. This is the concept of “inclusive fitness”, defined as “the sum of an individual’s own fitness plus all its influence on fitness in its relatives other than direct descendants” (Mayr 1993: 181). That is to say, if an organism behaves in
such a way that it lowers its own genetic fitness (i.e. less likely to survive and pass on its genes directly), but in doing so raises the genetic fitness of its relatives (i.e. increases their chances of surviving and passing on their genes, which includes copies of the genes the relatives have in common with the altruist) to a degree that more than compensates for its own lowered fitness, then the altruist will have raised its own inclusive fitness, and its behaviour will (statistically) be selected for and tend to spread through the population in subsequent generations.

Applying the concept of kin altruism to human behaviour gave rise to J.B.S. Haldane’s mordant quip that “greater love hath no man than this, that he lay down his life for two brothers, four half-brothers or eight first cousins (Bowker 1995: 33), his point being that since we share 50% of our genes by common descent with a sibling, 25% with a half-sibling, and 12.5% with a cousin, our loss by death of our own reproductive potential would be balanced by our preventing the death of 2, 4 or 8 of those relatives respectively. Of course, no-one is suggesting that such mathematical calculations take place consciously; the argument is simply that altruistic behaviour towards kin is also beneficial to our genes (or, more accurately, towards the copies of our genes that our kin share), hence that behaviour will be selected for along with any genetic predisposition to act altruistically towards kin.

Empirical research supports the expectation derived from the inclusive fitness argument that kin are preferentially the beneficiaries of altruistic behaviour. Stewart-Williams (2007) observed in his research with undergraduates “[a] general (albeit imperfect) trend… such that, as the cost of helping increased, the share of help given to kin increased, whereas that given to nonkin decreased”, and that “even though young adults report that they are emotionally closer to friends than to siblings… participants were more willing to provide high-cost help (i.e., evolutionarily significant help) to siblings” (2007: 196). Other research focused on cousins, and was based on evolutionary considerations concerning the probabilities of paternity uncertainty and hence uncertainty about what percentage of genes by common descent were shared: the prediction was verified that individuals would exhibit higher levels of altruism towards cousins who were their mother’s sister’s children (where one could be certain of shared genes by common descent) than towards cousins who were their father’s brother’s children (where there is less certainty of shared genes by
common descent (Jeon and Buss 2007). Rachlin and Jones (2008) verified that financial generosity varies according to perceived closeness of genetic relationship – the nearer the relationship, the greater the financial altruism.

These and similar findings support the view that kin selection is an important factor in the evolution of altruism (though see Nowak, Tarnita and Wilson [2010] for a dissenting view).

3. Reciprocal Altruism

Altruism, however, is not confined to helping kin, and the mechanism of kin-selection cannot alone explain instances of altruism such as the intra-specific example of vampire bats and the inter-specific example of cleaner fish. Here the mechanism of “reciprocal altruism” (Trivers 1971) is operating. Though it sounds like an oxymoron, it refers to the phenomenon whereby, although certain behaviour by each of two individuals are altruistic when considered independently, there is in effect an (unconscious) reciprocity occurring whereby both individuals benefit.

Vampire bats feed at night on the blood of large animals, but hunting is not always successful and the bats have evolved their own blood-sharing scheme (Wilkinson 1984). When a bat is successful, it can drink more than it immediately requires, and subsequently regurgitate the surplus to another bat who has failed on that occasion. The favour is repaid on another night, and the bats operate on a tit-for-tat basis: “A bat that has donated in the past will receive blood from the previous donee; a bat that has refused blood will be refused blood in turn” (Ridley 1996: 63). This reciprocity increases the fitness of both donor and donee bats: a bat who donates blood is, at the moment of donation, apparently lowering its fitness and increasing the fitness of the (possibly unrelated) recipient; but if a night or two later when its own hunting has been unsuccessful it receives blood from a fellow bat, then its fitness is enhanced: and the fact that reciprocal altruism has evolved suggests that the degree to which its fitness is enhanced as a recipient more than compensates for the amount its fitness is lowered when a donor. This makes sense, since for young bats “one night in three is unsuccessful, and two abortive nights in a row are not therefore uncommon. After as little as sixty hours without a blood meal, the bat is in danger of starving to death” (1996: 62); hence reciprocal altruism can mean literally the difference between life and death.
The reciprocity could, of course, be open to abuse, in that bats which accept blood meals but fail to reciprocate later would be gaining the benefits and not paying the cost, giving them a selective advantage over reciprocating bats. This explains, at least in part, why vampire bats have evolved very big brains for their size, namely to monitor the complex social relationships entailed by reciprocal altruism: “To play the reciprocity game, they need to recognize each other, remember who repaid a favour and who did not, and bear the debt or grudge accordingly” (1996: 69). Cheats, in other words, will soon find themselves being refused blood meals by fellow bats; cheating behaviour will be selected against.

An inter-specific example of reciprocal altruism is found at “cleaning stations” among coral reefs where large fish can go to be cleaned of parasites by a range of smaller fish and shrimps (Ridley 1996). The client fish benefit by having potentially harmful parasites removed, whilst the cleaners benefit from having their meals (namely, the parasites) ready provided. Significantly, although the cleaners often resemble the usual prey of the client fish, they are not harmed, so the puzzle is “why the clients do not... accept the cleaning services, but round off the session by eating the cleaner” (1996: 64).

The behaviour of the client fish in not eating the cleaner fish fits with the definition of altruism, since it is to the advantage of the cleaner fish (“not being eaten” is a definite improvement on “being eaten”), but it is to the disadvantage of the client fish which now has to expend extra energy in going off to find prey fish elsewhere rather than eating the cleaners. The reciprocal altruistic explanation for this behaviour is “roughly that... good cleaners are hard to find. The client fish do not spare their cleaners out of a general sense of duty to future clients, but because a good cleaner is more valuable to them as a future cleaner than as a present meal” (1996: 64). Client fish with a predisposition to eat their cleaners would be selected against compared with client fish who had a predisposition not to eat their cleaners. This isn’t to suggest that the client fish has developed a conscience, nor that the fish consciously calculate that “a good cleaner is more valuable to them as a future cleaners than as a present meal”: natural selection has built that calculation into their instinctive patterns of behaviour. And in their turn, those cleaner fish with the greater cleaning efficiency eat better, and so will on average be selected by natural selection in preference
to the less efficient cleaners. The genetic fitness of both client and cleaner are enhanced by their reciprocity.

Reciprocal altruism has been observed in rhesus macaques and baboons, and the anthropoid apes, where members of troops “are known to form coalitions or cliques and to aid one another reciprocally in disputes… [and] chimpanzees, gibbons, African wild dogs, and wolves also beg food from one another in a reciprocal manner” (Wilson 1980 [1975]: 58-9), but it is human behaviour which “abounds with reciprocal altruism” (1980 [1975]: 58).

4. Strong Reciprocity
Whereas the forms of altruism so far referred to are found in the non-human as well as the human world, in strong reciprocity (Fehr and Fischbacher 2003; Fehr and Henrich 2003; Gintis 2000; Gintis et al 2003) we find a phenomenon which, the evidence suggests, is “a uniquely human cognitive adaptation” (Hauser 2006: 89). It refers to a predisposition not only to cooperate with others, but also to punish non-cooperators – those considered to be behaving unfairly by violating the norms of the group – and, significantly, to be willing to punish at personal cost “even when this behavior cannot be justified in terms of extended kinship or reciprocal altruism” (Gintis 2000: 169). The argument is that such strong reciprocity helps guarantee “stable, co-operative societies” (Hauser 2006: 89), contributing to a form of group selection in that a group of co-operating altruists is more likely to survive periods of adversity than is a group of selfish cheaters (Wilson 2002).

The existence of strong reciprocity has been repeatedly demonstrated in industrialized societies in many experiments involving the “Ultimatum Game” and its variants. In the standard version the investigator hands a sum of money (say £10) to one participant (“the proposer”) whose task is to offer some of that money to a second participant (“the respondent”). If the respondent agrees to the proposer’s offer, the money is split as agreed and they each keep their share. If, however, the respondent rejects the offer, then neither of them get to keep any of the money. There is no further bargaining, and the proposer loses out as does the respondent. Now, if the respondent were acting totally rationally, then in a one-shot encounter (where there will be no future behaviour of the proposer that the respondent’s response can influence) he would not reject whatever the proposer offered, even if it were only 50p – since something is
better than nothing and he would still be 50p up, even though he considers the proposer a louse for not offering more. But that is not what happens – typically if the proposer offers only a small percentage, the respondent rejects the offer, thus punishing the proposer for his perceived unfairness by causing him to lose all the money involved, even though he (the respondent) also loses out on getting some free money. He has punished unfairness at the cost to himself, and this punishment is usually inflicted if the offer from the proposer is less than 20% of what the investigator has handed to the proposer; that is, respondents “do not behave in a self-interest maximising manner” (Fehr and Henrich 2003: 5). But it also turns out that proposers often offer in the region of half the money, so in effect both players are behaving irrationally (the respondent in rejecting an offer, however small; the proposer in making an offer higher than necessary).

There are variants to the game, some involving anonymity, some involving repeated interactions with the same partner, some involving the respondent having no option but to accept whatever the proposer offers (the so-called “Dictator Game”), with differing outcomes dependent on reputations that players acquire and their experiences with one or another partner. Mathematical models reveal that “fairness evolves as a stable solution to the ultimatum game if proposers have access to information about a [respondent’s] past behavior... reputation fuels cooperation and provides a shield against defection” (Hauser 2006: 87).

Similar bargaining games with a range of small scale societies, reveal “significant cross-cultural variation that maps onto social norms within each culture” (2006: 91), but Hauser further notes that none of the ultimatum game players in the 15 societies reported on by Henrich et al (2001) “made offers of less than 15% or more than 50%”, variations which, he argues, suggest that there is a universal principle of fairness, which cultures individually “tweak... in order to constrain what counts as permissible exchange” (Hauser 2006: 93).

There is an argument that strong reciprocity is not an adaptation in its own right but simply a maladaptive by-product of the other forms of evolutionary altruism such as ordinary reciprocal altruism not being “sufficiently finely-tuned to the modern human condition where lots of one-shot interactions occur” (Fehr and Henrich 2003: 7), unlike the situation in the EEA where one-shot interactions would have been rare. But these authors cite "ample evidence that
humans cooperate much more if they expect frequent future interactions than if future interactions are rare or absent” (2003: 7), that is, we aren’t fooled into behaving as though a one-shot interaction is merely one of a series of repeated interactions (being fooled that that were the case would indicate strong reciprocity to be a maladaptive by-product); we do distinguish between a one-shot interaction and the possibility of repeated interactions, and strong reciprocity persists.  

Strong reciprocity, then, appears to be a product of human evolution involving a willingness to subordinate one’s own interests in order to punish cheaters (“strong negative reciprocity”) or reward those who have bestowed benefits (“strong positive reciprocity”) (2003: 3). It has not been found in any other species so far studied, including our nearest relatives the chimpanzees, among which “no behaviors that come close to strong reciprocity have been observed” (2003: 6), and entails an intuitive understanding of “fairness”, though what is understood to be fair appears to have a large cultural component.

That cultural component becomes even more significant in the two final categories of altruism, where explicit moral agency rather than simply the biologically intuitive responses comes into its own.

5a Weak Good Samaritan altruism

The mechanisms and examples so far given of altruism clearly do not cover the whole range. Earlier, the distinction was made between evolutionary altruism and moral altruism, the latter being the province only of moral agents. Although a case can be put for the existence of a proto-moral agency in some other primates (de Waal 1996), there is currently only one species, H. sapiens, that we can be confident possesses moral agency if any species does. The following therefore is solely about types of altruistic behaviour that H. sapiens is capable of as a moral agent, not simply as the possessor of an intuitive (and hence non-moral) faculty.

I identify two types of moral altruism, weak Good Samaritan altruism (WGSA) and strong Good Samaritan altruism (SGSA). These terms arise from the well-known parable of the Good Samaritan: Jesus, in conversation with a lawyer, asks for his understanding of “the Law”, to which the man replies by quoting Leviticus 19:18: “You must love the Lord your God with all your heart, with all your soul, with all your strength, and with all your mind, and your
neighbour as yourself”. Jesus commends this summary of the Law and urges the man to obey it. The man then asks, “And who is my neighbour?” (Luke 10:27, 29), whereupon Jesus recounts the parable (Luke 10: 30-37). This tells of a man being beaten up and left for dead by robbers, and as he’s lying there unconscious he is ignored first by a priest, then by a Levite, before finally being rescued by a Samaritan traveller who tends to his wounds, takes him to an inn and pays for his care. It is the Samaritan, who showed pity and helped another in distress, who “proved himself a neighbour” (Luke 10:36).

In common parlance “being a Good Samaritan” means helping a stranger in distress – as in the charitable organisation “The Samaritans” with its origins in a desire to respond helpfully and pastorally to would-be suicides (Varah 1965). It means putting yourself out for another with no thought or possibility of reward, even when that other is not a member of your family, group, tribe or nation.

No value judgement is meant to be implied by referring to this as “weak” Good Samaritan Altruism, but this common perception of being a good Samaritan, of being helpful and co-operative, of inconveniencing yourself for the sake of someone else (and usually with the expectation of reciprocity if the opportunity arises) is actually a dilute or weak version of what is implied in the biblical narrative, where the behaviour exhibited is what I refer to as:

5b Strong Good Samaritan Altruism (SGSA).

Rolston refers to the Samaritan’s behaviour as “helping non-genetically related others” and as that of one who “values life outside his own self-sector, outside his cultural sector” (2004: 238, 239), which in effect describes what I have termed weak Good Samaritan Altruism. Rolston’s depiction is correct as far as it goes, but the Samaritan is doing more than Rolston gives him credit for. A telling factor in the parable is that the recipient of the altruistic behaviour is a Jew and “there was no love lost between Samaria and Judea” (Van Harn 2001: 369). The Samaritan is actually depicted as helping someone who belonged to a nation for whom Samaritans were “despised” (2001: 372), a hostile other group. This is different from helping just any old stranger, and that Jesus chose a despised-by-Jews Samaritan to manifest his radical ethic provided the “shock of the parable” (2001: 371).

The behaviour of the fictional Good Samaritan deserves a category of its own, namely “strong Good Samaritan altruism” (SGSA), to distinguish it from
the weaker (though still laudable, of course) version of behaving altruistically towards an unknown “other”. And it into this category that I would place the actions of the non-fictional Kushdeva Singh.

Kushdeva was a Sikh doctor living in the Punjab in 1947, just after the partition of India (Hick 1999). He assisted numerous Muslims to escape from the area following the murder of a Muslim by another Sikh and a Hindu, that outrage itself being in response to reports of the killing of Hindus fleeing from Pakistan. Kushdeva arranged for two trucks to take the refugees to a transit camp, then on learning of plans to ambush the trucks he contrived a diversion which saved the lives of the refugees, though the mob looted the now-empty Muslim houses. He escorted some Muslim women to Delhi and “worked successfully in many ways to enable the local Muslim community to escape safely to Pakistan, in spite of constant danger to himself from people blinded by hatred” (1999: 207). In 1973, the Indian government rightly awarded him the Order of Merit (Civil) in recognition of his actions.

A remarkable aspect of this man’s altruism is that he was risking his life to help members of the Muslim community, traditionally hostile to Kushdeva’s own Sikh community. His behaviour mirrors that of the Good Samaritan.

The fictional good Samaritan and the real-life good Sikh, along with all the other examples of non-reciprocated, non-kin-based altruism and cooperative behaviour that one could adduce (Kramer 2007; Oord 2008), make it clear that the evolutionary account of morality in general and altruism in particular can only go so far. It is difficult to stretch the plausibility of the accounts of how parental care, kin altruism and reciprocal altruism evolve within a Darwinian paradigm to cover examples of WGSA and SGSA, particularly as the latter are not species-typical. The good Samaritan parable worked precisely because Jesus’ Jewish audience did not expect to hear of such behaviour; Kushdeva received the Order of Merit precisely because his behaviour went way above what could have been expected. Such behaviour is not a human universal, it is exceptional, and hence falls outside the remit of evolutionary psychology, which can account for the universality of the “evolutionary” forms of altruism.

There are a number of points to make. First, as a species we are clearly not genetically hard-wired for SGSA. It goes against the grain to put ourselves out to help those we construe as being actively hostile towards us, and even the expression of compassion towards “the enemy” is often unacceptable. Witness
Margaret Thatcher’s “reported fury” when Robert Runcie, then Archbishop of Canterbury, had the temerity to offer prayers for Argentinean soldiers and their families at the service to mark the ending of the Falklands war in 1982 (Williams 2011). Active compassion towards, or indeed from, a putatively hostile other does not, in common parlance, come naturally to us, hence the shock to Jesus’ listeners when he attributed such an action to a despised foreigner.

Second, the non-hard-wired nature of SGSA is consistent with the view that in biological/genetic terms it is maladaptive as is, say, the use of contraception. Good Samaritan altruists are not promoting their own genes through the reproductive success of themselves or of their kin, or through the flourishing of their tribe or society. In evolutionary terms, they are putting the continuation of their genes at risk. Maladaptive altruism does occasionally occur in the non-human animal world, such as a lioness nursing a baby oryx (Guardian Unlimited, April 3rd 2002), without, however, moral agency being attributed to that lioness as it is for human behaviour. And although we may not be hard-wired for GSA, the fact that it can and does sometimes occur demonstrates that it is within the range of human possibility – i.e. we are also not hard-wired not to manifest GSA. There are many things our genetic endowment simply does not permit us to do – unaided flight (like birds), the digestion of grass (like cows), and the direct perception of electric fields (like electric eels) or ultraviolet light (like butterflies) – but GSA is not one of the behaviours closed to us. It may be difficult to do – like learning a second language as an adult – but nevertheless it falls within our genetically allowed possibilities.

Third, such behaviour won’t spread by biological evolutionary processes because of the “free-rider” problem (Ridley 1996); it can only spread, if it is spread at all, by cultural transmission through imitation and teaching/learning. Significantly, it has been documented that all the major religions have some close variant of the Golden Rule (“Do unto others as you would have them do unto you”) at the core of their ethical teaching (Hick 1999). There appears to be widespread consent – in that it is found in many cultures – that by and large it would be a good rule to live by. This yields weak GSA, but when the “other” refers to one’s enemy (potential or actual), it becomes “strong GSA”.

We can invoke the metaphor of an “expanding circle” of morality whereby over the centuries we are widening our circle of who or what can make an ethical call upon us such that “altruistic impulses once limited to one’s kin and
one's own group might be extended to a wider circle by reasoning creatures
who can see that they and their kin are one group among others, and from an
impartial point of view no more important than others” (Singer 1981: 134). It
requires a deliberate choice by a reasoning, moral agent for it to come about,
which in turn requires the capacity for self-awareness and reflection, and hence
the evolution of consciousness is a pre-condition for the evolution of GSA. But
the evolution of consciousness is recognised as being “the hard problem” about
which there is much disagreement (Dennett 1993; Freeman 2001; Humphrey
enquiry it needs to be accepted as a given that *H. sapiens* is a conscious, self-
aware species; and given that that is so, the capacity for altruism derived from
everolutionary processes is a pre-requisite for the possibility of “moral altruism” –
a necessary but (it would appear) not a sufficient condition. It is the existence of
this *necessary* condition for which evolutionary psychology offers an
explanation.

