

**ALISTER HARDY –  
BIOLOGIST OF THE SPIRIT**

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### **Introduction**

It has been said that natural theology as a viable concept died on 24th November 1859, the date of the publication of Darwin's *Origin of Species*. Charles Darwin himself studied natural theology whilst an undergraduate in the Divinity Faculty in Cambridge. His text was Archdeacon William Paley's *Evidences of the Existence and Attributes of the Deity collected from the Appearances of Nature*, first published in London in 1802. In the opening chapter of the *Evidences* Paley asks his reader to consider someone walking in the country who happens to strike their foot against a stone. For all that person knows or cares, the stone is just a stone, of no consequence and could have been lying there for all eternity. But what if the object against which the person's foot strikes should be a watch? Immediately the walker knows from the fact of its design that the watch has been created by a watchmaker. By analogy, all the extraordinary adaptations to their environment that we see in animals and plants are evidence of a divine designer. Paley's text is in essence a large and impressive collection of descriptions of such adaptations and it is from a consideration of this massed evidence that he comes to the certain conclusion that God exists.

Darwin thought that Paley's *Evidences* was the only worthwhile textbook he read at Cambridge. But of course his account of natural selection immediately made Paley's argument extremely vulnerable. To take a hackneyed example, let us suppose that, due to random physical variations within the species (Darwin had no knowledge of the genetic basis for these variations), there appears a long-necked giraffe which is able to reach edible leaves high up the trees and hence survive better than its shorter necked companions who cannot reach those leaves. The longer necked animal is **able** to survive better because it reaches the parts other giraffes cannot reach. Hence it is more likely than other animals to produce offspring which perpetuate the adaptation. That is, the process of selection is entirely due to the physical nature of the environment and the adaptation requires no intervention by a creator God. It is indeed true that the highly sophisticated apparatus of modern evolutionary science demonstrates more or less unequivocally that natural selection is a fact, disputed nowadays only by people with a fundamentalist axe to grind.

In September 1969, almost exactly 110 years after the publication of *The Origin of Species*, another biologist and enthusiastic Darwinian, Alister Hardy, founded the Religious Experience Research Unit in Manchester College, Oxford. Hardy's vision was of a **new kind** of natural theology that would grow out of the scientific investigation of the spiritual experience of the human species. Towards the end of his first series of Gifford Lectures<sup>1</sup> delivered at the University of Aberdeen in 1964, he had stated:

Those who are concerned lest our civilization will change its nature under the influence of a materialistic philosophy might, I believe, do well to consider how they might encourage further research into the nature of human personality, in the hope of finding more about the nature of God. The great institutes for scientific research having a bearing on man's bodily comfort – upon medical problems direct and indirect, agriculture and fisheries, food, transport and so on – are dotted about the country, and are as symbolic of the present age as our glorious cathedrals and parish churches are symbolic of our spiritual past. If only one per cent of the money spent on the physical and biological sciences could be spent ... it might not be long before a new age of faith dawned upon the world. It would, I believe, be a faith in a spiritual reality to match that of the middle ages; one based not upon a belief in a miraculous interference with the course of nature, but upon a greatly widened scientific outlook. What might mankind not do if he used the tools of modern science with the faith and inspiration of the cathedral builders? Can the scientific method help to re-establish such a faith?

This vision of Hardy's was heavily overlaid, if not entirely obscured, for almost all of his professional career as one of the world's leading marine biologists. Indeed, the Alister Hardy Society is not the only organisation that currently bears his name. SAHFOS, the Sir Alister Hardy Foundation for Ocean Science, has its headquarters in Plymouth, a staff of 20 and an annual operating budget last year of two-thirds of a million pounds. It monitors the near-surface plankton on a network of routes covering the whole of the North Atlantic and North Sea on a monthly basis, using the Continuous Plankton Recorder which Hardy invented more than 60 years ago. In this essay I want to turn away from that highly salient aspect of Alister's originality to explore the origins and nature of the creative vision that grew out of his central preoccupation – the relation between biology and religion.

### **Hardy's Origins**

Alister Hardy was born in 1896, the third son of a well-to-do Nottingham architect. In 1911 he was sent away to public school at Oundle where he immediately specialised in science. Very tall and slender, he was excused games because his mother wrote to the school to say that he was physically delicate. In any case, he could not participate properly in team sports because of an eye defect which caused him to be unable to focus stereoscopically. This mishap meant that, whilst other boys were engaged in athletic pursuits, Alister was sent for long walks in the Northamptonshire countryside to improve his natural history. It was during these walks that he discovered that he was both a naturalist and a nature mystic. I quote from his unpublished autobiography, written when he was 88:

There was a little lane leading off the Northampton road to Park Wood as it was called, and it was a haven for the different kinds of brown butterflies. I had never seen so many all together. The common Meadow Brown, of course, were everywhere in the fields but here also were the Lesser Meadow Brown or Gatekeeper, the Wall Brown and Marbled White, which belongs to the same family. As one approached the wood, there was a small covered reservoir with grass banks leading over it and this was always the home of many Ringlet butterflies, of which I seem to remember there were two forms recognized as a variety. I specially liked walking along the banks of various streams watching, as the summer developed, the sequence of wild flowers growing along their brims. I was attracted by several streams lying in different directions from Oundle. I wandered along their banks, at times almost with a feeling of ecstasy ... Just occasionally when I was sure no-one could see me, I became so overcome with the glory of the natural scene that for a moment or two I fell on my knees in prayer – not prayer asking for anything, but thanking God, who felt very real to me, for the glories of his kingdom and for allowing me to feel them. It was always by the running waterside that I did this, perhaps in front of a great foam of Meadow Sweet or a mass of Purple Loosestrife.

Not surprisingly, Alister gravitated towards zoology when he went up to Oxford in 1914 where Julian Huxley, grandson of T.H. Huxley ('Darwin's Bulldog'), was his tutor in Exeter College. The strains in a culture are felt consciously or unconsciously by all its members. In the case of Alister, the juxtaposition of his intense nature mysticism and his equally intense interest in evolutionary theory made this strain particularly overt. Aware that he would be leaving Oxford in the same year that he arrived, to fight in the First World War, he made a pledge. This was not, he says, a prayer but a promise "to what I called God", if he were to survive the war. He vowed that he would devote his life to attempting to bring about a reconciliation between evolutionary theory and the spiritual awareness of humanity that would satisfy the intellectual world.

He was 18 years old and that is a very 18-year-oldish thing to say. It is therefore striking that he stuck to his promise throughout a very long life. Hardy returned to his degree in Oxford in 1919 where he fell in love with Sylvia Garstang, a fellow student. His strategy for keeping his vow was partly dictated to him by his future father-in-law, Walter Garstang, then Professor of Zoology at Leeds. Garstang did not dissuade him from his long-term plan, but advised him of the importance of making his name in the field of orthodox science before he began to embark on rather more dangerous – or even eccentric – territory.

After graduation he worked as a naturalist in the Fisheries Laboratory in Lowestoft before becoming chief zoologist to the *Discovery* Expedition to the Antarctic in 1924-8. On his return he was appointed to a new Chair of Zoology and Oceanography at Hull. From there he became Regius Professor of Natural History at the University of Aberdeen (where I first met him when I was an undergraduate). In 1946 he was offered the Linacre Chair of Zoology at Oxford, which he occupied with great distinction until 1961, being knighted for his services to biology. For a further two years he stayed on in Oxford as Professor of Zoological Field Studies, and finally was appointed Gifford Lecturer at Aberdeen during the sessions 1963-4 and 1964-5. As Daniel Dennett says in a footnote in his recent book *Darwin's Dangerous Idea*, Hardy could hardly have been a more secure member of the scientific establishment.

### **The Gifford Lectures**

The Gifford Lectures finally gave real substance to his youthful promise of 50 years previously. In them he wished to make two major points. In the first series, published as *The Living Stream*, he wanted to demonstrate that evolution by means of natural selection is not nearly as mechanical a process as is commonly supposed, especially in the higher animals. He believed, for example, that the great majority of evolutionary change in mammals and birds is initially directed by deliberate alterations in their habits – a process which he calls 'behavioural' or 'internal' selection.

As one of his illustrations, he discussed the evidence being gathered during the 1950s of a new habit appearing amongst certain birds – the opening of milk bottles, first the cardboard tops, then the metal tops – spreading apparently by copying, right through the tit populations of Europe. Given the permanence of this change of habit, in due course any members of the tit population with a gene complex giving a beak slightly better adapted to such activity would have a better chance of survival than those less well equipped. When he presented this idea at a meeting of the Linnean Society, some wit reflected on what might happen if the metal tops were made thicker, in order to combat the birds. "Would they develop beaks shaped like tin openers?" "Exactly right", said Hardy. Active choice (and, in the case of the human species, conscious choice) is, he claimed, in many cases the directing agent and precursor of natural selection. Since those days the interaction of social and

biological evolution has been dramatically developed, most significantly in William Durham's magisterial book *Co-Evolution*, first published in 1991.

This point is of considerable importance in combating the view that evolution is an entirely mechanical process. It needs a much longer exposition than I have space for, but it leads us into Hardy's other major point, expounded in his second series of Gifford Lectures<sup>2</sup> and published as *The Divine Flame*. Hardy agreed with Edmund Burke that we are "religious animals". In his view, as part of the process of consciously investigating their environment, the precursors of the human species discovered their relationship to a transcendent presence which met them in a different way from the phenomena of their everyday experience. How far back in evolutionary terms this consciousness might stretch is not clear, but Hardy certainly assumed that it was not confined to the human species. In other words he is thinking of a biological predisposition which is not a construction of language, though of course from his perspective, discourse about this consciousness is more or less universally manifested in the world's religions, great and small.