**Altruism and spirituality**
I am identifying altruism or, more accurately, *moral* altruism, as being the horiz-
ontal dimension of spirituality. It constitutes the circumference of spirituality,
and entails the capacity to move from being self-centred to being other-centred,
and choosing to behave in a way that promotes the interests of another. What
has not been explored in the above account is the *affective* dimension of
altruism, probably best known as empathy, one definition of which is “our ability
to identify what someone else is thinking or feeling, and to respond to their
thoughts and feelings with an appropriate emotion” (Baron-Cohen 2011: 11).
This is more than knowing what you yourself would think and feel in someone
else’s situation, it is awareness of what *they* think and feel in that situation,
which might be quite different. This ability, of course, involves our “Theory of
Mind” module as discussed in the previous chapter, for it is the inferences
delivered by our ToM module which give us insight into another’s state of mind,
and the intuitive awareness that it is not necessarily the same as our own.

If what has gone before has any validity, it is clear that there is an evolution-
ary basis to our capacity for altruism – both in the capacity to intuit another
person’s state of mind as well as the capacity to respond altruistically – but not
deterministically so. The instances of “evolutionary altruism” outlined above
suggest that such behaviours would have been selected for over evolutionary
time because of their contribution to the inclusive fitness of the individual, but
“moral altruism”, although it is based on evolutionary altruism and builds on it,
cannot be reduced to the outcome of a genetic calculus. Nor can a genetic
calculus prescribe what one individual ought to do with regard to another: that
would be to return to the crude form of evolutionary ethics and the committing
of the naturalistic fallacy (see above). But without the evolutionary processes
operating over the millennia, altruism – moral altruism – would not have come
into being.

This constitutes part of the contribution that an evolutionary perspective can
make to an understanding of spirituality. Our responding to another is not like
the lapwing who cannot help but put on the broken-wing performance when the
appropriate environmental cues are there to trigger the sequence of moves, it is
a choice which our evolved nature enables us, but does not constrain us, to
take. To the extent that one dimension of spirituality (the horizontal, the circum-
ference of spirituality) can be identified as a move away from self-centredness
to an other-centredness or even, to use Hick’s (1989) term, Reality-centred-
ness, it is, the above strongly suggests, rooted in the evolutionary soil of human
nature.
SECTION THREE
SPIRITUALITY AND EVOLUTIONARY PSYCHOLOGY
Chapter 9: Of evolution, spirituality and religion

Introduction
Lack of space prevents discussion of many of the naturalistic explanations which have been advanced for the existence of religion by such as Feuerbach (1989[1841]), Freud (1973 [1930]), and Durkheim (1915), and the task here is to consider several accounts which, taking an evolutionary approach, have a direct bearing on the current enquiry.

Evolutionary explanations of religion fall broadly into two camps, those that see religion as being an adaptation in its own right, and those which see it not as an adaptation but as the by-product of the functioning of some other adaptation(s) (Sanderson 2008). The model I develop in the next chapter belongs to the adaptationist camp, but theories on both sides make varying contributions to the argument.

Although the current enquiry focuses on spirituality, not on religion, the two not being equivalent although closely allied (Heelas and Woodhead 2005), I am following (among others) Otto (1958 [1923]) and Hay and Socha (2005) in taking religion to be more of a subset or consequence of spirituality rather than vice versa: that is, the various religious traditions, whatever else they may be, constitute so many different manifestations or vehicles of spirituality, rather than spirituality simply being one of several dimensions of religion.

This poses a slight problem in what follows, especially in the next chapter where the adaptiveness of spirituality is discussed largely in the context of evidence relating to religion, which is where the bulk of the evidence lies. To what extent, though, is it valid to transfer to spirituality arguments related to religion? To address this, the course I am adopting involves a short chain of inference which I spell out at the relevant point in the next chapter – but briefly it results in accepting that religion is by and large a useful proxy for spirituality, at least to a first approximation, when seeking to understand spirituality’s evolutionary roots; the justification being that were it not for the human capacity to have some form of spiritual awareness and experiences of the kind which “are of central importance to every religious tradition” (Rue 2005: 133), religion would never have arisen. Where there is religion, one might say, there spirituality has been. Therefore at times I use the expression “religion/spirituality” as a shorthand way of acknowledging that evidence and arguments relating to
religion require the further chain of inference to make the evidence and arguments applicable to spirituality itself.

**Religion as an evolutionary by-product: Barrett and Boyer**

Justin Barrett (2004) and Pascal Boyer (2001), adopting the modularity thesis of evolutionary psychology, offer accounts for the evolution of religion based on Barrett’s conception of the “hypersensitive agency detection device”, a version of which Guthrie (1995) had developed in his discussion of the human propensity to anthropomorphise inanimate objects, such as seeing faces in clouds.

Barrett posits that there are two types of belief: *reflective beliefs* which are those we arrive at “through conscious deliberation, contemplation or explicit instruction”, and *nonreflective beliefs* which are those that “come automatically, require no careful rumination, and seem to arise instantaneously and sometimes even ‘against better judgment’” (2004: 2). These latter are the deliveries of our evolved intuitive faculties which enabled our ancestors to negotiate the EEA, and they underpin our reflective beliefs. Examples of non-reflective beliefs are that “[p]eople act in ways to satisfy desires… Animals have parents of the same species as themselves… Unsupported objects fall” (Barrett 2009: 78), beliefs which are delivered by the operation of the intuitive psychology (ToM), intuitive biology and intuitive physics faculties respectively.

Many religious beliefs, Barrett maintains, such as “God has desires” and “God perceives human actions” are nonreflective because our ToM module is attributing to God properties it attributes to all persons, namely the capacity to have desires and the capacity to perceive things. These nonreflective beliefs underpin reflective religious beliefs, such that when people “reflectively talk about or engage in prayer, they nonreflectively believe that God can both perceive and understand human language (particularly our own language)” (2004: 10).

The crucial part of Barrett’s thesis is that nonreflective beliefs concerning God, or the gods, are not aberrant but arise because of the normal, proper functioning of our evolved mental modules “working in common natural and social contexts” (2004: 21). Of particular significance is the operation of the mental module which he dubs the “Agency Detection Device” or “ADD” (2004: 31), by which he refers to the evolved capacity to detect *agency*, an “agent”
being that which has its own powers of doing things (see the previous
discussion about the modules posited by Baron-Cohen [1995]). It is more
beneficial, the argument goes, if the ADD errs on the side of giving false
positives rather than false negatives: to fail to interpret some movement as a
bear heading in your direction could be fatal if there is a bear approaching;
whereas to interpret a bush swaying in the wind as a stalking predator will not
be fatal. Thus, Barrett argues, because false positives are better than false
negatives, the Agency Detection Device is in fact a “Hypersensitive Agency
Detection Device” or “HADD” (2004: 32 – alternatively referred to as the
“Hyperactive Agency Detection Device”), and it is that hypersensitivity which
make it “prone to find agents around us, including supernatural ones, given
fairly modest evidence of their presence. This tendency encourages the
generation and spread of god concepts and other religious concepts” (2004:
31).

Agency is detected by the HADD, Barrett argues, when it perceives an
object violating, or apparently violating, “the intuitive assumptions for the
movement of ordinary physical objects (such as moving on non-inertial paths,
changing direction inexplicably, or launching itself from a standstill) and the
object seems to be moving in a goal-directed manner” (2004: 33). The formation
of religious concepts occurs when that attributed agency is coupled with a
counter-intuitive property (such as invisibility), which also makes the purported
agent memorable and the concept more likely to be passed on by cultural
transmission.

Barrett then maintains that the counterintuitive properties of supernatural
agents makes them suitable for upholding morality, since they may be any-
where at any given time, and consequently “even if they have not been specific-
ally attributed super-vision, superhearing, or superknowledge, they may be
witnesses to any human actions. Assuming that gods do know what you or
anyone else has done is much easier than trying to determine just what this
invisible agent might and might not know. Hence, we often credit gods with
superknowledge” (2004: 48-9). The gods, in other words, can monitor our affairs
and provide good reason for adhering to the community’s ethical norms.

Boyer (2001) also accepts a modular scheme, describing belief in God, or the
gods, as being not a conscious invention but arising from the operation of
evolved systems in the brain which “specialise in particular aspects of objects around us and produce specific kinds of inferences about them” (2001: 184). He contends that there are a limited number of “ontological categories” (that is to say, fundamental types of things that exist) which the operation of our evolved mental modules allows us intuitively to distinguish among: animal, person, tool, natural object and plant (2001: 90). Echoing Barrett’s proposal, Boyer maintains that a supernatural concept is one in which something that is assigned to one of these ontological categories possesses a characteristic that violates one of the standard inferences of what constitutes that category: “[p]ersons can be represented as having counter-intuitive physical properties (like ghosts or gods), counter-intuitive biology (like many gods who neither grow old nor die) or counter-intuitive psychological properties (such as unblocked perception or prescience)… Tools and other artefacts can be represented as having biological properties (some statues bleed) or psychological ones (they hear what you say)” (2001: 90). Religious concepts, therefore, arise as a result of the operation of our innate inferential mechanisms coupling an item in one ontological category with a property that does not fit that category.

Further, but unlike Barrett’s proposal, religion and religious concepts in Boyer’s scheme do not underpin morality; it is rather that the belief in a supernatural agent (or agents) is itself underpinned or strengthened by the ethical system of a community: “once you have concepts of supernatural agents with strategic information [i.e. knowledge about who has done what, and how and with which and to whom], these are made more salient by the fact that you can easily insert them in moral reasoning that would be there in any case” (2001: 218). The notion that the ethical system of the community provides validation for belief in an omniscient, invisible agent (God or the gods) leads Boyer to conclude that to some extent “religious concepts are parasitic upon moral intuitions” (2001: 218 – emphasis added).

Comments

From an evolutionary psychology perspective, the proposed HADD is a plausible mechanism to explain the development of a belief in supernatural agents – though there is the unanswered puzzle of how come, over the millennia, the HADD hasn’t evolved to become less hypersensitive and more capable of distinguishing actual agency from false agency. Although a false
positive is preferable to a false negative, the fewer the false positives the better, provided that the number of false negatives doesn’t rise proportionately. And given the universality of religion, many false positives will have occurred which, however tiny the cost in energy and time each incurs individually, would collectively entail a vast quantity of wasted effort, and consequently any individual with a more discriminating ADD would be at a fitness advantage.

There is also the unsatisfactory manner in which counter-intuitive properties are said to come to be associated with entities, whether alleged or real. No really plausible explanation is offered as to how, say, the counter-intuitive property of being able to hear what you say is imputed to a statue in the first place. Moreover, the assumption that supernatural agency was inferred by the HADD implies that our ancestors were incapable of revising the outputs of the inferential mechanisms in the light of more information – but on what independent grounds can that be substantiated? Mental modules are not necessarily fully “informationally encapsulated” (Cundall 2006), and since we are capable of revising inferences in the light of further information, there is no obvious reason to deny that ability to our ancestors. Moreover again, there is no explanation of how it is that gods, when gods were inferred, were local gods confined to the tribe, as is typical of primal religions (Ward 1994).

From the religious perspective there are a couple of points. The first is that (along with so many other models) the focus is on construing religion purely in terms of supernatural agents; and saying little about the other dimensions (Smart 1996), which is an impoverished view of religion (and to be fair, Barrett and Boyer both acknowledge that a simple explanation of religion is unlikely). From the viewpoint of the current enquiry, the account that all this could render of the experiential side of religion – the Roses – would be limited to experiences construed as the presence of an agent, which is only one of many different categories of religious experiences, with little or nothing explanatory to contribute to experiences in which an agent fails to feature.

Secondly, the understanding of even this attenuated version of religion in these schemes smacks of the God-of-the-Gaps approach (Coulson 1958), with the posited HADD filling in the gaps in the explanation of otherwise inexplicable events by inferring the existence of supernatural agents; agents which are in effect mere “place-holders” to be replaced in due course by non-supernatural explanations. For although Barrett acknowledges that there are good grounds
for believing that we are born with an innate sense of God or the gods (Barrett and Richert 2003), priority is given to the evolved faculties of “intuitive physics”, “intuitive biology” and so forth, the violation of whose expectations leads to the inference that the agents detected by HADD are of a supernatural variety; with the sense of God, or the gods, being relegated to the status of an epiphenomenon, something which arises from the (hypersensitive) functioning of these intuitive faculties, rather than its being the output of an independent module as primary and as fundamental as the other intuitive faculties. In contrast, I will be arguing that we do have such a dedicated module, the *sensus transcendentis*.

A third problem is that although they invoke the same mechanism of a hypersensitive agency detector device, the two authors come to diametrically opposite conclusions on the relationship it entails between religion and ethics. Barrett views religion as strengthening or underpinning ethics (and hence has acquired an adaptive role), whereas for Boyer religion is parasitic with no adaptive function.

However, despite these drawbacks, these schemes, which are elaborated at some length, importantly identify the roots of religion as lying in the evolution of instinctive responses to certain experiences, and that the functioning of mental modules is implicated in some religious inferences. This insight is consonant with the aim of the current enquiry to develop a model of how evolutionary psychology and spirituality can complement each other.

**Religion as a suite of evolutionary by-products: Kirkpatrick**

Whereas Barrett and Boyer explain one (common but not universal) aspect of religion (supernatural beings) as a by-product, Kirkpatrick (1999) goes for an entire suite of by-products to explain “the diverse range of beliefs, behavior, and experience that we collectively refer to as religion” (1999: 921).

Religion, in his view, resembles other human activities for which there are no specific adaptation but which have arisen as by-products of adaptations, such as “playing tennis, driving automobiles, or solving calculus problems [each of which] is motivated and enabled (as well as constrained) by adaptations that were designed by natural selection for other functions” (1999: 926). He argues that belief in gods and ancestral spirits, with the anthropomorphizing of “the unseen forces of nature” (1999: 933), is a set of by-products of several modules: of theory of mind relating to persons; of kinship mechanisms as when
the living “attempt to help the dead by burying helpful artifacts… and seek (and expect) help with their own worldly affairs” (1999: 933); of attachment mechanisms (Bowlby 1999 [1969]), as suggested by a variety of beliefs about deities “ranging from maternal deities of ancient religions to the Virgin Mary of Catholicism” (1999: 934); and of social exchange and reciprocal altruism mechanisms, which involve pleasing the gods with sacrifices in exchange for “military victory, good harvest or a ticket to heaven” (1999: 935 – quoting Ridley 1996).

Our social exchange and cheater detection modules are involved in beliefs about evil and sin, since “certain patterns of behaving… are prescribed by the deity as part of a tacit or explicit social-exchange agreement” (1999: 938-9), and our breaching the contract activates our cheater detection and social exchange modules, the idea being that what gives rise to our awareness of evil and sin is our intuitive realisation that God’s cheater detection module, as it were, will have been activated when we breach the contract (or, in Judeao-Christian terms, the covenant) we believe we have with God. And religion co-opts kinship mechanisms to promote pro-social behaviour, treating each other in the community “as if kin” (1999: 937) with the resultant benefits.

A problem arises, however, when it comes to the area of particular interest to the current enquiry, for Kirkpatrick admits to having no explanation for the origin of “numinous, mystical, or religious experience” (1999: 940). In keeping with his general thesis, however, he picks upon parallels which have been discerned in the phenomenology of anxiety attacks and in mystical experiences, including “the sense of being overwhelmed or engulfed by the feeling, ineffability, and ‘an actual or impending dissolution of the self-as-object’” (1999: 941). This leads to a suggestion that since anxiety attacks are presumably not an adaptation “but rather reflect a misfiring or inappropriate activation of emotion mechanisms that ordinarily are adaptive, [then perhaps] mystical experiences eventually will be understood in a similar manner” (1999: 941) – that is, “Roses” are to be understood as the result of the misfiring of evolved mechanisms concerned with emotion. This is hardly satisfactory – first because of the assumption that anxiety attacks are not an adaptation, and although I agree that it doesn’t seem likely that they are an adaptation in themselves, he adduces no evidence one way or the other; and, second, using anxiety attacks as an analogue for mystical experiences seems about as helpful as using a raging toothache as an analogue for a deep, sensuous massage.
Kirkpatrick gives fair warning that he has “barely sketched the outline of a modern evolutionary psychological approach to religion” (1999: 947), but there are some useful insights here, in particular his stressing that since religion is a diverse phenomenon, the involvement of several psychological modules will be required. Moreover, as with the other by-product theorists, such an approach ensures that religion is (almost literally) earthed, it is understood very much as being a product of the interaction of human beings with their physical, social and biotic environment.

Comments
There are a couple of problems with this approach. Whereas Barrett’s contention is that the HADD is functioning properly even when it misidentifies something as an agent (that is, it has been “designed” by evolution to be hypersensitive, just to be on the safe side), Kirkpatrick refers to “errors of interpretation” (1999: 932) which give rise to animism, anthropomorphism and the like; that is, the modules in his view are not functioning as they have been “designed” to do. As he revealingly says regarding the speculation about religious experiences, it involves a “misfiring or inappropriate activation” (2999: 941) of a module. In the many by-products approach he is advocating, many misfiring and inappropriately activated modules are being implicated. This is problematic. One reason he gives for rejecting any adaptationist claim for religion is that his approach is the “more theoretically conservative position” (1999: 926), that is, it does not require the postulation of yet another module. Occam is not explicitly invoked, but the sound of razor-stropping is loud: clearly he considers that a module for religion would be an unnecessary multiplication of entities. Yet his explanation requires a whole suite of “misfiring” modules, whose by-products miraculously combine to create something (religion) which, as the evidence adduced in the next chapter strongly suggests, actually is adaptive, and which therefore looks remarkably like the output of a single module that is not misfiring rather than the combined output of many misfiring modules. Many assumptions (one per by-product) are required instead of one (that of an extra, domain-specific module), which renders Kirkpatrick’s account susceptible to Occam’s razor (Flew 1979: 236).

The other problem is his tentative suggestion, in the absence of an alternative explanation consistent with his model, that religious experiences are a
result of the misfiring of a module relating to emotion. In context, he is referring to the dramatic examples of religious experiences, “focal” rather than “background” in Alston’s (1991) terminology, and there is no doubt, as shown by the range of examples in chapter 3, that affect is often a considerable component of these. But it is a curious kind of misfiring that can bring about such beneficial outcomes as is often reported (Hay 2006), the conferring of meaning, value and “a completely new and exquisitely integrated perspective” (Rue 2005: 212).

These considerations render the by-product theories, though intriguing and not without significant insights, ultimately unsatisfactory, and I move on to theories which construe religion as being an adaptation.

**Religion as an adaptation: Wilson and Wilson**

Both E.O. Wilson and D.S. Wilson have put forward explanations which see religion evolving because it helped to bring internal coherence and conformity to a tribe, thus making the tribe more likely to survive in adverse times.

E.O. Wilson refers to religion in terms of “belief”, “practice”, the “supernatural”, “behavior”, “ritual” and “myth” (1978: 169, 169, 174, 175, 179, 189), and the grounding of ethics (1998: chap 11); and in this he reflects the widely accepted multi-dimensional nature of religion (Smart 1996). But the whole complex is, in Wilson’s view, a Darwinian adaptation, which (similar to Barrett’s view, above) functions to provide what is experienced as and believed to be an objective validation of the tribe’s ethical system, adherence to which ensures that the tribe is a cohesive group. This is to the benefit of the individual members of the tribe, for a cohesive group is better placed to survive and flourish, benefitting the individual members themselves; or as Wilson puts it, “[w]hen the gods are served, the Darwinian fitness of the members of the tribe is the ultimate if unrecognized beneficiary” (1978: 184).

Wilson, therefore, is yoking together ethics and religion such that the latter provides (or provided, during the long stretches of human evolutionary pre-history) the grounding for an ethical system to be accepted as objectively real. It does this by offering an explanation of “the origin of a people, their destiny, and why they are obliged to subscribe to particular rituals and moral codes” (1998: 275 – emphasis added).

A weak or non-existent religious belief system would result in a less cohesive, less co-operative group which would be less likely to survive adverse
conditions, and so would be selected against; religion therefore “is above all the process by which individuals are persuaded to subordinate their immediate self-interest to the interests of the group” (1978: 176 – emphasis added). There is however an adaptive advantage to the individual in his/her own right of a religious belief system, since it provides membership of a group, and “gives him a driving purpose in life compatible with his self-interest. His strength is the strength of the group, his guide the sacred covenant” (1978: 188).

D.S. Wilson offers a group selection explanation similar to E.O. Wilson’s, but there are a few extra comments to make. He takes religion to be in part “a collection of beliefs and practices that honor spirituality”, that last term referring (again “in part”) to “a feeling of being connected to something larger than oneself” (Wilson [D.S.] 2002: 3), although he is not asserting that one can infer that the “something larger than oneself” necessarily exists. Moreover, what he is offering can only be a partial explanation because religion is not a single trait but a “heterogeneous set of traits that might require different explanations” (2002: 45 – emphasis added).

D.S. Wilson’s argument is based on what he terms the “organismic concept of religious groups” (2002: 1), which refers to the capacity of social groups in general, and religious groups in particular, to be considered under some circumstances as being organisms in their own right. The organismic concept is in turn based on adopting a multilevel approach to natural selection, whereby the unit of selection upon which natural selection operates is not confined to one level of the biological hierarchy such as the gene (Dawkins 1989 [1976]) or the individual organism (Darwin 1859), but also at higher levels such as the group (Sober and Wilson 1998). The term multilevel selection “expresses the possibility that natural selection can operate at more than one level of the biological hierarchy” (Wilson 2002: 10).

Religion, D.S. Wilson argues, enables a group to become an adaptive unit by strengthening the ties of commitment among group members, giving that group a selective advantage over other groups whose religion evokes less commitment. In doing so, religion is therefore motivating behaviours which are adaptive in the real world, and although “many religious beliefs are false as literal descriptions of the real world… this merely forces us to recognize two forms of realism; a factual realism based on literal correspondence and a
practical realism based on behavioral adaptedness” (2002: 228 –see also Bulbulia and Frean [2009]).

**Comments**

Both Wilsons have developed their arguments from a group selection perspective, the status of which is equivocal (Dennett 2006). Group selection theory, which involves individuals behaving in a manner for the benefit of the group, even if it is against their immediate own best interests, is vulnerable to the cheat, or “free-rider” problem (Ridley 1996), whereby an individual who, though a member of a co-operating group, fails to co-operate but still accepting the benefits of others’ co-operative behaviour, will be at an advantage which enhances his individual fitness. This problem with group selection theory resulted in its being cast into outer darkness following Williams’ (1966) robust response to Wynne-Edwards’ (1962) invoking it to explain various aspects of animal behaviour. Though a modified version of group selection theory had already been making a comeback (Sober and Wilson 1998), it is still not widely accepted (Dennett 2006); but see Wilson and Wilson (2007) and Jaffe and Zaballa (2009) for further arguments in favour. The evolution of “strong reciprocity”, discussed in the previous chapter, constitutes a mechanism that operates at group selection level, in that the individual strong reciprocator decreases his own fitness whilst increasing the fitness of the group.

A further problem as far as the current enquiry is concerned is that religious experience does not seem to fit well into the scheme. True, E.O. Wilson does write of the spiritual journey, of the mind reflecting “in certain ways in order to reach ever higher levels of enlightenment until finally, when no further progress is possible, it enters a mystical union with the whole”, which sounds promising, but he believes “it can all eventually be explained as brain circuitry and deep, genetic history”, even though he does not wish to trivialize the idea of “the mystical union [which] is an authentic part of the human spirit” (1998: 290). Despite this reference to the human spirit, the role which our capacity for religious experience plays in E.O. Wilson’s scheme is to confirm for us the objective reality of the gods, *even if they don’t exist*.

Although the reliance on group selection arguments has attracted criticism from other evolutionary thinkers (Dennett 2006) these explanatory schemes are
important in being predicated on religion as a collective phenomenon, in contrast to the individualistic bias noted in chapter 2 of many accounts of Roses.

**Religion as an adaptation: Hardy and Hay**

Hardy (1965, 1966, 1979) proposed that religion, a “feeling of contact with a Greater Power beyond the self” (1965: 274), evolved because of its adaptive function. Part of the mechanism of its evolution, in his view, involved the conscious choice by certain forerunners of *H. sapiens* to attend to, and indeed seek out, experiences of religious awareness because of their beneficial effects. This is a particular example of his more general argument that evolution is not a passive process but that the “ever inquisitive, exploratory nature of animal behaviour, leading to new habits and ways of life” (1965: 262) is an important factor, and with animal choice leading to new habits and ways of life, any genetic variants in subsequent generations which favour these new habits would be selected for. This phenomenon, known as the “Baldwin effect” (Bateson 1988; Weber and Depew 2003), is significant in the current “niche construction theory” (Odling-Smee *et al* 2003) which echoes some of Hardy’s views.

It was in pursuit of this theory that Hardy collected and collated numerous accounts of “religious experience”, previously referred to, for which Hay, building on Hardy’s work, uses the wider term of “spiritual experiences” (Hay 2006; Hay and Nye 2006; Hay and Socha 2005) and which this enquiry has dubbed “Roses”. Hay, whose work has already been mentioned in chapter 2, understands spirituality to be “a human universal appearing in many secular as well as religious forms, although its most typical manifestations have been in religious experience” (Hay and Socha 2005: 589), hence “religious experiences” constitute a subdivision consisting of those spiritual experiences which are interpreted using religious terminology and constructs. So both religious and nonreligious spirituality can be understood as “alternative cultural constructions giving expression to the natural predisposition” (2005: 598), and Hay, following Hardy, further proposes that all human beings “including secular atheists and others hostile to religion” possess some form of spirituality (2005: 607). Spirituality, prior to religion(s), is rather the “biological context in which religion can arise” (Hay 2006: 44 – emphasis in original).
Hay’s point that spirituality is the human universal of which religion is one manifestation, rather than spirituality being a subdivision, or component, of religion, enables a description of spirituality to be undertaken without recourse to invoking supernatural agents, relating it instead to “ultimate meaning” (Hay 2006: 81) and involving "Awareness of the Here-and-Now, Awareness of Mystery and Awareness of Value" (2006: 130 – capitalisation in original).

As referred to in chapter 2, a co-worker of Hay’s identified in her work on the spirituality of children the core category of “relational consciousness” (Hay and Nye 2006), which encompasses how the child relates to things, other people, him/herself, and God. This relational consciousness, Hay believes, evolved because it enables cooperation through a direct recognition of the “holistic dimension of human experience. Hence, it also allows the possibility of a communal ethic and, for the religious believer, a sense of relationship with a God who is experienced as immanent” (Hay and Socha 2005: 598). So again we have a model in which the ethical system of the group or community plays an important role – although Hay does not explain how cooperation can enhance survival and reproductive fitness.

As well as the communal, co-operative aspect of existence, experiences of religious or spiritual awareness function by enabling the individual to cope with “existential issues” (2005: 603) and “random mutations that enhanced this kind of awareness would be selected for because they gave an advantage in the process of natural section” (Hay and Socha 2005: 592).

**Comments**

Unsurprisingly, I find this approach has a lot to offer to the current enquiry since its approach takes seriously the importance of "spirituality" rather than seeking to explain it (away) in evolutionary terms as simply an epiphenomenon of over-eager mental modules that evolved for other functions, or as a parasite, or as simply a support for ethics which do the real work of binding a community together and enhancing the evolutionary fitness of the group and its members.

Moreover, construing spirituality as superordinate to religion is consonant with a broad version of religious pluralism in that it entails not only specific religions as being different outworkings of a prior spirituality; but also the possibility of non-religious traditions and world-views being acknowledged as potentially valid vehicles or manifestations of spiritual awareness (van Ness
It also encompasses both the collective, ethical aspect of spirituality (as does the group selection approach of the two Wilsons) and the individualistic aspect (as do the hypersensitive module approaches of Barrett and Boyer).

Where it is most vulnerable, though, is in the extremely broad understanding it has of “spirituality”. In Hay’s work, it sometimes seems that virtually anything can count as “spiritual” including belief in UFO’s (Hay 2006); in this, it is similar to presuppositions of Boyer (2001), among others, who includes magic and aliens in his understanding of what constitutes “religion”. But too broad a spectrum invites the Stringfellow lampoon quoted in chapter 1.

From an evolutionary perspective, there is also a problem in the lack of a clear mechanism by which religious or spiritual experiences are mediated. To propose that religious awareness is a natural faculty of *H. sapiens* which has evolved because of its adaptive function (Hardy 1965), or that random mutations that enhanced spiritual awareness would be selected for (Hay and Socha 2005) is a tantalizing explanatory start, but the manner in which religious or spiritual experience is delivered to the human organism is unspecified. The interface, as it were, between the human organism and the wider environment which results in a “Rose” remains mysterious. How do we come to have those experiences that we do have? The model I propose attempts to address that.

**Conclusion**

The above constitutes just a sample of the theories that have been developed to account for the evolutionary origins of religion, with Atran 2002, Dawkins 2003, Guthrie 1995 and Lewis-Williams 2010 among others in the by-product camp, and Bering 2011, Bulbulia 2004, Sanderson 2008 and Rue 2005 among others in the adaptationist camp; but the above will suffice; and from them, a number of points will be carried forward to the model which I am proposing.

Of course, given the range of theories already on offer, the sensible thing might well be to find ways of trimming down the possibilities, not contributing to them; but my rationale in developing another explanation is that there are theological resources which can be drawn upon which are generally neglected by evolutionary thinkers, resources which can bring a fresh perspective.

There are of course well-known views that religious beliefs and evolutionary theory are antithetical, with science (Dawkins 2006, Dennett 2006) or religion (Dembski 1998, Johnson 1991) being the final authority on any disputed issue,
as well as views that they are not necessarily opposed provided each keeps to its own domain (Gould 1999) – these represent the conflict and the independent models respectively for the science/religion relationship (Barbour 2000). Examples of the dialogue model also abound, occasionally offered by someone who is an avowed atheist (Ruse 2001) but mainly by theists (the great majority being Christian theists) accepting the challenge of exploring how religion and theology can respond positively to the continuing discoveries of science (Collins 2007; McGrath 2005, 2011; Miller 1999; Southgate 2008; Southgate and Poole 2005; Ward 2006), with integration models also on offer (Haught 2000, Peacocke 1993). What follows in the next chapter belongs towards the integration end of the spectrum as I draw upon those theological concepts which have been discussed earlier to re-order and re-pattern the possibilities for religion/ spirituality and evolution.
Chapter 10: Of the *sensus transcendentis*

**Introduction**

In the previous chapter I discussed several models that have already been advanced which seek to give an evolutionary account for the existence of religion, religion here standing proxy for spirituality – or, more accurately, the vertical dimension or diameter of spirituality. Now it is time to put forward the model towards which the current enquiry has been heading. It is a model which, like the explanations proposed by the two Wilsons, Sanderson and Hay takes religion/spirituality to be adaptive, but like the explanations advanced by Barrett, Boyer and Kirkpatrick it draws on the modular approach of strong evolutionary psychology.

**Preliminaries**

The concept of *religious pluralism* will be used to move the debate away from pure theism and towards a more universal phenomenon of spirituality – which is somewhat ironic, given that the focus of evolutionary psychology is meant to be on human *universals*, yet much of the evolutionary writings about religion confines itself to the issues of agency and theism in religion, *which are not universals*. Thus the introduction of religious pluralism will allow evolutionary psychology to be somewhat truer to its calling.

In keeping with this universalizing necessity, the *sensus divinitatis* will be transmuted into the *sensus transcendentis*; and although the notion of our possessing an innate religious faculty is new neither in religious discourse nor in evolutionary discourse, its role is destined to be a unifying concept, a cupola joining the two discourses. Evolutionary-speak and spirituality-speak will both be able to incorporate the *sensus transcendentis* – thus providing at least a measure of integration.

**The *sensus transcendentis***

The proposal of this current enquiry is that through the processes of evolution, human beings have been endowed with a faculty whose proper function is to detect, infer or construe\textsuperscript{12} intimations of transcendence in our total environment.

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\textsuperscript{12} See “a note on inference” above (p. 159)
and deliver to the human organism those experiences of transcendence which I have dubbed “Roses”. This faculty, which I term the sensus transcendentis, is a mental module, a part of our psychological make-up, which in keeping with other mental modules is an adaptation which evolved in ancestral times, conferring enhanced fitness to our proto-human forebears in the Environment of Evolutionary Adaptedness, and which continues to function today in response to the intimations of transcendence of our total environment. Although the sensus transcendentis is a human psychological universal, its deliverances of transcendence, being mediated through the concepts and categories of thought pertaining to specific cultures, have historically been experienced and embodied variously in both theistic and non-theistic forms of religion, and increasingly in the modern era in secular forms.

The operation of the sensus transcendentis constitutes the metaphorical “vertical” dimension (or diameter) of spirituality, the “horizontal” dimension (or circumference) of spirituality being the evolved capacities for moral awareness and altruism.

The rest of this chapter is devoted first to amplifying and clarifying the various elements of this statement, drawing upon both the theological and the evolutionary arguments presented in the previous chapters; and then to discussing empirical evidence which supports the proposal that there is such an innate mental module; and that it confers “fitness”, necessary for it to qualify as an adaptive product of evolution.

Transcendence

The proposal entails that as part of our evolutionary heritage we are endowed with a mental module which detects, infers or construes intimations of transcendence, hence before attempting to spell out the nature of the module itself it is necessary to consider what transcendence refers to as far as the current enquiry is concerned.

A starting point is the contention that “many human beings experience life in relation to a limitlessly greater transcendent Reality – whether the direction of transcendence be beyond our present existence or within its hidden depths” (Hick 1985: 37). This dual possibility – beyond or within – helps step away from the notion of “transcendence” and “transcendent Reality” referring to some kind
of parallel universe, up above the bright blue sky, where the laws of nature to which we are subject in this universe are somehow suspended.

“Transcendence” here is intended to suggest or entail or refer to an aspect or quality or characteristic of the world as we know it. It is intended to suggest or entail or refer to intrinsic meaning, purpose, value, sacredness, awe; it is intended to suggest or entail or refer to that which, to speak metaphorically (as I think we must), both takes us out of ourselves and brings us to ourselves; the “relational consciousness” that Hay and Nye (2006) uncovered in the conversation of children, the “Reality-centredness” not self-centredness that Hick (1989) identifies, the “ultimate concern” to which Tillich (1957) brings our attention.

This involves the paradoxical relationship between transcendence and immanence which Meister Eckhart develops in his exposition of the nature of God. As summarised by two of his editors, Eckhart wrote of a “way of speaking about God as simultaneously totally immanent to creatures as their real existence and by that very fact absolutely transcendent to them as esse simpliciter or esse absolutum” (Eckhart 1981: 34 – emphasis in original). This idea of the possibility of transcendence being immanent, or of the immanent as being transcendent, may be logically and linguistically paradoxical, yet it expresses the sense, important to this current enquiry, of transcendence embedded and embodied – immanent – in the world of which we, as biological organisms, are a part. Transcendent transcendence and immanent transcendence, the “beyond” and the “within” to which Hick refers, are two sides of the same coin or, better, are the same single side of the coin seen from two different directions.

The expression I use of “intimations of transcendence” is a deliberate echo of the term “signals of transcendence” coined by the sociologist Peter Berger to refer to those phenomena “that are to be found within the domain of our ‘natural’ reality but that appear to point beyond that reality” (1970: 70). I have chosen “intimations” in preference to “signals”, because of the former’s hint of “intimacy”, and without quite the connotation of deliberate communication that “signals” suggests, with the bonus of an allusion to Wordsworth’s Intimations of Immortality. But the general idea is the same – the everydayness and naturalness of transcendence, with its connotations of meaning, purpose, value, sacredness and awe (which, at the risk of my justifiably being accused of an addiction to word-play, could with rearrangement be acronymed as vamps).
Well, “that was a way of putting it – not very satisfactory” (Eliot 1974 [1936]: 198), but it will suffice; and the way that “transcendence” is being understood and used will (or should) become clearer as the model is developed. There are though a couple of further comments to make before moving on. The first is to acknowledge that evolutionary theory does not normally deal in “purpose” except to dismiss it as illusory (Dawkins 1986), and hence its inclusion above in what “transcendence” is intended to connote will raise hackles; with the inclusion of “meaning”, “value” and “sacred” in all probability maximally raising the hackle quotient. However, I am not proposing that “purpose” and its allies should be considered a mechanism that drives evolution or a goal towards which the evolutionary process is lured; rather I am seeing purpose et al as part of the human experience – and as such we are entitled to ask how, in evolutionary terms, that has come to be so. What is the evolutionary explanation for our capacity to experience “purpose”? Our capacity to experience “meaning”, “value”, “sacredness”?

A final comment concerns what it is that the proposed sensus transcendentis actually “tracks” in the environment. What is this, the critic could demand, in the total environment that the module is meant to be responding to and engaging with when it is allegedly detecting, inferring or construing intimations of transcendence? What is the module actually doing? Here I draw an analogy with the way in which the “Theory of Mind” module operates by means of inference (Baron-Cohen 1995). Another mind is not directly accessible; the ToM infers or construes its existence from behavioural cues and stimuli arising from that part of the environment which is another (usually but not necessarily human) organism. Analogously, I am proposing that transcendence, as I am using the term, is inferred or construed by the sensus transcendentis from relevant cues and stimuli in the total environment. It occurs intuitively or, to use Barrett’s (2004) term, non-reflectively.

**The sensus transcendentis is a mental module**

As discussed in chapters 7 and 8, the strong version of evolutionary psychology postulates that the mind is composed of a large array of mental modules which evolved in response to environmental pressures, each module being a domain-specific adaptation such as the language acquisition device (LAD), theory of mind (ToM), and kin-recognition which underlies both incest-avoidance and
altruism. A module provides the organism with a form of non-propositional knowledge in that, having evolved in response to a recurrent aspect of the environment, it prepares the organism to encounter an environment with that recurrent aspect.