The biological reason for the natural selection of this predisposition was, in Hardy's view, because it has survival value to the individual. To me, the most convincing part of the initial argument is his reference to social anthropology. Thus he quotes from Émile Durkheim's *Elementary Forms of the Religious Life*:

The believer who has communicated with his god is not merely a man who sees new truths of which the unbeliever is ignorant; he is a man who is stronger. He feels within him more force, either to endure the trials of existence or to conquer them. It is as though he were raised above the miseries of the world, because he is raised above his condition as a mere man; he believes that he is saved from evil, under whatever form he may conceive this evil.

And later,

Our entire study rests upon this postulate that the unanimous sentiment of the believers of all times cannot be purely illusory. Together with a recent apologist of the faith [he is referring here to William James] we admit that these religious beliefs rest upon a specific experience whose demonstrative value is, in one sense, not one bit inferior to that of scientific experiments, though different from them.

Hardy adds his view that an unfortunate 'materialist spin' is often put on Durkheim's interpretation of religion:

Many, who perhaps have not read Durkheim sufficiently carefully, have thought, I believe, that his theory of religion is one linking it to a mechanistic interpretation of the evolution of man as a social animal. Nothing could be further from the truth, as is clearly shown when he says, "it is necessary to avoid seeing in this theory of religion a simple restatement of historical materialism: that would be mistaking our thought to an extreme degree".

Hardy referred to other precursors in the field of psychology, notably the Harvard psychologist William James whose masterpiece *The Varieties of Religious Experience* was also based on his Gifford Lectures in the University of Edinburgh in 1901-2. Amongst theologians, he was particularly impressed by Rudolf Otto's work *The Idea of the Holy*. Somewhat more controversially, he called upon evidence from parapsychology and he was himself a prominent member of the Society for Psychical Research.

### **Hardy's originality**

Now I want to enter more deeply into the nature of Hardy's originality. Although he is able to identify a number of precursors of his ideas, his account of the biological roots of religion

is in fact revolutionary in that it offers a testable naturalistic hypothesis about the nature and function of human spirituality which is not reductionist in intention. In this respect he is clearly at odds with major explanatory conjectures about religion which are currently dominant in the social sciences. I am thinking here in the first place of Marxist and Freudian hypotheses which, at least in their origins, were attempts to account for the phenomenon of religion conceived of as an almost universal human error. In spite of Hardy's remarks which I mentioned earlier, I personally am inclined to include Durkheim as the third member of a reductionist triumvirate, perhaps not personally, but through many of his modern followers who do seem to interpret him in that way. Thus his statement that religious experience is the effervescence or excitement experienced in crowded religious gatherings has frequently attracted the prefix 'nothing but'.

In a moment or two I want to talk about the evidence that has accumulated in support of Hardy's hypothesis, but first I would like to place his originality – and the lack of originality of those with whom he disagrees – in a larger historical context. There is a popular assumption that the loss of plausibility of religion in many parts of the Western world is the inexorable result of an increasing rationality in the way we conduct our affairs. Religion, so the argument goes, originally had a genuine social function. In the state of ignorance endured by our ancestors it served to reassure and protect them emotionally from the terrors and brutalities of existence. But once people became aware of its irrational basis, it ceased to serve this purpose and needed to be superseded. On this assumption, it follows that religion is at best a psychological defence mechanism, socially constructed out of the fears of ignorant people. Hence, like any other human creation, it can be deconstructed by the methods of an enlightened social historian.

Yet it is important to remember that reductionist explanations of religion are themselves socially constructed and in this respect have no privileged status. Secularism does not stand as an objective judge above the operations of history. It is equally as open as religion to the attentions of archaeologists of knowledge. The very fact that secularism is primarily a European or Western phenomenon alerts us to the probability that this is so. Therefore it is perfectly legitimate to ask what were the social factors that went into its construction. This enquiry is important because it relates to the creation of a privatized spirituality which has increasingly become torn away from its social expression in religion.

### **Explaining Religion in Secular Terms**

In the history of European attempts to understand religion, it is possible to pinpoint a sequence of stages in the emergence of an approach which looks at it from the disinterested perspective of an outsider. An illustration of this line of reasoning is the sequence traced by Samuel Preus in his book *Explaining Religion*, published in 1987<sup>3</sup>. His intention is to defend 'methodological atheism', and in the process he inadvertently gives a clear account of the social and political factors that went into the construction of that stance.