In postulating that the *sensus transcendentis* is a mental module, I am maintaining that the total environment to encounter which our evolutionary faculties have prepared us includes not only the physical, social and biotic aspects, but also a transcendent aspect of which the *sensus transcendentis* is the evolved correlate in the psychological make-up of *H. sapiens*; or, to put this part of the proposal in its minimal form, a certain aspect or aspects of the total environment has the *sensus transcendentis* as an evolved correlate in the human mind, whose proper function is to infer (detect, construe) transcendence in or from those aspects, and in consequence to deliver certain experiences (“Roses”) to the human organism.

However, to say that the *sensus transcendentis* evolved in response to a particular aspect of the total environment could be taken to mean that the environment is separable into different, non-overlapping factors – physical, social, biotic and transcendent – such that the adjective “transcendent” labels a definable area, different from the others. This is not what is meant. Recalling Lash’s argument that “religious experience” should not be seen as confined “to some one particular ‘district’ of human experience” (1988: 105), so too the current proposal is that the *sensus transcendentis* detects, infers, construes intimations of transcendence arising from all or any aspect of the total environment. A given part of the environment is not necessarily describable solely in terms of being *either* physical, *or* biotic, *or* social; it can sometimes be construed as belonging to any or all of these aspects simultaneously. For instance, from the point of view of a human being, any other human being simultaneously belongs to the physical, biotic and social aspects of his/her environment as, respectively, an object of a certain size and certain weight, an organic entity that is part of the local eco-system, and as a potential co-operator or rival or mate. Thus the evolved faculties of intuitive physics, intuitive biology and intuitive psychology will all be in play in response to a single element in the environment, namely the other human being. In the model being proposed, then, the *sensus transcendentis* is also in play, not simply confined to a distinct *area* of the total
environment. Its domain is that of transcendence which is (potentially or actually) ubiquitous.

The *sensus “transcendentis”, not the sensus “divinitatis”*

As has been regularly flagged up, the concept of the proposed *sensus transcendentis* takes its inspiration from that of the *sensus divinitatis* developed by Plantinga (2000), but with a number of differences or developments as well as similarities. In what follows, I am *not* proposing that there are two faculties to be compared, but that there is one faculty of which there are two descriptions which are being compared.

The *similarities* of the two descriptions lie in the claims being made by Plantinga and myself that the *sensus divinitatis/transcendentis* is a fundamental part of universal human nature, a faculty possessed by all members of *H. sapiens* and not just a select few, and one which operates outside the conscious control of the individual. It is purportedly capable of malfunctioning through the effects of sin (*sensus divinitatis*) or genetic abnormality and/or insufficient environmental stimulus during the critical developmental years (*sensus transcendentis*); and the focus and function of each pertains to a “dimension” of all that is the case (Wittgenstein 1922) which lies beyond the ranges of the five physical senses, a dimension which is in some sense “transcendent” and can be characterized as “God” (*sensus divinitatis*) or “the Real” (*sensus transcendentis*).

The key *differences* lie in the respective claims made for the nature of the transcendent dimension and the epistemic status of the deliverances of the two faculties (or, rather, two competing models for the single faculty) under consideration. Examining these differences will clarify more the details of the proposed *sensus transcendentis*, and in discussing these, I am for the sake of clarity dropping qualifiers such as “alleged”, “purported”, “supposed”, “said to be” and their derivatives, taking it as read that the terms *sensus divinitatis* and *sensus transcendentis* refer to concepts or models whose truth, accuracy, validity or utility still need to be justified or established (or, indeed, discounted).

To begin with, whereas the function of the *sensus divinitatis* is to deliver knowledge of God, the omniscient, omnipotent Creator, Sustainer and Redeemer of the cosmos and so forth, the function of the *sensus transcendentis* is to detect, infer, construe in the total environment of the human organism
intimations of transcendence and deliver experiences of transcendence ("Roses") to the human organism. In consequence, the *sensus transcendentis* is in some ways more comprehensive and in some ways less comprehensive than the *sensus divinitatis*.

The *sensus transcendentis* is a more comprehensive model than the *sensus divinitatis* in that, drawing upon the philosophical underpinning of religious pluralism, it takes the concept of "God" to be just one possible interpretation or construing of Roses, "transcendence" being superordinate to a specific construing such as "God" (and even more superordinate to a construing such as "the ‘Christian’ God" or, more specific still, "the ‘Reformed Baptist Church of God, reformation of 1915’ God"

13). Alternative construings involve different theistic possibilities as well as non-theistic possibilities: the *personae* and *impersonae* which Hick (1989) suggests.

On the other hand, the *sensus transcendentis* model is less comprehensive than the *sensus divinitatis* model in that although construing Roses as being intimations of transcendence not only involves a level of interpretation above that of "raw" uninterpreted experience (if such a thing exists), but also invokes such concepts as meaning, purpose, value and sacredness, nevertheless construing those experiences as definitely being of the Christian conception of "God" involves a higher level of ramification, a more detailed interpretation, with more complex concepts such as creator, omnipotence, omniscience, forgiveness and so forth. The *sensus divinitatis* model, particularly when allied with the "Internal Instigation of the Holy Spirit" which Plantinga proposes in his "extended" model as God’s response to counter the effects of human sin, makes more specific claims and gives more specific explanations than does the *sensus transcendentis* model. However, the corollary is that in making less ramified claims for its output, the *sensus transcendentis* model allows for (and requires) greater cultural input into the experiences as they are construed by the individual than does the *sensus divinitatis*.

A second difference lies in the epistemic status of their respective deliveries, arising in consequence of their differing provenances, for the *sensus divinitatis*, although part of the natural endowment of humans, is guaranteed by God to be reliable in delivering truth when it is functioning properly (and not

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13 See appendix 2.
marred by sin), whereas the *sensus transcendentis*, having evolved through the processes of natural selection, cannot be completely relied on to deliver truth (in the correspondence sense) even when it is functioning properly. This is an important factor, a consequence of which is that the existence of a *sensus transcendentis* cannot be used as a knock-down argument for the objective existence of transcendence: highly suggestive, yes; proof, no.

The reason for this note of caution is that the supposed detection, inference or construal of transcendence could be erroneous, a misbelief, and there are two possible routes by which misbeliefs could be delivered. This requires a consideration of the *proper function* of the *sensus transcendentis*, and the issue of *warrant*.

**Proper function**

Plantinga (2000) maintains that the *sensus divinitatis* of his model has the "proper function" of delivering true knowledge of God – that is, its function in delivering such knowledge is specified by its designer (God) and hence qualifies as a *proper* (rather than, say, a contingent or accidental) function. However, Plantinga further maintains, a purely naturalistic, non-theistic, approach does not allow there to be a proper function of organic entities (or organs or faculties of entities) since, according to naturalism, they have not been designed by a designer with a particular intended function. On this score, my proposed *sensus transcendentis* could not have a "proper function" because of its naturalistic origins.

Clever though this argument is, it fails to take context into account, for an organism as a viable entity entails the integrated working together of multiple organs and faculties, each contributing to that viability. A proper function in this context, and from an evolutionary perspective, is easily understood as the functioning of an organ or faculty which contributes optimally to the continued viability of the organism (or, if the multi-level approach of D.S. Wilson [2002] is taken into account, then the viability of the group or community constitutes a further criterion). The proper functioning of an organ or faculty, including the *sensus transcendentis*, can therefore be understood in an evolutionary perspective to entail functioning to optimise the survival and reproduction (directly or indirectly) of the organism (see also Swinburne 2001, as discussed in chapter 5 above); and though there is no designer to ask what the intended
proper function of an organ or faculty might be, that can be ascertained (more or less readily) by inspection: the proper function of the heart? To pump blood round the body. The proper function of the kidneys? To filter toxins from the blood. The fact that sometimes the proper function is obscure (what is the point of the appendix?) or wrong guesses are made (no, Aristotle, the proper function of the brain is not to cool the blood) does not detract from the notion that we can, at least in theory, determine what the proper function of an organ or faculty is, even from within a naturalistic perspective, by taking into account both its context and how it relates to emergent levels of complexity and order (see McKay and Dennett [2009] for further discussion on “function” as understood in an evolutionary context).

Plantinga’s conception of “proper function”, which he applies to the sensus divinitatis, is therefore still valid in an evolutionary context to the sensus transcendentis, where it can be described as the detection, inference, construal of intimations of transcendence and the deliverance of Roses to the human organism. The existence of the sensus transcendentis and its proper function is inferred from the evidence, some of which is presented in chapter 2 with a few further examples below, that such Roses are widespread in human history and geography.

Warrant
In his discussion of the sensus divinitatis, Plantinga (2000) makes great play of the concept of warrant which, to rehearse material from chapter 5 (above), is “what… distinguishes knowledge from mere true belief” (Plantinga 2000: 153), and he concludes that a belief has warrant for someone “only if that belief is produced in [them] by cognitive faculties functioning properly (subject to no dysfunction) in a cognitive environment that is appropriate for [their] kind of cognitive faculties, according to a design plan that is successfully aimed at truth” (Plantinga 2000: 156).

According to this specification, the beliefs delivered by the sensus transcendentis (that meaning, purpose, value have been experienced, detected, inferred, construed) do not necessarily have the 100% warrant that would convert those beliefs into true and certain knowledge, for misbeliefs could come about through the sensus transcendentis functioning hypersensitively along the lines of the “Hypersensitive Agency Detection Device” described in the previous
chapter. As described there, the proper function of HADD is to detect agent-like activity in the environment and hence infer agency, but being hypersensitive it will purportedly attribute agency to non-agential occurrences when these latter have some agency-like characteristics such as apparently goal-directed movement, the hypersensitivity being functional in that a false positive is better than a false negative: better to infer that something apparently behaving in an agent-like manner is an agent (a tiger, say), and take sensible precautions, than to fail to infer the agency of an agent and become that agent’s lunch.

Although as discussed in the previous chapter this leaves a lot to be desired as an explanation for the existence of religion (let alone spirituality), nevertheless the purported hypersensitivity of the agency detection device still remains a possible candidate for how the agency dimension of religion could be inferred from non-agential occurrences. So perhaps the sensus transcendentis is equally prone to such error? Perhaps it is hypersensitive and detects transcendence where there is no such thing? In fact, I would rate it as highly likely that there are occasions where transcendence is allegedly but erroneously detected, as in the ascription of meaning, purpose and significance to occurrences which are pure coincidence: “Wow! We have the same birthday! God has obviously brought us together!” Some of the accounts offered in chapter 2 would leave many readers, myself included, uneasy at claims of there being more than coincidence involved (eg the photograph of someone’s father falling off the wall being interpreted as an answer from God – account DH1) – the problem with this judgement, though, being that one person’s coincidence is another person’s meaningfulness.

This possible source of error, however, does not invalidate all of the deliverances of the sensus transcendentis, anymore than the hypersensitivity of the agency detection device invalidates its deliverances. Arguably the fact that sometimes the HADD infers an agent when there is no actual agent present depends on the fact that normally it infers an agent when there is an agent present – the HADD possesses a proper function, namely the detection of agency, and its hypersensitive function is parasitic (to use Boyer’s term) upon that proper function. The proper function of the sensus transcendentis is detecting intimations of transcendence and delivering the appropriate experiences to the human organism; the possibility that it sometimes gets it wrong doesn’t invalidate its proper function. Neither, as far as this model is
concerned, is this function attributable to the errors of some module whose
proper function is something other than transcendence detection/inference/deliverance; it is the proper function of a dedicated module in its own right.

There is however a second possible source of error, a second reason why
the sensus transcendentis might be fooling us in its deliverances of Rose experiences. This source of error is neither malfunction nor hypersensitivity, but
what if the proper function of the sensus transcendentis actually is to deliver
false information, to give rise to misbeliefs? That is, if it is not “successfully
aimed at truth” as Plantinga (2000) requires for warrant to apply?

This potential unreliability of a sensus transcendentis arises because the
 evolutionary process of natural selection operates on usefulness, not truth, and
 a belief that is false (in a correspondence understanding of truth) can still have
 utility, still work to the organism’s advantage. Success in the evolutionary
 struggle “does not guarantee the truth or adequacy of a creature’s beliefs or
 perceptual representations” (O’Hear 1997: 60), and there is nothing in
 Darwinism “about getting our thinking into right order with reality, nothing about
gaining (in the language of Karl Popper) ‘objective knowledge’. What works,
what succeeds, is what wins” (Ruse 2006: 245). Hence the existence and
operation of a sensus transcendentis, picking up cues from the total environ-
ment, inferring transcendence and delivering Roses to the human organism
such that the individual concerned believes there is transcendent aspect of
dimension to existence, does not guarantee the objective existence of such an
aspect or dimension. The proposed sensus transcendentis, along with all other
mental modules does not deliver correspondence truth, but pragmatic truth –
what works.

This is a point which Plantinga (1993b) makes use of in his criticism of a
naturalistic approach which he maintains undermines itself – the idea being that
if our cognitive faculties in general have evolved through the utility-directed
rather than truth-directed processes of natural selection, then the deliverances
of those cognitive faculties employed in arguments in support of evolutionary
theory itself cannot be relied upon – evolutionary theory cannot be known to be
true (Plantinga maintains) because it relies on faculties which by its own
admission are unreliable.

Agreed, scenarios can be created – and Plantinga is adept at this – in which
a falsehood is more useful and hence more adaptive than truth: Plantinga’s
favourite example (referred to earlier in chapter 6) is of falsely believing your chances of surviving a particular disease are better than statistics warrant, an optimism which can result in improving your survival chances better than would believing the statistical truth; i.e. in this example false belief (that you will beat the odds) is more adaptive than true belief (that your chances are no better than what the statistics show) because the optimism that goes with the false belief actually improves your chances

However, despite these little scenarios in which utility and correspondence truth are seemingly at odds, the *pragmatic* and the *correspondence* concepts of truth are not as far apart as implied – they are not mutually exclusive, nor are they independent variables. It is clearly perfectly possible for something which is true in the pragmatic or utility sense also to be true in the correspondence sense; indeed, for natural selection not to track reality with a good degree of fidelity most of the time would be to invite fitness disaster, and it is along these lines that Ruse (2006) robustly rebuts Plantinga’s argument, pointing out (in relation to a particularly off-the-wall scenario of Plantinga’s [1993b]) that falsely believing you are eating at the High Table in an Oxford College when in fact you are slogging through a primeval swamp full of crocodiles doesn’t do much for your reproductive chances, since “finding out what is really the case and dealing with it is the best way to reproduce” (2006: 246). So although natural selection does indeed operate on utility rather than on correspondence-truth, by and large the truth is useful to the organism, even if the deliverances of the evolved faculties and organs are not always of the whole truth (how could they be?). Along these lines Dennett and McKay (2009) conclude their exploration of the evolution of misbelief with two answers to the puzzle that if, as is commonly assumed, true beliefs are adaptive and misbeliefs maladaptive, how come misbeliefs arise? First, they point out that evolution “is not a perfect design process, but is subject to economic, historical and topographical constraints” (2009: 509); and a second explanation is that “in certain rarefied contexts, misbelief itself can actually be adaptive” (2009: 509 – emphasis in original); but, significantly, their concluding comment is that the assumption that “misinformation leads in general to costly missteps has not been seriously undermined: although survival is the only hard currency of natural selection, the exchange

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14 Though it could be argued that the optimism converts the false belief into a true belief, thus undermining Plantinga’s argument.
rate with truth is likely to be fair in most circumstances” (2009: 509). That is, in general our evolved mechanisms can be expected to deliver beliefs that are in the neighbourhood of correspondence truth. Applying this to the model under consideration leads to the conclusion that it is highly plausible, even though not provable, that the function of the sensus transcendentis is to track a real aspect or characteristic of the total environment, not simply a useful but fictional characteristic, and to deliver to the human organism intimations of transcendence in the guise of Roses.

The sensus transcendentis is a human psychological universal

In postulating the existence of the sensus transcendentis as a mental module, I am close to the position adopted by Hay and Socha (2005) who argue that it is spirituality, not religion, for which we have a natural disposition, and that “[b]oth religious and nonreligious spirituality… can be construed as alternative cultural constructions giving expression to the natural predisposition”, leading to the conclusion that all human beings, “including secular atheists and others hostile to religion, must on our definition possess spirituality in some form” (Hay and Socha 2005: 598, 607). The logic of the model I am proposing similarly entails that all human beings possess the sensus transcendentis mental module.

Well, not necessarily all without exception, but “all” as in the statement “all human beings have two legs” rather than in the statement “all human beings have a mother”. It is not literally true that all humans have two legs, given that some have one or none because of accident or a genetic abnormality; but this does not invalidate the general universality claim. Likewise, if it were established that some members of H. sapiens do not have a (fully) functioning sensus transcendentis, that would not in itself invalidate the claimed universality, any more than the ToM module is denied the status of universality by the existence of individuals on the autism spectrum who would appear either to have a faulty ToM or not to have it at all (Baron-Cohen 1995). As has been said of baboons, they “‘naturally’ have fur, and finding a few going bald does not disprove it” (Midgley 1978: 59).

The point is this: the model being proposed entails the sensus transcendentis being part of the mental make-up of human beings, but its absence or malfunction in some individuals – were that the case – would not of itself debar it from being a universal mental module; and, to point out what shouldn’t need
pointing out, but to minimise the possibility of being misconstrued, any absence or faultiness of the proposed *sensus transcendentis* in the make-up of an individual would not thereby rob them of human status *any more than would being bald, having a faulty ToM or, indeed, having one leg too few.*

Evidence to support the contention of universality will be discussed in a later section.

**The cultural input**

According to the model being proposed, the *sensus transcendentis* detects, infers, construes transcendence from cues in the total environment and delivers Roses as its output to the human organism. These experiences are not raw and unmediated, but are filtered through, shaped by, embodied in particular concepts, categories and images peculiar to the culture of which the individual is a member. The *sensus transcendentis* itself is a human psychological universal and hence pan-cultural, but the form of its deliverances in any given instance, being conditioned by the prevailing culture of the individual, is not universal.

The rationale and justification for this part of the model lies in the previously discussed arguments for religious pluralism, whereby all religious traditions, theistic and non-theistic alike, are understood to be manifestations of “the Real-as-experienced”, brought about by “the Real-in-itself” mediated to us through our various and varying cultural concepts and categories. Thus the revelations experienced by Julian of Norwich were of Christ, God the Father and Mary the mother of Jesus, for these were salient elements of the cultural system – the Catholic Church – in which she was embedded. Had she been a Hindu, the argument goes, her experiences would have been equally profound but probably mediated through Hindu concepts such as those of Krishna, Vishnu and Shiva (Hick 1989).

According to Hick’s version of religious pluralism, the Real-in-itself is completely inaccessible to us – we cannot know anything directly about the supreme reality. All Roses are of Reality-in-itself as it is filtered through, shaped by, embodied in the cultural concepts of the individual concerned (God, Christ, sin, salvation, Buddha, nirvana, samsara, Krishna…). Religious pluralism does not hold that the experiences are thereby inauthentic – quite the opposite: it is simply that the experiences cannot occur *except* by the mediation of cultural
constructs, which are not passive conduits but active shapers of that which they mediate. I dissented from the view that *nothing* can be known or inferred about the Real-in-itself, arguing (using the metaphor of a three-dimensional object being projected onto a two-dimensional surface) that since “the Real-in-itself” contributes to “the Real-as-experienced”, then the latter can give us some hints and ideas as to the nature of “the Real-in-itself” even though it cannot be fully known. However, I accept the argument that “the Real-as-experienced” is shaped and expressed by the cultural constructs of the individual concerned.

The application of this to the operation and deliverances of the *sensus transcendentis* is straightforward. Recalling that the mental module known as Theory of Mind does not detect a state of mind directly, but infers it from the behavioural cues of one particular aspect of the environment (namely the other person), it is plausible that transcendence, although not directly detectable, is also inferred or construed from cues in the total environment, and what is experienced by the individual is the outcome of those cues, those inferences, being filtered through, shaped by, embodied in the cognitive concepts and categories by which the individual habitually orients him/herself – many of which concepts and categories being cultural in origin.

It is possible – but this does not significantly affect the model – that too much is still being attributed to the influence of culture, for a distinction can be made between the experiences as experienced and the experiences as reported. Clearly the experiences as reported are culturally shaped, obviously at the level of language used (English, Hindi, Japanese…) and also (this model accepts) at the level of many of the interpretative categories employed (Christian, Hindu, Buddhist, secular…); but it is possible that at a very general level of low ramification there is a non-cultural element to the experiences as experienced: this is suggested by the nature of reports from children when still children, as well as retrospective reports by adults about their childhood experiences, with their struggle to find adequate words, and the frequent divergence from the cultural input it would appear that they had received (Robinson 1977). That the categories and concepts which shape the experiences may not be all cultural in origin but also, like the *sensus transcendentis* itself, be of biological origin is suggested by the identification of “basic, or primary emotions” which are “feeling states that might be experienced by core selves” (Rue 2005: 96, 95), those which are pan-cultural in expression. Six, namely “fear, disgust,
anger, desire, happiness, and sadness” have been nominated on the grounds that they all have adaptive benefits which would “favor the selection of neural modules to mediate them” (2005: 96–97). It could be then that the deliverances of the biologically-based sensus transcendentis are shaped or interpreted by biologically-based primary emotions before, or as well as, culturally-derived categories and concepts.

The model being advanced here, however, does not depend on the categories and concepts by which the Roses are shaped being purely cultural in origin, and would not be affected by further biological input. It is sufficient to assert, along with religious pluralism, that culture is one input in producing the Roses, thus contributing to an explanation for the wide divergence in the range of highly ramified structures known as religions despite their all being to some extent manifestations of the deliverances of the human universal sensus transcendentis.

**The adaptiveness of the sensus transcendentis in the EEA**

An important part of the model is that the sensus transcendentis is an adaptation in its own right, and its functions of detecting intimations of transcendence and the deliverance of Roses are not attributable to the workings of another module which has evolved with a different proper function but which fortuitously (or otherwise) also gives rise to a curious by-product which ends up as being religion. As an adaptation it needs, by definition, to have been adaptive in the EEA (and possibly, but not necessarily, now as well), which raises the question of what adaptive advantages could the sensus transcendentis have conferred to its possessors?

There are several possibilities which are not necessarily mutually exclusive. As discussed in the previous chapter, it could be that religion underpinned the ethical system of a group or community, giving it greater stability and coherence which better adapted the group to survive periods of adversity, in turn improving the fitness of the groups members (E.O. Wilson 1998); and/or it could be that the religious system of a group was itself adaptive by strengthening commitment, again enhancing both group and therefore individual fitness (Wilson D.S. 2002). For the proposals of these writers, then, the function of the sensus transcendentis in delivering experiences of transcendence to the individual would, or could, have been to influence the individual’s beliefs and behaviour in
the light of those experiences to be more Reality-centred rather than self-centred (Hick 1989), hence benefitting the group as both Wilsons’ proposals require.

Another possibility, from Hay and Socha (2005), is that experiences of religious or spiritual awareness which the sensus transcendentis delivers functioned by enabling individuals to cope better with “existential issues” (death, guilt, freedom, isolation, anxiety, responsibility, meaninglessness and such like [Yalom 1980] – the cheery stuff of life, in other words). This though raises the question of the mechanism by which experiencing a sense of meaning, purpose, value and sacredness confers greater fitness, the answer to which increasing appears to lie, at least partly, in the realm of psychoneuroimmunology (Koenig and Cohen 2002), with its claim that religion/spirituality decreases stress to the benefit of the immune system, leading to better health. The relationship between health and religious/spirituality is addressed in the next section.

Further arguments that religion was adaptive in the EEA advanced by Sanderson (2008) include the near-universality of the shaman figure in the ancestral environment, with his ability to induce altered states of consciousness with concomitant healing effects in susceptible subjects; the pro-natalist tendency of most religions resulting in religious people having more offspring than non-religious; and the fact that the major Axial traditions emerged in a time of major social upheaval, suggesting they possessed an adaptive function (Sanderson 2008).

These lines of evidence and arguments cannot clinch an adaptationist argument, but they do present “a very strong case… Even some of the by-product theorists acknowledge that… religions all over the world are often linked to matters of existential anxiety” (2008: 154). Although direct empirical evidence for the adaptiveness of religion/spirituality in the distant past can only be circumstantial, the matter is different when it comes to the present. Evidence in support of the contention that religion/spirituality is adaptive in the present is piling up, and to that I now turn.

**The present adaptiveness of the sensus transcendentis**

Whether or not the sensus transcendentis is adaptive in the present does not really affect the model being proposed, intended as it is to give an account of
how our capacity for the experiential dimension of spirituality can be understood as a product of evolution. Nevertheless, to show that religion/spirituality is adaptive today strengthens the argument that it was adaptive in the EEA and hence enhances the status of the *sensus transcendentis* as an adaptation.

If the *sensus transcendentis* was adaptive in the EEA, there are three possibilities concerning its present status: i) it is now positively maladaptive as is our once-adaptive penchant for sweets and fats; ii) it continues to be adaptive today as does the Theory of Mind module; iii) it is neither adaptive nor maladaptive today, analogous to a vestigial physical organ such as the appendix, once presumably adaptive (possibly to do with immune system), but now is believed by many to sit around all day doing not very much either adaptively or maladaptively.

According to those who adopt the conflict model to describe the relationship between science and religion (Barbour 2000) and who advocate the former as against the latter, religious beliefs and religious practices are wrong and hence should be discarded; for “if a human being were to rely too heavily on supernatural beliefs, the result would be maladaptive because they would get in the way of that person’s relationship with the real world” (Lewis-Williams 2010: 155). But that begs the question. Whether or not religion/spirituality is adaptive or maladaptive is an *empirical* matter, not something about which an *a priori* assumption can be made. Rue (2005) advocates the more nuanced position that religion is an adaptation but which, because it is now failing in its function of serving the goals of personal satisfaction and societal integration, has evidently become maladaptive. Again, though, the claim of religion’s maladaptiveness needs to be assessed – *is* religion maladaptive?

The model I am proposing does not assume that religion/spirituality has to be adaptive now; the model entails the *sensus transcendentis*, and hence the resulting religion/spirituality, having been adaptive, and *if* it still is, so much the better for the model since its adaptiveness in the present would support the contention that it was adaptive in the past. But it cannot be assumed.

The evidence that religion/spirituality is currently adaptive focuses mainly on the impact of religion/spirituality on physical and mental health. A summary of Koenig et al’s (2001) survey of hundreds of studies into the relationship between religion/spirituality and health includes the statistics that “75 percent of 16 studies found lower heart disease and cardiovascular mortality among
people assessed as more religious… 88 percent [of 16 studies] found lower blood pressure (especially diastolic blood pressure) among the more religious… 75 percent [of 52 studies] reported that more religious people lived longer, and only 1 study reported a shorter lifespan… 65 percent [of 93 studies] reported significant correlations between religiosity and lower levels of depression, with only 5 percent reporting higher levels of depression among the more religious” (Sanderson 2008: 150). These and other consistent findings of lower suicide rates, lower levels of anxiety; and lower alcohol and drug abuse correlated with being more religious lead to the conclusion that “[t]he role of religion in promoting physical health seems to be that it alleviates ‘existential stress’; it decreases anxiety and uncertainty and gives people a greater sense of control in a difficult world” (2008: 150).

The above data are supplemented by research into adolescent mental health, significant since adolescents are just entering the reproductive market, and again the evidence is that religious involvement correlates positively with health. There are numerous studies showing a positive correlation between religion/spirituality and a child or adolescent’s ability to cope with illness (Hackney and Sanders 2003; Miller and Gur, 2002; Resnick, Harris and Blum, 1993; Resnick et al., 1997; Wallace and Forman, 1998; Wegener et al, 2003), and a review of 115 articles examining the relationship between religion/spirituality and adolescent psychiatric symptoms (20 of which focused on death by suicide, suicide attempts and suicide ideation) noted that 92% found “at least one significant… relationship between religiousness and better mental health” (Drew et al., 2008: 381). The studies reviewed included Christian, Jewish, Muslim and Druze adolescents.

Of course, a correlation does not necessarily entail a causal relationship, and even if there is a relationship the causal arrow might not be in the direction required by the proposed model (it could be that those who are healthy are more likely to be religious, rather than vice versa). However, there is also evidence that the process of becoming involved in a religious group confers a beneficial health effect, strengthening the view that the causal arrow is from religion/spirituality to health. Psychological testing was carried out by an independent observer on 109 potential new recruits to the Unification Church (“Moonies”) who attended a weekend-long retreat with a further three week enlightenment course to follow. Of the 15 who lasted the entire three weeks,
nine became members, and tests of psychological well-being at the outset of the induction process “were highly predictive of who would actually stay on through each of the stages. Those who felt most comfortable with their lives left first, and those who scored lower on well-being stayed on through the first week and the following weekend. The nine who actually remained for three weeks and agreed to join were highly distressed in comparison to all the others who had left before them and to a matched sample from the population overall. The need for relief from emotional distress clearly provided pressure for affiliating” (Galanter 2005: 23). Moreover, well-being scores, which continued to rise as membership was established, were “highly correlated with the degree of their religious belief and their cohesiveness toward church members” (2005: 25).

It would seem that the proximate cause of the improvement in psychological health of membership of the Unification Church was becoming involved and identified with a cohesive group, but the ultimate cause is arguably the fitness-enhancing detection and response to the order, purpose, sense of meaning, identity and a “plausibility structure” (Berger 1970) which group membership provides – those same intimations of transcendence which are responded to by the adherents of the mainline religious traditions.

The health advantages of belonging to the Church of Latter Day Saints (“Mormons”) is also well documented, with their showing, for example, lower cancer rates compared to non-Mormons, and a life-expectancy 6-10 years longer. The proximate causes for these differences are believed to be their substance-free lifestyle, routine health behaviors, early marriage, and regular church attendance (Rule et al 2010).

One highly promising line of research in unravelling the link between religion/spirituality and health is that of psychoneuroimmunology, which is “the study of how social and psychological factors affect neuroendocrine and immune functioning” (Koenig 2002: 11). Religion/spirituality may provide a way which lessens the deleterious effects of stress on the body’s physiological equilibrium that is necessary for survival. In his introduction to a volume of papers on the relationship between religion and health, Koenig summarises the situation thus:

“From the field of psychoneuroimmunology we are learning that what people believe, think, and feel may have a direct impact on neuroendocrine and immune function – systems that play a vital role in warding off disease and speeding recovery from illness. If religious beliefs and
practices improve coping with stress, reduce the likelihood of depression or other emotional disorders, and increase social support, then it is possible that such involvement will reduce the physiological consequences of stress and thereby improve our defenses against diseases. So, at least, the theory goes" (2002: 27).

The theory and research continues (Koenig 2008), offering an insight as to how religion/spirituality could confer health benefits. Of course, better physical and mental health in themselves do not constitute better genetic fitness, but the relationship between health and genetic fitness is universally accepted in evolutionary thought, for “it is almost inconceivable that people in better health would not also have higher reproductive success. People in good health would be more likely to find mates, and to find good mates, than people in poor health, and thus to reproduce at higher rates… And even if the reproductive difference is marginal… even tiny differences in reproductive success can have major evolutionary consequences over many generations” (Sanderson: 2008: 151 – emphasis added).

Given that religion/spirituality is indeed helpful and adaptive as the evidence increasingly shows (Blackmore 2010), acceptance that the sensus transcendentis itself is adaptive requires only a short chain of inference: according to the model, the sensus transcendentis detects, infers, construes intimations of transcendence and delivers experiences of transcendence to the human organism; these experiences constitute the “vertical” dimension of spirituality; spirituality is manifested (inter alia) in various traditions generally known as religions which also involve beliefs, rituals and other dimensions (Smart 1996); hence if religion/spirituality is adaptive then it can reasonably be inferred that the sensus transcendentis, which gave rise to it, is an adaptation.

Admittedly this chain of inference is not infallible, since it could be argued that the health benefits deriving from religious involvement are, for example, a consequence of particular practices which do not require any form of commitment to the rest of the religion/spirituality package and so are not linked to any originating deliverances of the sensus transcendentis. There is, however, evidence that “for a religious practice to result in a health benefit, there may need to be an element of ‘true belief’” (Griffiths 2002: 259), and that what is known as “extrinsic religiousness” – when one is involved in religion because it is the conventional thing to do, but with no intrinsic belief or commitment – correlates with poorer health outcomes than does intrinsic religiousness.
(Griffiths 2002, citing Batson and Ventis 1982). This finding further tilts the weight of evidence in favour of the adaptiveness of religion/spirituality ultimately deriving from the operation of the *sensus transcendentis*, confirming – or at least upholding – its status as an adaptation.

The above discussion, while primarily about the *adaptiveness* of the *sensus transcendentis*, also constitutes indirect evidence for its actual existence – it could not be adaptive if it did not exist, and *something* is making religion/spirituality have an adaptive function. But there is also a growing body of somewhat more direct evidence in support of the contention that the *sensus transcendentis*, or something like it, exists.

**The *sensus transcendentis*: arguments/evidence for its existence**

As well as research into spirituality in general, evidence in support of the postulated *sensus transcendentis* comes from specific research into the spirituality of children (Coles 1990), an area of interest that has burgeoned in recent years with its importance recognised and accepted in educational (Best 1996) and pastoral (Mercer 2006) settings, and with a dedicated journal, *International Journal of Children’s Spirituality* (Ota *et al* 1996), to further its recognition.

Although an absence of evidence for spirituality in children would not tell against the *sensus transcendentis* model, since it is perfectly possible for an innate organ or faculty not to be in evidence for years (innateness does not entail being present at birth, as a consideration the development of secondary sexual characteristics shows), the evidence nevertheless suggests that the *sensus transcendentis*, or something rather like it, is indeed in operation in the early years of life.

In the accounts submitted in response to newspaper articles and advertisements placed by Hardy, the subset which referred to childhood experiences (e.g. accounts DH2b and DH3 in chapter 2) became the focus of further research by another of the team, who noted a consistency in the responses implying that "religious experience is really something quite ordinary, commonplace" (Robinson 1977: 15).

A number of Robinson’s respondents pointed out that their experiences of spiritual awareness differed from what they were being taught by parents about God and religion; whilst others reported that because their attempts to talk
about such experiences were ridiculed by adults they quickly learned to keep these matters to themselves. Along with frequent references in the accounts to the inadequacy of words to explain or encapsulate the experiences, these comments suggest that for these respondents at least their experiences, far from being simply a reflection or regurgitation of what they had been taught at home or Sunday school, possessed a distinct reality of their own mediated by a non-culturally-constructed innate mechanism, *contra* the Katz (1978) position regarding religious experiences (see chapter 3).

A difficulty with these accounts though, as Robinson acknowledges, is that they are to a large extent retrospective, sometimes by decades, which throws up the question of the reliability of memory and the subsequent (unconscious) construction from an adult perspective and with adult concepts of the reported experiences, though the consistency of the reports strongly suggests to Robinson that they are far from being fabrications. They are perhaps best taken as being impressionistic and suggestive, but not conclusive.

More rigorous treatment, albeit on the theistic side, is offered by Kelemen (2004) who gives a tentative "yes" in answer to her own question, “are children ‘intuitive theists’?”, citing research which shows that children’s reasoning is highly teleological; that is, children attend to the function of things and their purpose. When asked about clouds, preschoolers answer that they are made for “raining”, rather than raining simply being what clouds do; and when asked to decide whether prehistoric rocks “were pointy because of a physical process… or because they performed a function” children prefer the latter, giving explanations for the pointiness of rocks such as "so that animals wouldn’t sit on them and smash them" or “so that animals could scratch on them when they got itchy” (2004: 296). That these teleological explanations had not simply been absorbed from adults is indicated by further research showing “parents generally favor causal rather than teleological explanations” (2004: 296) when their children ask them questions about nature.

The “promiscuous teleology” of the children leads Kelemen to suggest that “[c]hildren view natural phenomena as intentionally designed by a god” (2004: 296), or at least that they are “predisposed to develop a view of nature as an artifact of nonhuman design” (2004: 299). Moreover, as she points out, teleological explanations have in fact been a staple of human understanding until very recently, and that “reasoning about all aspects of nature in non-
teleological physical-reductionist terms is a relatively recent development in the history of human thought” (2004: 299). Her point is that our default position seems to be that of teleological rather than causal explanations. Whilst this obviously does not entail teleological explanations being correct and causal explanations being incorrect, it does add to the evidence that we have a predisposition to see, or seek, *purpose*.

I emphasise “purpose” since Kelemen’s thesis, and the evidence backing it, that children are intuitive *theists* appears to run counter to the model I am presenting in which the *sensus transcendentis* detects intimations of transcendence, not necessarily intimations of (a) god – theism (according to the model) being just one of the possible ways in which the deliverances of the *sensus transcendentis* are experienced by the human organism. But the examples which Kelemen gives of children’s teleological thinking – the purpose of clouds is to rain, the purpose of the pointiness of rocks is for the rocks’ survival or for animals to scratch themselves – do not explicitly include a designer (e.g. a god) who created the entities concerned for their purported purposes. The children, if I have understood her correctly, are claiming a purpose for the clouds and for the pointiness of rocks without necessarily inferring that some other purpose-endowing entity created them. In fact, to say that a god created clouds with the purpose of raining is to combine causal thinking (“a god created them”) and teleological thinking (“with the purpose of”). No harm in that, except that Kelemen would appear to be reading into the children’s statements something which is not there – the cultural concept of a god, or, at the very least, “nonhuman design” (2004: 299). It is enough for the *sensus transcendentis* model that the children can be understood to receiving, or imputing, intimations of *purpose* – which is an aspect of the “transcendence” which is immanent that the model espouses.