According to Preus, the political context which triggered off this process was the need to find a practical solution to the continent-wide chaos and slaughter caused by religious conflict following the Reformation. The first attempts were to retrieve a primeval purity of religion free of doctrinal dispute and thus capable of leapfrogging over the squabbling errors of the time.

Thus, one such response in the 17th Century was the 'deism' of Lord Herbert of Cherbury.<sup>4</sup> Herbert argued for a natural religion which could be agreed upon by all people, regardless of

the historical differences between the faiths. He believed that everyone has certain innate ideas imprinted in their minds by God, including a knowledge that God exists, has a right to be worshipped, that virtue is the chief part of the worship of God, that crime is evil and we should repent of our sins, and that there will be rewards and punishments after death. He did not mean that an infant is born with these beliefs but that a normal person is bound to come to them as they reach a mature awareness.<sup>5</sup>

Whether Lord Herbert was implying some form of religious or spiritual awareness is not clear, but he had no wish to deny the possibility. He even said in his autobiography that the decision to publish his opinions was based on an insight following a prayer to God for a sign of approval,

I had no sooner spoken these words, but a Loud though yet Gentle noise came from the Heavens (for it was like nothing on Earth) which did so comfort and cheer me, that I took my petition as granted, and that I had the Signe I demanded, whereupon also I resolved to print my Book ...<sup>6</sup>

Another of Preus' representative figures is Giambattista Vico<sup>7</sup>. Vico's main work *The New Science*, which was published in the first part of the 18th Century, was intended to be religiously orthodox and was dedicated to the Pope. Nevertheless, Vico sounds very like Herbert when he identifies certain human institutions that he believes are universally found, including religion, marriage and the burial of the dead. He differs in that he insists on the need for a socio-historical account of the creation of those institutions. He also adds that the religions have a secular function since they are necessary for the maintenance of civilisation. Preus comments:

What is really revolutionary about Vico ... is the tendency of his system to explain providence away without remainder, except as a category of meaning. There is, however, one final 'remnant', one element of providence in Vico's scheme for which he does not explicitly offer any naturalistic explanation – the idea that there is an innate sense of divinity. This ... is the most durable remnant of traditional theology not only in Vico but in the study of religion until today and demands close attention.<sup>8</sup>

In Preus' opinion the Scottish Enlightenment philosopher David Hume disposed of this last theological remnant, most clearly in *The Natural History of Religion*, published in 1757.<sup>9</sup> Innateness implies universality and Hume tries to demonstrate, within the limits of his 18th Century knowledge, that whilst religion is very widespread it has never been so universal as to admit of no exceptions. He adds that there is no uniformity in the ideas which have derived from religious belief. In this way the supposed 'sentiment of religion' differs from a genuine instinct or impression of nature. Examples of these might be 'self-love', 'resentment of injuries' and 'the passion between the sexes'. These really are universal says Hume and rather contentiously claims that they transcend culture because (he believes) they are expressed through the same ideas everywhere. Preus' view is that Hume was pivotal in providing for the first time a thoroughgoing naturalistic explanation of religion. Hume finally offered a genuine alternative to theology by objectifying religion as a problem to be solved. Thus the primary task of the student of religion at last became what it is today, that of explaining a natural (and almost universal) human error.

### **The Turn Away from Experience in the 17th Century**

Preus' argument seems to me to represent what is currently a dominant mode of accounting for the phenomenon of religion. It is a line of reasoning that calls for the kinds of reductionist explanations that I referred to earlier. At the end of his book Preus makes an

appeal to the representatives of theology to co-operate in the investigation of religion as a natural phenomenon instead of

... staking out its own privileged universe of discourse and, so far, failing to show how that universe intersects with the one constituted by the rough consensus of the academy at large. The issue is not whether 'transcendence' refers to something extramentally real, but whether the study of religion wishes to enter as a full partner in the study of culture.<sup>10</sup>

There is here an assumption that Preus' version of academic consensus is correct and should be submitted to gracefully. It is to just such a submissive giving over of the tasks of theology, in this case to natural science, that the historian Michael Buckley has recently ascribed the rise of European atheism at the beginning of the 17th Century.<sup>11</sup> Buckley detects a critical shift in the way theologians thought about religion following the Reformation. Instead of reflecting directly on their spiritual experience as the major source of their convictions, they began to call upon the methods of natural philosophy (that is, physics) to defend their belief in God. They felt that the reasonableness of religious belief could best be demonstrated by pointing to design in nature. Exemplars of this shift in strategy are the Jesuit Leonard Lessius at the University of Louvain and the Franciscan, Marin Mersenne in Paris, both of whom were writing at the beginning of the 17th Century.