Somewhat similar is Barrett and Richert’s (2003) “preparedness hypothesis”, an alternative to the anthropomorphism model for explaining the origin of god concepts. Drawing upon research into children’s conception of the creative power of God compared to that of human beings, and into their continuing to attribute true belief to God in false-belief tests, along with similarly attributing to God special powers such as seeing in the dark and hearing music played too softly to be heard by humans, the authors contend that this provides “strong evidence that four-year-old children are *capable* of representing God as having
non-anthropomorphic power, and the early age at which children have this capability suggests a degree of preparedness” (2003: 304 – emphasis in original).

Since the current enquiry, as repeatedly asserted, contends that theism (and hence any preparedness for awareness of “God”) is just one possible way in which religious or spiritual experiences can present themselves, the evidence and arguments for preparedness adduced by Barrett and Richert supports the sensus transcendentis model through the theistic route. And as the authors acknowledge, a preparedness does not entail inevitability, for “relevant cultural inputs are undoubtedly necessary to acquire any particular god concept” (2003: 310); or rather, I would amend, any particular transcendent concept. Equivalent research into a possible preparedness in non-theistic cultures would be very welcome, though currently (as far as I can tell) non-existent.

An additional contribution from Tamminen (1991), who researched the religious development of Finnish schoolchildren, is that “religious experiences are relatively general, especially in childhood but also in adolescence, according to the children and adolescents themselves… [and] such experiences are especially abundant in late childhood” (1991: 62 – emphasis in original). Moreover, although this research was carried out in a country where the default religious language is Christian, it was also found that “the pupils do not consider Christian faith as something unique compared to other religions” (1991: 88).

One researcher who recognizes that spirituality does not necessarily entail God-talk is Hay (Hay 2006; Hay and Nye 2006). His premise is that the spiritual awareness of children is not necessarily something extraordinary, and that researchers need to focus on “the perceptions, awareness and response of children to those ordinary activities which can act as… ‘signals of transcendence’” (Hay and Nye 2006: 60). In investigating children’s spirituality, Hay and Nye had tentatively identified three interrelated themes: i) awareness-sensing (involving “here-and-now”, “tuning”, “flow” and “focusing”); ii) mystery-sensing (involving “wonder and awe” and “imagination”); and iii) value-sensing (involving “delight and despair”, “ultimate goodness” and “meaning”). These would be the markers of spirituality for their research.

With this in mind, Nye explored the spirituality of 38 children, 6-7 and 10-11 years old, with Catholic, Anglican and Muslim family affiliations represented, but mostly with no particular religious affiliation. From structured interviews (several
with each child) she obtained over 1000 pages of conversational data, from the analysis of which emerged the concept of "relational consciousness" referred to earlier. It is this relational consciousness which is claimed to lie at the "rudimentary core" of children's spirituality, "out of which can arise meaningful aesthetic experience, religious experience, personal and traditional responses to mystery and being, and mystical and moral insight" (2006: 109).

Hay and Nye give several summarized examples of how relational consciousness manifested itself in the conversation of the children, such as the following account of a six-year old girl's description of heaven:

"She referred to the key elements in her spiritual response as 'waking up' and 'noticing', both of which suggest that a different quality of consciousness was crucial to her experience. The relational component in this was a strong feeling of connection to the natural world as something that was full of gifts for her and deserved her respect and love in return. This sense of intimacy also had reverberations in her relationship with herself, as seen in her self-conscious perception of a symmetry between her own joy and the joyful leaping of the lambs" (2006: 110).

And again, for a ten-year-old boy, who had rejected any religious affiliation along with his family, many of his comments...

"...were about the different kind of consciousness the spiritual domain seemed to engender in him, for instance the uncomfortable awareness of his brains feeling 'scrambled'. The relational component in his case was represented mainly in terms of struggling to achieve a comfortable relationship within himself. Many of the themes he pondered, such as the eternity and creation of the universe or the existence of a single true God, were directed back to questions about and feelings of his own sense of identity. The central relational issue that appeared to colour his rather anxious, struggling expression of spirituality was that of trust. Were the feelings and insights associated with these products of his own consciousness 'trustworthy partners', so to speak, with whom constructive relationships might be made, or were they merely 'tricks of the mind'?” (2006: 110).

And a ten-year old girl whose first two interviews with the researcher had contained little of interest, suddenly in the third and final interview...

"... came alive with philosophical questions, though not of a traditionally spiritual kind. Her flow of questions covered the nature of thought as never ending, leading her to wonder about the relationship between mind and brain. This was immediately followed by queries about the nature of language and how things came to have their names. In turn, this flood of unanswerable questioning (largely uninterrupted by [the researcher]) led her to wonder about the origin of the universe and of human beings (stopping to mention her rejection of the biblical explanation along the way). Finally she suggested that, faced with such mystery yet yearning for meaning, ‘Perhaps
we’ve got to, like, ask the clouds. The clouds have been there millions and
millions of years” (2006: 106).

“It seems important,” Nye comments about the last account, “for such kinds of
deep pondering to find a place in an account of children’s spirituality” (2006:
106).

What I find impressive about this research project is that the children are not
being tested so much as being listened to. Although “God-talk” made a consid-
erable appearance – inevitable, given that it is the principal default religious
language of the UK – time and again the children, given their head, manifested
what seems to be an instinctive awareness of the importance of meaning,
purpose, value, connectedness.

The concept of relational consciousness within children’s spirituality has
been further elaborated with the tentative identification of four images to
describe different types of children’s spirituality, with children as “mystics,
activists, sages, and holy fools” (Mercer 2006: 498); and five elements of that
spirituality being: i) “based in experience. It is not primarily words about a
phenomenon that mark spirituality, but the experience itself”; ii) “heightened
awareness [is] involved, a level of attention to the experience, a sense of ‘being
in touch’ with something big or important or ultimate”; iii) “awareness of an
encounter with transcendence or mystery, awe, and wonder. Descriptions in
fact generally point to an experience of a horizon or a presence that cannot be
reduced to rational cognition or even to the language attempting to express it”;
iv) “it is about relationships. It concerns one’s... sense of relatedness to self, to
others, to those ‘centers of value and power’ that shape meanings in the lives of
persons”; v) “[it] involves reflective symbolization, or the ability to have a
perspective upon and make meaning of the relationships and experiences
featured in the child’s awareness” (Mercer 2006: 504-5).

Mercer also, and importantly, refers to the shadow side of children’s
spirituality, which concerns “chaos and struggle, resistance, fear, evil, and
suffering... When we are attempting to learn about or understand the spiritual
lives of children, then, we need to listen not only for angel’s footsteps but also
for the ways children wrestle with demons (figurative and existentially
encountered)” (Mercer 2006: 505).

None of these lines of evidence alone is conclusive, but cumulatively they
make an impact, and even more so when combined with the evidence in the
previous section of the adaptive nature of religion/spirituality. It becomes increasingly plausible that *H. sapiens* possess a faculty along the lines this enquiry proposes, and increasingly implausible that such experiences of purpose, meaning, value, sacredness, of intimations of transcendence, could arise as the by-product of other cognitive modules.

There are however a couple of omissions and a caveat. The omissions are that I have not considered whether, for the *sensus transcendentis*, there is a timetable of development (as with the Theory of Mind module) rather than its being present at or virtually from birth (as seems to be the case with intuitive physics); nor have I considered whether there is a critical period during which time environmental input is required to trigger the development and functioning of it as a module, otherwise it closes down and is henceforth inoperative (as with the Language Acquisition Device). The caveat is that the evidence adduced for the existence and adaptiveness of the *sensus transcendentis* is principally from the WEIRD countries and hence the caution advocated by Henrich *et al* (2010) about sampling bias is in order. However, the intent has not been to prove the model true beyond all peradventure and to nail down every detail, but to advance it with some evidential and philosophical support as being a viable model. This I believe I have done, and the evidence so far garnered has enabled it to pass at least the first test of falsifiability (Popper 1959 [1934]).

**Spirituality as a unity**

At the conclusion of the discussion of spirituality in chapter 1, I stipulated that for the purposes of the current enquiry I would take it to comprise two aspects or dimensions. The first, in theistic terminology, refers to relating “vertically to God” (Underhill 1933: 19), or in the pluralist interpretation of religion which I have adopted, relating to “the Real” (Hick 1989); and the second refers to relating “horizontally to other souls” (Underhill 1933: 19), although the term “souls” could be more generally taken to encompass not only other humans but other animate beings, and indeed the entire natural world (Rolston III 1988).

However, I expressed the concern that this vertical/horizontal metaphor could imply that the two dimensions or aspects of spirituality are independent variables – that one’s openness to transcendence could alter without having any effect on, or correlation with, one’s relationship with others; and, likewise, that one’s openness and response to others could vary without that having any
necessary consequence concerning one’s openness and relationship with transcendence. This separation felt unsatisfactory, especially in the light of many thoughtful commentators more definitely linking the two aspects (see chapter 1), hence the suggestion of a second metaphor involving the properties of a circle: with “openness to transcendence” called the diameter of spirituality, and “openness to others” the circumference of spirituality, whereby, as with the diameter and circumference of mathematical circles, they would be locked into an exact co-variance. As well as ensuring that spirituality is not perceived as being split into two independent factors, this metaphor, by attributing a “circumference” to spirituality, echoes Singer’s (1981) image of the expanding circle to depict the widening of our ethical concern for other sentient beings and life forms. A disadvantage, however, is that a mathematical metaphor is even more suggestive of favouring quantity over quality than is a spatial metaphor, and with spirituality involving meaning, purpose and value this seems inappropriate.

Taking the two metaphors together as complementary might help mitigate the failings of each, but it does not resolve another problem. I can reasonably claim to have achieved what I set out to achieve in having developed a model by which the vertical/diameter dimension of spirituality, mediated by the sensus transcendentis, can be understood as a faculty rooted in our evolutionary history, as can the horizontal/circumference dimension of spirituality, mediated by our moral awareness and capacity for altruism. Nevertheless, an unsatisfactoriness remains in that no reason has yet been given for how it is that these two dimensions belong together in the phenomenon of spirituality. Why should it be taken that the vertical/diameter and the horizontal/circumference do have a joint referent in “spirituality”? Why consider they are connected at all?

In what follows I am going beyond what can be directly read out from the model that I have proposed, but for greater completeness the model does require a suggestion of how the two putative dimensions of spirituality are actually connected, if not their actually being one and the same thing looked at from two different angles. It is this latter, italicised suggestion that I briefly wish to advocate.

That there is an intimate connection, if not actual identity, between the two dimensions is strongly suggested in the Judeao-Christian tradition, epitomised in the Hebrew scriptures by the requirement to “act justly and to love mercy and to walk humbly with your God” (Micah 6:8); where “‘walking with God’ is a
metaphor for one who is right with God. One who walks with God has been graaced by God’s presence and partnership in life and death” (Resner 2001: 495); and in the Christian scriptures where, in the parable of the sheep and goats (Matt. 25:31-46), Jesus is depicted as equating such actions as feeding the hungry, welcoming the stranger, and visiting the sick and the imprisoned, with responding to God himself, and that “by doing good for others, they were doing good to him” (Hultgren 2001: 151). As remarked in chapter 1, most, if not all, other religious traditions have at their core some version of the Golden Rule (Hick 1999), whereby one’s (“vertical”) openness to transcendence and one’s (“horizontal”) response to others are intimately connected. Hick (1989), in discussing the soteriological characteristic of Axial religion, refers to the shift from ego-centredness to Reality-centredness, that is, requiring or entailing self-transcendence; and a number of the witnesses called in chapter 1 also identify the centrality to spirituality of self-transcendence or an equivalent such as self-giving (Conn 2000; Schneiders 2000; Underhill 1933). Likewise, Hay (2006) remarks that in his research, the respondents’ accounts of spiritual awareness regularly involve a raised ethical awareness and desire for greater altruism.

According to the model, the proper function of the sensus transcendentis is detecting, inferring or construing intimations of transcendence in the human organism’s total environment and responding by delivering experiences of transcendence (Roses) to that human organism, “transcendence” referring here to meaning, purpose, and value which, whilst immanent in the total environment rather than forming a separate, discrete, parallel realm, nevertheless transcend the individual entities and processes comprising the material and social environment. But how are meaning, purpose and value immanent in the total environment? I consider that the sensus transcendentis model allows us to maintain that when the sensus transcendentis purportedly infers, detects or construes intimations of transcendence, what it is actually inferring, detecting or construing is the meaning, value and purpose embodied in “the other” – taking “the other” in a widest possible sense to refer to anything which is not one’s self – such that the experience of transcendence (whether of the “focal” or “background variety” [Alston 1991]) precisely is the awareness of and capacity to respond to the meaning, value and purpose of “the other”. This would entail the capacity for the experiences of transcendence and the capacity for altruistic response to “the other” being at base the same capacity. It is not a matter of
cause and effect, it is not that the *sensus transcendentis* detects or infers or construes intimations of transcendence, and then as a result one is prompted (or one chooses) to develop a greater self-transcendence in our relationships with others, manifested by increased altruism; but that the deliverances of the *sensus transcendentis* are how one experiences the meaning, purpose and value of “the other”.

A further point is this: experiencing the meaning, purpose and value of “the other” is not, or not confined to, a cognitive experience, but is, or is also, a *behavioural* experience. This is where the insights and terminology of Personal Construct Psychology (Kelly 1955) are particularly helpful\(^{15}\). Since in PCP the verb “to construe” does not refer simply to a conscious, intellectual action but to the response of the whole person, emotional and behavioural as well as cognitive (Procter 2008), then any altruistic behaviour towards “the other” is a particular instance of construing, and that act of construing occurs prior to any cognitive labelling of meaning, purpose and value of “the other”. Thanks to our evolutionary heritage, an intuitive construing of “the other” occurs both experientially (Roses) and behaviourally (altruism).

If this, or something like this, is the case, then the deliverances by the *sensus transcendentis* of “Roses” on the one hand and our altruistic engagement or ethical praxis on the other hand are respectively the “inner” and the “outer”, the subjective and the objective, of one and the same occurrence. Spirituality can be said to have two dimensions for the purposes of trying to get to grips with what it is and how it comes to be intrinsic to human nature, but to talk of it in this way is best seen as a heuristic device rather than a description of (correspondence) truth.

In speculating along these lines, I could be accused of reducing transcendence to immanence. That is, suppose there is something “out there”, some “higher part of the universe” (to use James’s [1902] expression) that objectively transcends (or Transcends) us all, then the above speculation would seem to deny this possibility. However, the speculation is agnostic about, and is not commenting upon, an “external” or supernatural transcendence. The suggestion put forward is that our very experience of transcendence, as inferred (detected, construed) by the *sensus transcendentis*, is *identical* to our

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\(^{15}\) See appendix 1.
self-transcendence in altruistic openness to others, but this says nothing about the metaphysics of any supernatural realm, if there is one.
Chapter 11: Of consequences and implications

Introduction

The proposal that human nature can be understood as deriving from, or underpinned by, a suite of mental modules which have evolved through the process of natural selection, and that one such module is the *sensus transcendentis* underlying and facilitating human spirituality, brings to theological considerations an explicitly biological dimension. Neither the introduction of evolutionary theory into theological thinking (Haught 2000; Miller 1999; Southgate 2008), nor the exploration of the biological underpinnings of religion (Feierman 2009; Swanson 2008; du Toit 2009) are new ventures, but the manner of doing it in the present enquiry, and the particular biological insight which has been invoked, namely evolutionary psychology, is I believe novel; and although Hardy (1975) and Hay (2006) had already argued that our religious sense or sense of spiritual awareness is a naturally evolved faculty, they could not have (Hardy) or have not (Hay) drawn upon this particular discipline to explicate it.

The theological constructs I have engaged with are principally those of religious pluralism, particularly as advocated by Hick (1989), and the *sensus divinitatis* as developed by Plantinga (2000); and, further, having incorporated the concept of religious experience into a broader category of the Rose, I have also referred to the ascribed/intrinsic dichotomy of what makes a Rose a Rose.

In making use of these theological resources I have inevitably adapted them, and if the *sensus transcendentis* model has any validity it will feed back into them and affect any future understanding and use of them. In what follows, therefore, I briefly consider the implications the *sensus transcendentis* model might have for religious exclusivism, inclusivism and pluralism, and for the ascribed/intrinsic dichotomy. I also remark on two other issues: the implications for religious (un)belief, and a contribution to evolutionary psychology this enquiry may conceivably make.

A: Theological implications

1. exclusivism, inclusivism and pluralism

The *sensus transcendentis* model, if accepted, would have implications to varying degrees for the exclusive, inclusive and pluralist paradigms, as can be illustrated by considering the different positions of four Christian theologians:
two exclusivists who maintain different stances on the issue of religious awareness, namely Barth (briefly alluded to in chapter 4) and Plantinga (chapter 5); and Rahner and Hick, whose advocacy of inclusivism and pluralism respectively were discussed in chapter 4. Given the extent to which their thinking has contributed to the development of the sensus transcendentis model, Plantinga and Hick receive more attention in what follows than do the other two.

1a. Barth

It is difficult to see how the sensus transcendentis model could come into fruitful dialogue with Barth’s position as expressed in ‘The Revelation of God as the Abolition of Religion’ (Barth 1956), with its constant refrain that religion and revelation are in opposition to each other. Emphasising that the reality and the possibility of God revealing Himself to man can be found “in God, and only in God”, Barth continues that “[w]e could not fix the reality of revelation in God, and yet find in man a possibility for it. We could not ascribe the event to God, and yet attribute to man the instrument and point of contact for it. We could not regard divine grace as the particular feature and man’s suitability and capacity as the universal” (Barth 1956: 280 – emphasis added), this being a completely contrary position to the sensus transcendentis model with its contention that the “suitability and capacity” for detecting (inferring, construing) transcendence is a human universal. Acknowledging that man can know God, Barth asserts that this capacity rests on the fact of God’s self-manifestation, and not on the fact that man could know him, and “[b]etween ‘he could’ and ‘he can’ there lies the absolutely decisive ‘he cannot’, which can be removed and turned into its opposite only by revelation” (1956: 301). Clearly, I think it safe to say, any deliverances of the sensus transcendentis, entailing an operation of detecting/inferring/construing, would fall outside the active self-revelation of God as understood by Barth, since according to the model the sensus transcendentis as a natural faculty is operative as a matter of course, not dependent on the self disclosure of God (or transcendence) for its operation.

Suppose, though, there were a Christian exclusivist; call him Geoff, who accepts not only evolutionary theory but also evolutionary psychology as a coherent, acceptable scientific account of the processes through which he believes that God operates. Suppose further that there were strong independent evidence for the existence of the sensus transcendentis – would that increase
or decrease the likelihood of Geoff’s Christian exclusivism being justified? It would put Geoff in the awkward position of having to explain why, if there is a personal God, it is a sensus transcendentis which has evolved and not a sensus divinitatis? That is to say, if the personal God of Christianity is indeed the universal noumenon (and not just the phenomenal manifestation as experienced by Christians) then why would a mental module have evolved which delivers intimations of a theistic nature to one person and intimations of a non-theistic nature to another? Geoff cannot call upon cultural differences to explain it, as that would be heading for a pluralist position. Presumably Geoff would have to take the Calvin/Plantinga explanation that the module was malfunctioning because of human sin, requiring God to create another faculty (such as the “Internal Instigation of the Holy Spirit” suggested by Plantinga [2000]) to rectify the situation. But such an explanation knocks out the attempt to take seriously an input from evolutionary psychology into the phenomena of spirituality and religion, and Geoff’s acceptance of both the evolutionary psychology paradigm and his Christian exclusivism would, at the least, trigger cognitive dissonance (Festinger 1957). It would seem, again, that the sensus transcendentis model and religious exclusivism are incompatible; and if a Christian exclusivist is not persuaded to abandon exclusivism by the theological arguments that have been advanced by others (D’Costa 1986; Hick and Knitter 1988; Ward 1994), it is unlikely (I imagine) that he would be persuaded by the sensus transcendentis argument.