Philosophy, including the argument from design, had been employed as the handmaid of theology before, most famously in St Thomas Aquinas' proofs for the existence of God. But Aquinas created his proofs within an already existing context of faith. In other words they had purposes other than that of producing religious conviction<sup>12</sup>. By the time Lessius and Mersenne were writing they felt they needed to combat what they saw as the errors of atheism, feared to be growing as a product of the uncertainties created by the Reformation<sup>13</sup>. Presumably one of the reasons atheists were atheists was because they felt their spiritual life gave them no grounds for belief in God. Therefore it must have seemed to apologists for religion that if unbelievers were to be convinced it would have to be as the result of arguments drawn from the appearance of physical reality. Avoiding an appeal to kinds of spiritual experience which atheists claimed did not exist, they turned instead to the natural world, over the existence of which there was no dispute.

Buckley does not say so, but one might hazard a guess that there was another motive for putting too much weight on spiritual experience. This was alarm at the political chaos created by the untutored, often somewhat crazy fideism of the Radical Reformers who emerged from a ruptured Christendom. Amongst educated people in 17th Century England it generated a distaste for most kinds of religious subjectivity, labelled as 'Enthusiasm'<sup>14</sup>. John Locke repudiated these manifestations in his *Essay Concerning Human Understanding* published in 1690, where he stated that it is a fallacious ground of assent to a proposition because "it takes away both reason and revelation and substitutes ... the ungrounded fancies of a man's own brain..." Enthusiasts are those who "cannot be mistaken in what they feel ... they are sure because they are sure, and their persuasions are right, only because they are strong in them."<sup>15</sup> Similarly Isaac Newton, though deeply and rather eccentrically religious himself, felt a revulsion at the outpourings of "all enthusiasts, ranters, men who spoke with tongues".<sup>16</sup>

In this political context, says Buckley, the most convincing "warrant for the personal god was the impersonal world: the strongest evidence for the personal god was the design within nature".<sup>17</sup> Accordingly, the task of the defence of religion was given over in particular to the natural philosophers, a responsibility willingly accepted by both Isaac Newton and René Descartes. It seemed that as the result of a loss of morale, numerous mainstream theologians no longer believed they had the means to establish their own cognitive claims.

But, says Buckley, this giving up of spiritual experience in the defence of religion eventually generated the destruction it was meant to avoid,

For if religion itself has no inherent ground upon which to base its assertion, it is only a question of time until its inner emptiness emerges as positive denial... . Eventually the self denial of religion becomes the more radical but consistent denial that is atheism. If religion has no intrinsic justification, it cannot be justified from the outside. The very forces mustered against atheism will dialectically generate it, just as the northern tribes enlisted to defend Rome and its empire eventually occupied the city and swept the empire away.<sup>18</sup>

### **The evidence so far**

I hope this historical excursus has helped to put Hardy's achievement into a much larger context. His originality it seems to me grows out of a stubborn empiricism which refuses to bow down before the social constructions of our European history. Alister would not allow his own experience to be denied or reduced and in this respect I believe he was less caught up in the presuppositions of post-Enlightenment culture than his reductionist predecessors. Paradoxically of course, in breaking free, he utilised the methodology of empirical science deriving from the Enlightenment to create a new kind of natural theology. Instead of coming at the sacred indirectly by means of natural philosophy or the argument from design (as did Newton and Paley), he urged the necessity of looking directly at our religious experience.

What do we find when we begin to attempt this task, for it is a task that has only just begun in the last thirty years? Hardy's view so clearly contradicts its major competitors that it is a good candidate for what the philosopher of science Karl Popper calls a "daring conjecture".<sup>19</sup> From Popper's perspective, the way that scientific knowledge grows is through the proposal of bold hypotheses which are open to refutation by scientific test. At the time of this talk, Hardy's idea stands up well in comparison to other more prominent reductionist conjectures: Marx's "opium of the people" hypothesis; Freud's assumption that "religious experience" is symptomatic of neurosis; and Durkheim's association of spiritual experience with social "effervescence".<sup>20</sup>

- Contrary to what could be predicted from Marx's postulate, at least in Britain, people who might be classed as 'oppressed' (the inner city poor; the long term unemployed) are less likely than others to speak of spirituality. In part this may be due to inarticulacy because of an underprivileged education, but it could also be seen as simply a further dimension of the psychological damage created by unjust social conditions.
- There is a statistically significant association between report of experience and good mental health and personal happiness.<sup>21</sup> This suggests that at the least we need to be wary of Freud's dismissal of religious experience (and hence perhaps spirituality in the sense we have been using the term) as symptomatic of neurosis.<sup>22</sup>
- Most people say that their spiritual awareness occurs typically when they are alone.<sup>23</sup> This sharply contradicts Durkheim's 'social effervescence' hypothesis, which suggests that religious experience 'is' the excitement experienced by people involved in large and enthusiastic religious gatherings.