1b. Plantinga

Although also an exclusivist, Plantinga’s view on there being a religious faculty as part of human nature differs from Barth. Calvin, from whom Plantinga had inherited the idea of the sensus divinitatis, maintained that it has been implanted in humans by God such that we have no excuse for not being aware of God nor for our disobeying his commands, and that it is our sin which is responsible for the sensus divinitatis not functioning as it was designed by God to do: “There is within the human mind” wrote Calvin, “and indeed by natural instinct, an awareness of divinity [sensus divinitatis]… Since, therefore, men one and all perceive that there is a God and that he is their maker, they are condemned by their own testimony because they have failed to honor him and to consecrate their lives to his will” (quoted in Plantinga 2000: 171).
The *sensus divinitatis* does however malfunction. It does not deliver up unambiguous awareness of God, and the cause of this, Plantinga (following Calvin) maintains, is human sin, and in response to this God has had to instigate another process to rectify matters, namely the working of the Holy Spirit within the individual. Unlike the *sensus divinitatis*, this “Internal Instigation of the Holy Spirit” was not part of our original “epistemic establishment” (2000: 180).

The *sensus transcendentis* model radically changes this picture. Unlike the malfunction of the *sensus divinitatis* being attributed to human sin, there are two non-sinful reasons why the *sensus transcendentis* might fail to deliver an awareness of God: a “functioning perfectly well” reason, and a “malfunctioning through no fault of the individual” reason.

The “functioning perfectly well” reason arises because the proper function of the *sensus transcendentis* is not to deliver awareness of God, but to detect or infer or construe intimations of transcendence in the total environment and to deliver experiences of transcendence (focal, background, or both) to the human organism. In keeping with the pluralist approach used to develop the current model, these intimations of transcendence may take the form of theistic experiences (of God the Father, Yahweh, Allah, Krishna…) or of non-theistic experiences (Brahman, Nirvana, Sunyata, the Tao…) depending upon the cultural categories and concepts which are part of the individual’s mental equipment. Hence any “failure” to be aware of the existence of God need not be construed as the malfunction of a *sensus divinitatis* but as a consequence of the proper functioning of the *sensus transcendentis* within a particular cultural context.

There is, however, still the second possibility that the *sensus transcendentis* could malfunction, but through no fault of the individual. The evolutionary origin of the *sensus transcendentis*, and its being part of a suite of evolved mental modules, makes it plausible that the *sensus transcendentis* will share certain characteristics with these other modules. We have seen that a number of such modules, such as Theory of Mind and language acquisition, require particular environmental inputs, particular types of stimuli, at significant stages of an individual’s development for those modules to come into being and to function properly. Their proper function can be thwarted by those stimuli being absent or of insufficient strength or duration, or indeed for there to be a genetic defect
which prevents those environmental stimuli having the effect they would have with an individual without the genetic defect. The proper function of the language acquisition device can be thwarted by the developing child being deprived of a linguistically stimulating environment during the first few years of her life; it can also be damaged by a genetic defect as seems to be the case in the family referred to by Pinker (1994). The kin detection module(s) which are important for triggering incest aversion (and hence incest avoidance) are brought on-line by the co-residency factor; miss out on that and the “proper function” of the mechanism fails. Applying this to the sensus transcendentis, it is perfectly possible that a failure of the necessary environmental stimuli at the sensitive period of a developing life, or a genetic abnormality, could impair the sensus transcendentis.

From this it follows that the sensus transcendentis model undercuts the Calvin/Plantinga claim concerning sin. Even if the model as presented in this enquiry were to be reconstrued simply as an evolutionary version of the sensus divinitatis and nothing more, the claim falls apart that its presence as part of the nature of human beings removes any excuse for ignorance of God. Such alleged ignorance could be a result, not of the effects of sin clouding the operation of the sensus divinitatis as Calvin/Plantinga would have it, but of the effects of an environmental failure to provide the necessary stimuli to trigger the development and operation of the sensus transcendentis in the first place.

Of course, the riposte could well be that God guarantees the properly functioning presence in every human being of the sensus divinitatis/sensus transcendentis even given its evolutionary origins, but that will not do. Given that God clearly doesn’t guarantee that the other evolved epistemic modules will function properly in all human beings (otherwise there wouldn’t be the malfunctions that we see) and that at least two sources of malfunction have been identified for those other modules (insufficient environmental stimuli at the appropriate developmental stage, and genetic abnormality), there is no reason to suppose, and no evidence, that God would privilege the sensus transcendentis in ensuring its always functioning properly. Being an evolved module, it would be susceptible to malfunctioning possibilities similar to those besetting the other modules.

In summary, then, although the sensus transcendentis model took its original inspiration from the sensus divinitatis model, they are in direct competition
with each other in providing an explanation for the wide range of faith traditions that have existed and still exist among humankind in response to Ultimate Reality, and the supposed failure of many humans to acknowledge awareness of and give allegiance to one particular possibility of “the Real-as-experienced”.

1c. Rahner

Rahner’s inclusivism would seem to offer more scope for dialogue. In his scheme, a human faculty of openness to God is the free gift of God, who has created humankind “in such a way that he can receive this Love which is God himself.” Man must have a “potency” for it, which he terms the “supernatural existential” in the human soul (Rahner 1975: 186, 187, 185); “existential” (adopted from Heidegger) designating a “fundamental structure” of man’s being, and “supernatural” because the capacity to be open to grace is supernaturally endowed by God.

This supernatural existential is “a permanent modification of the human spirit… [It] is not grace itself but only God’s offer of grace which, by ontologically modifying the soul, enables it to freely accept or reject grace” (McCool in Rahner 1975: 185). Without trying to equate the sensus transcendentis with the supernatural existential (unlike the latter, the former not only is explicitly proposed as a natural faculty, but also, of course, is not necessarily theistic in its deliverances), there is potential here for dialogue, despite Rahner’s comment elsewhere that if a man is “disposed to think in terms of the evolutionary view of the world… [and who] is nevertheless a Christian for some other reasons, he would then be forced to think along two completely unrelated lines of thought” (Rahner 1966: 158). I suggest that this view of the two lines of thought being completely unrelated is, as evidenced by the current enquiry, unsustainable; and that the contribution to an understanding of human nature made by the sensus transcendentis model would productively inform Rahner’s theological anthropology. I have to leave it to another time, or more likely another person, to follow up this hint.

1d. Hick

Since I have drawn upon Hick’s pluralist paradigm to develop and support the sensus transcendentis model, it is hardly surprising that the model can be seen to give some support to pluralism over exclusivism and inclusivism, for the
following reason. The *sensus transcendentis* is a universal mental module which, *ex hypothesi*, is responding to, or is the mental correlate of, an aspect of our total environment. Since it is the pluralistic view itself which has helped give rise to the *sensus transcendentis* suggestion, using the *sensus transcendentis* to support pluralism is in danger of being a circular process. But *if* there were independent evidence that the *sensus transcendentis* exists, evidence over and above its simply being postulated as a necessary hypothesis to help explain the phenomenon of diverse religious traditions, *then* that would be evidence, of a kind, in favour of the pluralist paradigm. And, as seen in chapter 10, there is a certain amount of suggestive evidence that the *sensus transcendentis*, or something like it, is indeed part of our evolved psychological make-up, which does therefore provide a measure of support for pluralism.

There are several qualifying expressions in the above paragraph (“of a kind”, “suggestive”, “a measure of support”) for good reason: The structure of the support that the *sensus transcendentis* could seemingly give to pluralism is this: “If pluralism is valid, then something like the *sensus transcendentis* should exist. Oh look, there is evidence that the *sensus transcendentis* exists, therefore pluralism is valid”. Unfortunately, this reasoning is fallacious, known as “affirming the consequent” (Honderich 1995: 17) easily seen in operation in the structurally identical set of statements: “If you cheat you will get your PhD. Oh look, you got your PhD, therefore you cheated”. The existence, if it does exist, of the *sensus transcendentis* would not prove the correctness of pluralism any more than achieving a PhD proves that cheating occurred, for it is logically possible that something other than pluralism/cheating underpins the *sensus transcendentis* model/the PhD. However, the more that evolutionary psychology in general becomes accepted as a valid scientific paradigm, the more the absence of evidence for a *sensus transcendentis* or similar would become a problem for pluralism. Given evolutionary psychology, religious pluralism would predict the existence of a *sensus transcendentis* or something like it, to provide a partial explanation for how the Real is able to interact with, or be manifested to, the individual person.

Differentiating between the claims of pluralism and inclusivism on the basis of the *sensus transcendentis* model, however, would be difficult, since the model would not undermine an inclusivist view that, of the various ways of construing
the deliverances of the *sensus transcendentis*, one is superior to the others on theological grounds. That is, inclusivism could easily accommodate the view that the deliverances of *sensus transcendentis* are all, potentially, valid, although the belief systems built on them may (from an inclusivist viewpoint) be inadequate.

But this argument is getting arcane, and personal bias is creeping in. To hope that the *sensus transcendentis* model can help differentiate among religious exclusivism, inclusivism and pluralism in terms of their validity presupposes that it is possible to distinguish empirically between a *sensus transcendentis* and a *sensus divinitatis*, which at the current state of play seems unlikely. A method of distinguishing between them – a prediction the verification or falsification of which would support the one against the other – is a subject to be pursued subsequent to the current enquiry.

**2. the ascribed/intrinsic dichotomy of religious experiences**

In chapter 3 when I considered the experiential dimension of spirituality, I took the line that religious experiences “are experiences which the subjects themselves describe in religious terms or which are intrinsically religious” (Davis 1989: 31); that is, experiences (and, by extension, Roses) might be termed religious (or rosy) simply because of the terminology used to describe them (that is, through ascription), or because they possess an intrinsic quality which renders them religious (or rosy) *whatever* the terminology employed to describe them. So is the “rosiness” of an experience – that is, its being religious or spiritual – an intrinsic characteristic of the experience, or is it an ascribed characteristic? Is it in the nature of the Rose that it points to or signifies something “Other” beyond the subjectivity of the person undergoing the experience; or is the belief that it so points and signifies simply a construct in the subjective world of the individual projected outwards but with no objective correlate?

Reverting for now to the term “religious experience” as being the more familiar, the issue of whether “religious” is an ascribed or an intrinsic property is the subject of a book-length investigation by Taves (2009), and here I can only offer a couple of thoughts, no more than hints, as to how the *sensus transcendentis* model might contribute to the debate.

There are various possibilities concerning ascribed and intrinsic: it could be that “intrinsic religious experiences” is a null set, that there are no such things in
reality and that all so-called “religious experiences” are “religious” only through ascription. Or it could be that there really are intrinsically religious experiences, but that some other experiences which are not really intrinsically religious get mis-identified as being religious and so are “religious experiences” purely through ascription. But there is also the possibility that some experiences could be mis-identified in the opposite direction: ones which are intrinsically religious but are not recognised as such, or are dismissed as being, say, a “by-product” of the “electrochemical functioning of the brain” (Lewis-Williams 2010: 154).

What, for example, is one to make of author Philip Pullman’s reporting that he has had experiences that seemed transcendental (see account X5 in chapter 3)? As he believes that there is only a materialist universe, he does not construe the experience as indicative of a “spiritual world”; if there are experiences which are intrinsically religious, then Pullman’s experiences would at least be in the frame, though he does not ascribe religiousness to them.

What can the proposed sensus transcendentis model contribute to the ascribed/intrinsic dichotomy? First, to propose, as the model does, that spirituality, which includes the experiential (i.e. the vertical/diameter) dimension, is grounded in our biological being is not the same as explaining away spirituality simply as an evolutionary artefact with no objective correlate, any more than the recognition that our visual system is an evolutionary product explains away as a fiction the objective world that we see – on the contrary, we would not and could not have evolved a visual system without there being an objective, external world as the correlate of the evolving visual system. By this analogy, our evolved capacity for spirituality would appear to be tracking something that is more than a purely fictional, subjectively created artefact, a something other or a something there, which would support the “intrinsic” pole of the “intrinsic or ascribed” dichotomy.

However, as discussed in the last chapter, natural selection operates on usefulness not truth, and “[w]hat works, what succeeds, is what wins” (Ruse 2006: 245). This would suggest that if it is useful for the human organism (useful in the evolutionary sense of promoting survival and reproduction) to undergo certain experiences which present themselves as having a particular intrinsic quality, then our experiencing those experiences as religious is no guarantee that they are intrinsically religious. Since the evidence presented in chapter 11 strongly suggests that there is a positive correlation between
religion/spirituality and health, there is selection pressure for us to construe experiences as intrinsically religious, *even if they aren’t*. This supports the ascribed pole of the dichotomy, or at least counterbalances the previous argument supporting the intrinsic pole.

Then again, though, it does not follow from the fact that natural selection operates on usefulness rather than truth that the deliverances of the *sensus transcendentis* have to be *false*, it is merely that they do not come with a money-back guarantee of being 100% true. The “usefulness not truth” argument should put us on guard against naively taking everything at face value, which is the stance of “critical realism” (Bhaskar 1998) referred to in the introduction, but it does not require the rejection of all truth claims: to repeat McKay and Dennett’s conclusion to their discussion of the evolution of misbelief, “although survival is the only hard currency of natural selection, the exchange rate with truth is likely to be fair in most circumstances” (2009: 509). That is, our evolved mental mechanisms can be expected to deliver true (or true enough) beliefs most of the time, which swings the pointer back towards the intrinsic pole for construing the religiousness of religious experiences or the rosiness of Roses… towards it, but not all the way back.

And there I will leave it. By now the reader’s ambivalence detector mechanism will be working flat out if it is functioning properly, since there is considerable ambivalence around the issue. Nevertheless, the *sensus transcendentis* model, particularly if further empirical evidence were to arise in support of its postulated existence (I have in mind an extension of the “intuitive theist” work of Kelemen [2004] and the “preparedness hypothesis” of Barrett and Richert [2003] referred to chapter 11) offers a possible approach to investigating the ascribed/intrinsic dichotomy which, as far as I know, has not previously been suggested. Others may wish to develop it.

### 3. Consequences for religious (un)belief

This follows on from the previous section, but asks a more drastic question: does (or would) the existence of a *sensus transcendentis* so relativize religious belief as to render impossible genuine commitment to any one tradition? To answer this I will use an analogy. Wearing another hat, I am a poet, and I write in English. Similar to many Englishmen, I have only a smattering of school-boy French, and a few ill-pronounced Italian phrases; but it would be crass of me to
claim that English is the only true language for poetry and all the rest are barbarous and degenerate. I fully recognise that every other language is a valid medium for poetry, and I wish I were fluent in German so I could read Rilke in the original – poetry is notoriously difficult to translate. But I have no desire to try writing poetry in any language other than English – it’s hard enough as it is without trying it in a foreign language. Nothing against Italian and German and the rest, but when it comes to writing poetry I have to stick to the language I know, and seek to improve my skills in its use as the years go by. And what of the knowledge that my ability to use a particular language came about through the functioning of an evolved “language acquisition device” responding to the stimuli from the linguistic community into which I was born? Does that somehow invalidate my poems written in English? Does it cause me to decry the use of any language whatsoever? Of course not. I will continue to write in English, and if I finally get round to learning German and reading Rilke in the original, I may well be inspired by his use of language, though it’s German not English, and be enriched by it. If I studied hard and immersed myself in the literature of Germany I could theoretically, I suppose, one day try my hand at a poem in German; I could even decide to adopt German as my main language and commit myself to using it instead of English. Overwhelmingly unlikely, but theoretically possible – and the knowledge of there being a language acquisition device would not make the slightest difference.

The analogy is obvious though of course not exact, for, unlike religious exclusivists, speakers of English, German or Italian do not often claim that speaking their language is necessary for salvation/enlightenment/liberation/fulfillment. But even if such claims were made for a given language, it would not be necessary to accept such pronouncements even whilst continuing to appreciate that the language still fulfilled its function. Similarly, though the sensus transcendentis model would appear, if anything, to strengthen the view that no one tradition can plausibly claim unique status, that does not require the abandonment of all traditions. It might make one look afresh at one’s religion, and shift from a literal to a mythological understanding of its propositional statements (Hick 1977), but it would not – or need not – cause it to cease being one of the multi-dimensional routes to meaning, purpose and value. And the point is this: knowledge that there are paths other than your own, and knowledge of how come there are other paths (the pluralism thesis), and knowledge
of how come we are aware in the first place of there being paths (the sensus transcendentis) – none of this logically requires an abandonment of all paths.

There is another question, though: would acceptance that there is a sensus transcendentis necessitate taking up a commitment to a tradition? That is, suppose someone who finds all religion utterly repugnant is somehow persuaded by the arguments of this enquiry that he indeed has, as part of his evolved mental architecture, a module, the sensus transcendentis, that detects, infers, construes intimations of transcendence in the total environment - should that reader, on the strength of it, get himself measured up for a new suit of sackcloth and ashes? Start taking instructions in the teachings of the Hebrew Bible, the New Testament, the Quran, or the Pali Canon?

It doesn’t follow. Of course it doesn’t. What the sensus transcendentis model makes clear is that being open to experiences (“focal” or “background”) of meaning, purpose, value, the sacredness and wonder is part of our evolved human nature, but logically it cannot be part of the model to make pronouncements about itself nor to impose any obligation on the individual to respond to its deliverances in a given way.

**B: Contribution to evolutionary psychology**

It would be overstating the case to claim that the current enquiry makes a major contribution to evolutionary psychology, but there is one point worth making. It has become increasingly clear from all the reading that has gone into the development of the sensus transcendentis model that most evolutionary theorists work with a very “thin” conception of religion and spirituality. It is nearly always considered in terms of supernatural agency, whether of a god, or gods or ancestral spirits, with the other dimensions, though acknowledged by Barrett (2004), Boyer (2001) and Wilson (2002) to be important, receiving considerably less coverage. Ethics apart, that is, but the evolutionary exploration into ethics is an area in its own right, not requiring, though sometimes acquiring, a religious connection either as underpinned by religion (Barrett 2004) or parasitized by religion (Boyer 2001).

To focus on supernatural agency not only leaves non-theistic religions such as Buddhism and Jainism outside any explanatory system based on that conception, but it is simply “shallow and incomplete” (Wilson 2002: 3) to take religion to mean belief in supernatural agency. As Wilson goes on to acknowl-
edge, religion involves honouring spirituality, which refers “in part [to] a feeling of being connected to something larger than oneself” (2000: 3). The “something larger than oneself” need not be construed as something supernatural. Meaning, purpose and value are not supernatural; they are to be found or inferred in human experiences in this world. Meaning, purpose and value may be said to transcend the physical world of which we are organic part, but they are, to repeat a paradoxical expression used earlier, immanently transcendent.