In fact, spiritual experience is very widely reported in the adult population of Britain. Questions placed in a Gallup Omnibus Survey in Britain in 1986 revealed that about half those surveyed felt they had had such experience.<sup>24</sup> A series of in-depth studies on

particular sub-populations in England,<sup>25</sup> where there was time to build up rapport and overcome the shyness of those being interviewed, suggests the probability that about two-thirds of the population are aware of a spiritual dimension to their experience.

In broad terms then, Hardy's hypothesis has proved resilient under scientific testing. But a prudent caution is in order. In coming to consider the ideas of the past masters against which Hardy's conjecture is pitted we are always in danger of 'conceptual slippage'. Marx, Freud and Durkheim were writing about a poorly focused area of study that included both 'religion' and 'spirituality', often confused with each other. They were using the intellectual framework available to them in their time. It is not clear that they would be intolerant of spirituality in the wider sense to which I refer.<sup>26</sup> This is a complexity which it is important to acknowledge.

### **Why spirituality has political and social importance**

These academic arguments have more than a theoretical importance. At the level of practical politics the most important single finding of my research over the past twenty 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. I have questioned literally hundreds of people about this matter. Typically they say that the initial effect of their experience is to make them look beyond themselves. They have an increased desire to care for those closest to them, to take issues of social justice more seriously and to be concerned about the total environment. Again and again people say things like "I behave better; it touches the conscience". One person said "I now have far more respect for my physical surroundings as well as fellow humans ... I don't think they were important to me before".

Others associate their moment of spiritual insight with a radical shift in their life's purpose. A woman who gave up a job which was meaningless to her to look after delinquent children dated it from half an hour of sitting in the park on a sunny evening,

... quite suddenly I felt lifted beyond all the turmoil and the conflict. There was no visual image and I knew I was sitting on a seat in the park but I felt as if I was lifted above the world and looking down on it. The disillusion and cynicism were gone and I felt compassion suffusing my whole being ...

Others find that once they have begun working in a caring role, for example nursing the sick, their spiritual awareness becomes much deeper and confirms their choice of vocation.<sup>27</sup> American studies which parallel my own show similar effects: finding meaning in life, becoming concerned for a just society, losing racial prejudice, becoming less materialistic. In addition the statistics show that both in Britain and in America people in touch with their spirituality appear to be in a better state of mental health than those who are not.<sup>28</sup>

The philosopher Alfred North Whitehead once wrote: "The misconception which has haunted philosophical literature throughout the centuries is the notion of independent existence. Every entity is only to be understood in terms of the way in which it is interwoven with the rest of the universe." In the accounts of spiritual experience that I have investigated there seems to be a direct, almost perceptual recognition of that fact. The person discovers that the extreme individualism of modern Western society is an illusion. As a result the 'psychological distance' between oneself and the rest of reality disappears. With older people this is usually experienced as a realisation that the love of God pervades everything and implies our stewardship of creation. Amongst younger people who are cut off or

alienated from the religious institutions, it is increasingly expressed as a mystical insight that damage to any part of the fabric of reality is damage to oneself.

### **The Nature of Spirituality**

My most recent research has been on the spirituality of 6-year-old and 10-year-old children, and is described in the book I have just published, *The Spirit of the Child*.<sup>29</sup> The main point to mention is that we did not come across a child without a spirituality. This suggests to us that the disappearance of spirituality from public discourse in adult life is a socially constructed phenomenon, closing off the expression of a biologically based predisposition, as indeed could be predicted from Hardy's hypothesis. What is the nature of that predisposition? Last year we mounted a computer assisted analysis of over a thousand pages of transcripts of the children's talk to try to uncover the underlying theme running across all expressions of their spirituality. The theme that emerged we have labelled relational consciousness. Relational consciousness is the intuition of a profound relationship between the child and the whole of reality – with other people, with the environment and with God. The isolated, and therefore inevitably manipulative individual implied by Descartes' notion of the *res cogitans* gives way to the recognition that we belong to each other in the most intimate fashion.

The findings that are growing out of research into Hardy's hypothesis give support to the traditional intuition that spirituality underpins ethical behaviour and encourages social cohesion. There is however a problem. Although spirituality is much more widespread than we once thought, it is also privatised. In a society in which the public face is one of alienation from spirituality, it is very often seen as an embarrassment, not to be talked about or even admitted to oneself. As a result the initial breadth of a person's insight often dwindles down and becomes constricted to little more than a source of private comfort in times of distress. Privatisation dissipates the potential of spirituality to change society because it cannot feed easily into public understanding or political legislation. This is a major practical loss created by the decline of the religious institutions in the West. Even with all their potential for corruption or trivialisation they carry thousands of years of reflection on the moral and political implications of spiritual insight.