When they focus on supernatural agency as though it were the essence of religion, evolutionary theorists (of which I am one) are in danger of missing, or dismissing, the spirituality of which the various manifestations of religion have been the traditional vehicles. The sensus transcendentis model privileges spirituality over religion, and may contribute to shifting the evolutionary focus away from the latter and towards the former as being integral to human nature.

**Conclusion**
The development of the model of the sensus transcendentis is based on the assumption that a scientific investigation of the world and of human nature is perfectly valid in its own terms and need not be seen as antithetical to spirituality, but on the contrary can contribute to an understanding of that phenomenon. By challenging and offering an evolutionary alternative to the sensus divinitatis model of Plantinga (2000), and contributing not only to the ongoing debates about religious pluralism in particular, but also, although more generally and indirectly, about the nature of what are generally known as religious experiences (“Roses”), the model potentially influences several areas of interest in theology, religion and spirituality. It does not, however, claim to be, and should not be read as, an argument either proving or disproving wholesale the specific claims of all or any one religious or faith tradition.
Chapter 12: Of final comments

When I started this enquiry, I had the vague notion that evolutionary psychology and spirituality should be able to speak to each other, since I found the former an exciting and plausible (though controversial) scientific discipline which promised to help illuminate the structure of human nature, and the latter as being, though ill-defined, an essential ingredient or component or dimension of human existence. But what they would have to say and how was unclear: had that been clear at the outset, I suppose, there would have been no point on embarking on the last six years of reading, thinking, discussing, writing, re-writing, re-re-writing, and regularly feeling overwhelmed.

I already had an inkling of Hick’s pluralistic views, having read a number of his books over the years; and Kantian epistemology had long interested me, particularly because of its underpinning Personal Construct Therapy (Kelly 1955), an approach to psychotherapy of which I was a practitioner (Procter 1985). However, I had not knowingly heard of the sensus divinitatis before a chance conversation in the theology department at Exeter University brought it to my attention. I had a smattering of knowledge of sociobiology and evolutionary psychology, mainly from Wilson (1978, 1998) and Pinker (1998; 2002), but had not really taken in the idea of the intuitive faculties such as intuitive physics and intuitive psychology until I came to write a draft about human nature, when I speculated about there being another faculty which I referred to as “intuitive spirituality”. The sensus divinitatis conversation helped crystallize that idea and give a clearer shape to what I was trying to do.

It did mean, however, that a number of other issues I thought would have more prominence faded into the background because of pressure of time and maximum word length of the thesis. In particular, I had envisaged a considerably longer section on ethics, exploring different ethical theories and discussing how consonant or otherwise with evolutionary psychology each was. It is therefore of particular interest that Hauser (2006) draws upon and discusses Hume (2000 [1739]) Kant (1959 [1785]) and Rawls (1971) in his development of an intuitive morality, finding that the empirical evidence favours the last-named with his “justice as fairness” concept coming closest to what appears to be our default, intuitive faculty. I had also envisaged a wider consideration of ethics as pertaining to our relationship with the non-human world. Much ethical discourse
concerns itself with human-human interaction, but it can be argued (and I would support the arguments) that ethics is equally applicable to how we humans treat not only non-human animals but all aspects of creation, including (for example) forests, oceans and mountains. Enlightened self-interest, of course, suggests we should be wise in our care for and use of them; but at a deeper level there is the issue of their *intrinsic*, not simply instrumental, value (Rolston III 1988). Spirituality as relating to the rest of creation (Fox 1983) is therefore another huge area I have reluctantly not addressed.

I had also intended a longish discussion on what contribution the phenomenon of spirituality could make to an understanding of evolutionary psychology, rather than the single comment I have made; but I cannot give even an outline of what else I might have written, since I have no idea of what the answer could be. I realise I am setting myself up for a cynical riposte that the answer is simple – *nothing*; but that is unsatisfactory. At the very least it would concern itself with meaning, purpose and value about which evolutionary psychology *per se* seems to have a pretty negative view along the lines that they are illusions foisted on us by natural selection (Bering 2011). That might become the starting point for another research project – or it might not. I do have an allotment to dig, after all, and poems to write.

Finally, it remains to be seen whether the *sensus transcendentis* model can be expanded, developed or modified in due course in the light of continued developments in evolutionary theory involving epigenetics (Carey 2010), “evo-devo” (Carroll 2005), and developmental systems theory (Oyama et al 2001), but it seems to me important that, whatever the actual mechanisms which have brought it into being over the immense stretches of evolutionary time, the phenomenon of human spirituality is understood and explored as being firmly rooted in our evolved human nature.
Appendix I: Personal Construct Psychology

Personal Construct Psychology (PCP – also known as Personal Construct Theory [PCT]) was developed by the psychologist George Kelly (1955) and further elaborated by, *inter alia*, Bannister and Fransella (1986), Fransella (2004), and Procter (1981; 1985; 2008). With the same basic premise as critical realism, PCP not only provides a coherent theory base but also has given rise to a range of practical techniques and strategies for those involved with counselling and psychotherapy, the context in which I encountered and used it as a member of a psychotherapeutic team under the guidance of Harry Procter (1985).

The philosophical position that undergirds PCP is a Kantian-esque epistemology called “constructive alternativism”, which holds that reality objectively exists (i.e. it is not a mental creation) but that there are always different, or alternative, ways in which we can interpret or construe that reality – things, events, experiences, people, concepts, values and so forth, and (as with critical realism) we “cannot contact an interpretation-free reality directly. We can only make assumptions about what reality is and then proceed to find out how useful or useless these assumptions are” (Bannister and Fransella 1986: 6).

Kelly encapsulated PCP in a “Fundamental Postulate” with eleven corollaries. The former states that “a person’s processes are psychologically channelised by the ways in which he anticipates events” (Kelly, quoted in Button 1985: 3), a laboured way of saying that an individual has expectations about events (a term which includes everyday actions and experiences) based on previous experience, and we can “understand human behaviour and experience as the consequence of our attempts at anticipating future events” (1985: 3-4). In the light of evolutionary psychology I would add that the expectations we have are based not solely on our individual experiences but also on innate expectations engendered by our evolved “mental modules” (see chapter 7).

This fundamental postulate is elaborated in a series of “corollaries”, four of which are as follows:

The *dichotomy* corollary states that “A person’s construction system is composed of a finite number of dichotomous constructs” (Kelly, quoted in Bannister and Fransella 1986: 12). We make sense of the world through our perceiving similarities and differences, and this gives rise to dichotomous constructs. For example, I may experience Joe and Mary as similar to each
other in their both being “warm-hearted” but different from Bill who is “a cold fish” – so one construct that I apply to other people is “warm-hearted” as opposed to “cold-fish” (which in future I will write as “warm-hearted----cold-fish”).

This dichotomy, however, does not mean that I simply have two boxes, one labelled “warm-hearted” and the other ”cold-fish”, into one or other of which I shove everyone. The “warm-hearted----cold-fish” construct acts as a dimension along which I construe other people (and myself) as being positioned, and although I construe Joe and Mary both as being “warm-hearted” when compared with Bill, when I compare Joe and Mary with each other I construe Joe as very warm-hearted and Mary as fairly-warm-hearted but not as warm-hearted as Joe.

A construct, then, is essentially an act of discrimination, but our construing – our application of a construct – can occur in many different ways, behaviourally, affectively, somatically as well as verbally or with the intellect. Compare a baby responding to the face of its mother by turning towards her and gurgling, and that same baby responding to the face of a stranger by turning away and crying. The entire response of the baby constitutes its construing: “when a baby is scared by an unfamiliar face, the reactions and feeling of fear are just as much part of the construct of scary versus safe as any descriptive or dictionary definitions of these terms. The bodily reactions, the tensing, the crying and scared feeling are all part of a single human experience/reaction that is governed by the application of the construct” (Procter 2008: 2 – emphasis in original). Words such as “scary” and “safe” are often referred to as constructs, but strictly speaking they are the verbal labels of constructs (and even more strictly speaking, a “construct” is the entire dimension of, say, “safe----scary”. Both poles comprise the construct).

The organisation corollary states that “[e]ach person characteristically evolves, for his convenience in anticipating events, a construction system embracing ordinal relationships between constructs” (Bannister and Fransella, 1986: 11). A person’s constructs are not just a haphazard bundle, but are inter-related, and one type of inter-relatedness is conveyed in the notion of constructs being “subordinate” and “superordinate” to one another in hierarchies. Consider the following set of possible constructs to explain those phenomena commonly termed “religious experiences”:

A) naturalistic explanations-----religious explanations
B) natural religion----revealed religion;
C) psychological explanations-----non-psychological explanations;
D) Freudian-type explanations-----Jungian-type explanations.

Diagrammatically, they link together thus:

naturalistic explanations-----------------religious explanations
   |                       |
   |                       |
psychological ----non-psychological     natural religion----revealed religion
   |                       |
   |                       |
Freudian-----Jungian

and we can see that:

Construct “B” (natural-----revealed) is subordinate to construct “A”
(naturalistic-----religious) in that both poles of “B” fall under the “religious
explanations” pole of “A”.

Construct “C” (psychological-----non-psychological) is also subordinate to
construct “A”, since it falls under the “naturalistic explanations” pole of construct
“A”

Hence construct “A” is said to be “superordinate” to both B and C.

Construct “D” is subordinate to “C” since both Jungian and Freudian
explanations are examples of psychological explanations.

Thus “C” is a subordinate construct with respect to “A”, but superordinate
with respect to “D”.

And so forth. But – note that the above is illustrative based on my personal
constructs. They may not coincide with how you construe the various possibil-
ities; your personal construct system may well have different linkages.

The range corollary states that “[a] construct is convenient for the anticipation of
a finite range of events only” (Bannister and Fransella 1986: 13). Constructs
have a range of convenience, namely those people, situations, things etc to
which they are applicable, and a focus of convenience, namely those people,
situations, things etc to which they are maximally applicable.
Some constructs have a wide range of applicability – a common example would be “good----bad” which is applicable to people, football games, apples, ideas, poems, governments and so forth; whereas other constructs have a limited range of use: “petrol-driven-----diesel” being applicable to types of engines and the like, but not much else. The “focus of convenience” refers to those events/things situations/referents to which the construct is optimally applicable; and the “range of convenience” refers to everything else to which it can usefully be applied. And clearly there is a whole area of potential experience to which a given construct is simply inapplicable. To adapt an example from Bannister and Fransella, a construct of “domestic furniture------office furniture” would have a range of convenience including swivel chairs, desks, tables and the like, but “the whole construct would exclude sunsets, battleships, acts of heroism and candyfloss which are outside the range of convenience of the construct; they are not subsumed under either pole of it” (1986: 14 – italics in original).

These notions of focus of convenience and range of convenience are applicable to the use of the terms altruism and selfishness as understood within both an evolutionary context and a moral context, since the original “focus of convenience” of the construct “altruism-----selfishness” lay within the moral sphere, but since the advent of the “selfish gene” concept (Dawkins 1976) the range of convenience has extended to the genetic sphere, such that there are now two foci of convenience of the construct, in the moral sphere and evolutionary sphere respectively.

The commonality corollary states that “[t]o the extent that one person employs a construction of experience which is similar to that employed by another, his psychological processes are similar to those of the other person” (Bannister and Fransella 1986: 17). Although the “P” of PCP is “personal”, this corollary explicitly addresses the fact that we are not isolated monads; that our ways of construing considerably overlap with many other people’s ways of construing, even though there are idiosyncratic aspects; and what is expressed in this corollary is further extended by the work of Procter, who has developed the idea of a family construct system (Procter 1981); and who has also addressed the issue of whether “some constructs are not personal but universal?... For example if we take blue versus red. There are cones in the retina that fire to these wavelengths of light. However, even here we are talking
about a *personal* construct when we are referring to the occurrence of the construct in an actual situation” (2008: 6). That is, the construct is *personal* in its application in a given situation, yet it has a *universal* aspect. Procter’s choice is particularly interesting in that pan-cultural colour identification is one of the “mental modules” postulated by evolutionary psychologists.

These, along with the Fundamental Postulate and the other corollaries, make up the bare bones of PCP. Because its basic assumption is that although the world is real, there are different ways of construing it, the way is opened up for the possibility of re-construing – that is, of developing different ways of construing a given situation, event, person, belief, problem and so forth, and as a therapeutic approach a wide range of techniques have been developed to facilitate reconstruing – but this is not the place to pursue that aspect of PCP. For current purposes, it is sufficient to recognise the utility of the general structure of the theory, and its main terminology.
Appendix 2: Heresy

The following appeared a few years ago on the “Ship of Fools” website (ship-of-fools.com), winning a poll for the best religious joke. I have somewhere seen it attributed to American comedian Emo Phillips.

I was walking across a bridge one day and I saw a man standing on the edge, about to jump. I ran over and said: “Stop. Don’t do it!”

“Why shouldn’t I?” he asked.

“Well, there’s so much to live for. Are you religious?”

He said, “yes.”

I said: “Me too. Are you Christian or Buddhist?”

“Christian.”

“Me too. Are you Catholic or Protestant?”

“Protestant.”

“Me too. Are you Episcopalian or Baptist?”

“Baptist.”

“Wow. Me too. Are you Baptist Church of God or Baptist Church of the Lord?”

“Baptist Church of God.”

“Me too. Are you original Baptist Church of God or are you Reformed Baptist Church of God?”

“Reformed Baptist Church of God.”

“Me too. Are you Reformed Baptist Church of God, Reformation of 1879, or Reformed Baptist Church of God, Reformation of 1915?”

He said: “Reformed Baptist Church of God, reformation of 1915.”

I said: “Die, heretic scum,” and pushed him off.
Appendix 3: Pete and Dud on Religion

*Peter Cook and Dudley Moore, along with Jonathan Miller and Alan Bennett, came to prominence in 1960 in the ground-breaking revue “Beyond the Fringe*. In their TV show “Not Only… But Also” they regularly appeared as Pete and Dud, two cloth-capped ignoramuses pontificating on all manner of subjects including Life, Art, Sex and – as in this extract – Religion.

**Pete**: I often wish He'd manifest Himself a bit more, you know, in the sky.

**Dud**: Yer, it'd be nice is every now and again He parted the clouds and in a golden burst of sunshine gave you a wave. 'Hello down there, you can believe in me'.

**Pete**: I asked the Reverend Stephens about this, and he said 'Much as God would like to keep manifesting Himself, He daren't you see, because it debases the currency.' He can't go round all the football matches and fetes and everything, so He limits Himself to once in a million years if we're lucky.

**Dud**: Well, you've got to be careful about over-exposure. Course you know, actually, Pete, I wish I'd never been told about God at all cause it means we can't get away with nothing, doesn't it? I mean you've been told about Him, you know He's there or you think He's there, and you can't really mess about then, can you?

**Pete**: You can't.

**Dud**: No, and what about the people who haven't been told about God?

**Pete**: Well, I asked the Reverend Stephens about this, and he said that if you haven't been told about God, Dud, you're laughing. If you don't know good from evil then you're away. You can do anything you bloody well like. There's these people in New Guinea for example. They wander about with nothing on and they commit adultery, steal, and covert their neighbour’s wife, which everyone wants to do. As there are no vicars about, to tell them everything, they can't be got at, so they go up to heaven whatever they do. This means all these foreigners are getting up to heaven, and perfectly decent blokes like you and me, who have
never even committed adultery, we can’t get up there. We’re being kept out by these Guineans.

**Dud:** You see in that case, Pete, it’d be a crime to tell people about God.

**Pete:** I’ve never told anyone about God.

**Dud:** I haven’t told anyone, I haven’t mentioned it to a soul, Pete.

(Cook and Moore 1971:90-91)
Appendix 4: Let There Be Light

I wrote the following sketch several years ago, and have performed it in cabaret on a number of occasions. Originally the target was “liberal theology”.

Interviewer (Sitting in a chair. His guest is in another chair. He addresses the audience.) Good evening and welcome to tonight’s edition of ‘OK God, What’s It All About Then?’ – the series in which we explore contemporary perspectives on religion. Tonight it’s the turn of Religious Pluralism, and my guest is the well-known Religious Pluralist, Dr Gustav Weltanschauung. Dr Weltanschauung, I would like to start by asking you the central question concerning Religious Pluralism, namely: how many Religious Pluralists does it take to change a light bulb?

Dr. W. None whatsoever. That’s because Religious Pluralists do not believe in the existence of objectively real light-bulbs.

Interviewer You deny their very existence?

Dr. W. Oh yes! And then again: oh no! You see, I don’t deny one’s subjective experience of light bulbs! Of course not! We all like to get well lit up from time to time, don’t we? I know I do. But to talk of an objectively real light bulb up there, somehow stuck on the ceiling, sort of thing – well, I think we’ve outgrown such nursery school fantasies of illumination, haven’t we?

Interviewer So if someone comes to you asking for your advice about light bulbs, how would you respond?

Dr. W. Well, I would encourage such a person to develop their own personal light-bulb; to seek out and switch on their inner filament.

Interviewer Right... Now, I understand you also hold controversial views about the creator or inventor of the incandescent light-bulb – Thomas Edison. You claim he never actually existed?

Dr. W. Well, extremely erudite scholarship, mainly by me, has thrown considerable doubt onto his historical reality. You see, key features in the recorded life and work of Thomas the so-called Edison are actually pre-figured in the Ancient Babylonian papyrus
unearthed only a few years ago in the children’s section of Waterstones.

Interviewer That’s the text known to us as *Harry Potter Rewires His Ancient Babylonian Dwelling Place*?

Dr. W. Correct.

Interviewer And you see this text as proof of the essentially mythological status of Edison?

Dr. W. Exactly. What we call ‘Thomas Edison’ is simply a personification of the light-bulb archetype.

Interviewer What is your attitude towards those who reject the whole notion of Thomas Edison and seek illumination from other sources?

Dr. W. Well, we are of course luminously pluralist, seeking as we do to encompass many light-bulb traditions: incandescent, fluorescent, energy-efficient...

Interviewer Flash?

Dr. W. Well, if you must. Anything goes. But the point is that all of these are equally valid paths to ultimate luminescence.

Interviewer Dr Weltanschauung, let me ask you this: when the time comes to change one’s personal light-bulb, where exactly do Religious Pluralists stand?

Dr. W. On a chair, like everyone else. But it is of course a metaphorical chair! Obviously we don’t believe in objectively real chairs.

Interviewer *(looking pointedly at the chairs they are sitting on)* Obviously.

Dr. W. That would be absurd! We Religious Pluralists metaphorically stand on a metaphorical chair in order metaphorically to change a metaphorical light-bulb. I trust that is clear?

Interviewer Oh yes. Metaphorically. Well, thank you Dr Weltanschauung for an... *illuminating* glimpse into the world of light-bulbology. *(to audience)* Now, I started with the question “How many Religious Pluralists does it take to change a light bulb?” To end, I leave you with another questions: “How many light bulbs does it take to change a Religious Pluralist?” Thank you and good light... er, night.

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BIBLIOGRAPHY