Somehow we need to learn how not waste this stock of wisdom, whilst at the same time taking a broad view of the nature of spirituality, so as to incorporate its insights wherever they emerge. The distinction which I have drawn between religion and spirituality is an important one. In a public address given half a century ago, Lord Samuel expressed his alarm at the consequences of the disappearance of religion:

All through the ages religion has been the principal source of the moral law and its mainstay, an incentive to noble minds, a guide to the peoples. The lives and teachings of the founders of Faiths, the prophets and sages, saints and martyrs, have bequeathed to mankind a precious heritage, exalted continually by poetry, music and all the arts. Imagine it gone: suppose the extreme case – the cathedrals deserted and fallen into ruin, like the mediaeval castles; the churches and synagogues, mosques and temples turned to other uses; their ministers dismissed, their zealous laity disbanded; suppose that heritage of centuries all dissipated and lost - how much the poorer would be the spirit of man.<sup>30</sup>

Paradoxically the Jesuit theologian Karl Rahner digs deeper, below the formal expression of religion. In one of his *Theological Investigations* he invites his readers to imagine a situation in which the kind of destruction imagined by Lord Samuel has taken place. More radically still, he suggests the possibility that there could come a time when even the memory of religion has gone and the word 'God' has disappeared from the dictionary,

And even if this term were ever to be forgotten, even then in the decisive moments of our lives we should still be constantly encompassed by this nameless mystery of our existence ... even supposing that those realities which we call religions . . . were totally to disappear ... the transcendentality inherent in human life is such that [we] would still reach out towards that mystery which lies outside [our] control.<sup>31</sup>

This view of Rahner's points precisely to the significance of distinguishing between spirituality and religion. He is expressing from his theological perspective much the same as Hardy says from a biological angle. The challenge posed for us by Hardy's vision, is how to reconstruct our Western culture so that it gives proper social and political expression to our profoundest spiritual insight.

## NOTES

1. *The Living Stream: A restatement of evolution theory and its relation to the spirit of man*, London: Collins, 1965, pp.285.
2. *The Divine Flame*, London: Collins, 1966. Now published by and available from the Religious Experience Research Centre, Westminster College, Oxford. OX2 9AT
3. Samuel Preus, *Explaining Religion: Criticism and Theory from Bodin to Freud*, Yale University Press, 1987.
4. See *The Life of Edward, First Lord Herbert of Cherbury* written by himself (edited with a preface by J.M. Shuttleworth), Oxford University Press, 1976.
5. Pointed out by J.M. Shuttleworth in his preface to the *Life* op cit.
6. Herbert, *Life*, op cit, pp.120-121.
7. Vico, Giambattista [La scienza nuova] *The new science of Giambattista Vico* (trans. from the 3rd edition (1744) by Thomas Goddard Bergin and Max Harold Fisch), Ithaca, N.Y.: Cornell University Press, 1948.
8. Preus, *Explaining Religion*, op cit, p.77
9. See David Hume, *Principal writings on religion including Dialogues Concerning Natural Religion and The Natural History of Religion* (edited with an introduction by J.C.A. Gaskin, Oxford: Oxford University Press, 1993.
10. Preus, op cit, p.210.
11. Michael J. Buckley, SJ, *At the Origins of Modern Atheism*, New Haven and London: Yale University Press, 1987.
12. It has been pointed out that it is the lack of embeddedness of the Thomistic proofs in a religious form of life – much more than their philosophical deficiencies – that makes them look thin to modern eyes. Within faith communities, not only Christianity but also in Hindu and Islamic religion, philosophical proofs have their primary purpose as aids to conceptual analysis. See John Clayton, 'Piety and the proofs' in *Religious Studies*, 26, 19-42.
13. The curious mixture of the denial of the possibility of sincere atheism, combined with a fear of its existence, is well brought out in David Berman, *A History of Atheism in Britain: from Hobbes to Russell*, London: Croom Helm, 1988.
14. For a history of Enthusiasm, see Ronald Knox, *Enthusiasm: A Chapter in the History of Religion with special reference to the XVII and XVIII Centuries.*, Oxford University Press, 1950.

15. From John Locke's *Essay Concerning Human Understanding* (ed. Peter A. Nidditch), Oxford: Clarendon Press, 1975, Book IV, Chapter 19.
16. A discussion of Newton's attitudes towards 'Enthusiasm' is contained in Frank E. Manuel, *The Religion of Isaac Newton*, Oxford: Clarendon Press, 1974 (see especially pp.66 & 87).
17. Buckley, *op cit*, p.343.
18. Buckley, *op cit*, p.360.
19. See Karl Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge*, London: Routledge & Kegan Paul, 1963.
20. See David Hay, *Religious Experience Today: Studying the Facts*, London: Cassell/Mowbrays, 1990. Also David Hay, "'The Biology of God": What is the current status of Hardy's hypothesis?' in *International Journal for the Psychology of Religion* 4 (1), 1994, 1-23.
21. As assessed by the Bradburn Balanced Effect Scale. See Norman M. Bradburn, *The Structure of Psychological Wellbeing*, Chicago: Aldine, 1969. The validity of this scale has been reviewed recently by Bowling. Whilst self report of psychological wellbeing does not necessarily equate to an individual's level of mental health, the Bradburn Scale appears to be a valid measure when used with a large population. See A. Bowling, *Measuring Health: A Review of Quality of Life Measurement Scales*, Buckingham: Open University Press, 1991.
22. Freud's ambiguity about spiritual experience makes it difficult to pin him down. He believed that religious belief and practice were symptomatic of neurosis but added the tantalising comment that to suffer from this 'universal neurosis' so to speak absolved the person from the pains of an 'individual neurosis'. But the criticism of religious belief as symptomatic of neurosis depends in turn on the philosophical assumption that religious interpretations of reality are erroneous. In making that assumption, Freud moves out of the realm of scientific investigation into a metaphysical speculation which is the subject of continuing strong controversy. Regarded from within the field of empirical science, his argument is circular.
23. See David Hay & Ann Morisy, 'Secular society/religious meanings: A contemporary paradox' in *Review of Religious Research*, 26 (3), 1985, 213-227.
24. David Hay & Gordon Heald, 'Religion is good for you' in *New Society*, April 17, 198, 20-22.
25. David Hay 'Religious experience amongst a group of postgraduate students: a qualitative study' in *Journal for the Scientific Study of Religion*, 18 (2), 1979, 164-182; Hay & Morisy, 1985, *op cit*; David Lewis 'All in good faith' in *Nursing Times* March 18/24, 1985, 40-43.
26. Certainly this is true of Marx whose use of the term 'spirit' has close analogies to the understanding I have been proposing.
27. See David Lewis, *op cit*.
28. See especially Andrew M. Greeley *The Sociology of the Paranormal: A Reconnaissance* (Sage Research Papers in the Social Sciences, Studies in Religion and Ethnicity Series No.90-023), Beverley Hills and London: Sage Publications, 1975; Robert Wuthnow *The Consciousness Reformation*, Berkeley: University of California Press, 1976.
29. David Hay with Rebecca Nye *The Spirit of the Child*, London: Harper Collins, 1998.
30. Address delivered to the Royal Institute of Philosophy in October 1948.
31. Karl Rahner 'The experience of God today' in *Theological Investigations 11* (trans. David Bourke), London: Darton, Longman & Todd, 1974, Ch.6, pp.149-165.

## THE AUTHOR

**DAVID HAY** was born in Aberdeen in 1935. He read zoology at the University of Aberdeen and it was during his undergraduate days there that he first met Sir Alister Hardy, spending the summer of 1956 working with him on the Marine Research Trawler *Explorer*. It was at this time that they first discussed Hardy's ideas on the biological basis of religion.

After research on the digestive physiology of fish at the University of Nottingham, he taught in secondary school for some years before returning to a Lectureship in Education at Nottingham. In 1973 his book on *Human Populations* won the *Times Educational Supplement* Education Book of the Year award.

During 1974 he began research on the religious experience of postgraduate students in his department in Nottingham, and it was following this that he was invited to work with Hardy at the Religious Experience Research Unit at Manchester College in Oxford. He undertook the national and in-depth survey work which provided the initial empirical evidence in support of Hardy's hypothesis. In 1985 - the year in which Hardy won the Templeton Prize for his work on religion - David Hay was appointed Director of the Unit (then renamed the Alister Hardy Research Centre) [now the Religious Experience Research Centre], a post he held for four years. He is currently Reader in Spiritual Education at the University of Nottingham.

He has written more than 50 books and articles on religious and spiritual experience and made numerous radio and television appearances to present the subject. In 1995 he won a \$2000 Templeton Prize for an essay on the academic status of Hardy's hypothesis. He recently completed directing a research programme on the spiritual life of children: a study of 6-year-old and 10-year-old children in schools in Nottingham and Birmingham. Currently he is Director of a 2-year study of the spirituality of adults who do not go to church. This is based on his finding that, whilst most people in Britain believe they have a spiritual life, only a small proportion of them have a formal connection to the religious institutions.

**David** Hay's books on the subject of spiritual and religious experience include *Exploring Inner Space: Scientists and Religious Experience* (1982; 2<sup>nd</sup> edn, 1987) and *Religious Experience Today: Studying the Facts* (1990) also, (with Rebecca Nye) *The Spirit of the Child* (1998).

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