

FAITH & THOUGHT

BULLETIN

P. W. ATKINS

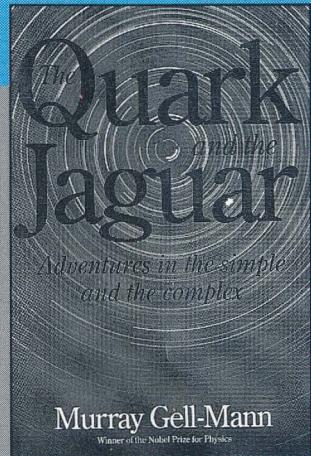
CREATION REVISITED

A distinguished scientist's
view of space, time and

TOWARD A SCIENCE OF CONSCIOUSNESS

Journey to the Centers of the Mind

SUSAN A. GREENFIELD



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EDITORIAL

The main article in this issue is the address given by Professor R.J. Berry at the AGM of the Victoria Institute in May 1997. Two other shorter articles which might be of interest to readers are concerned with our ideas on faith. The article by James Morse explores the omniscience of God, and is reprinted, with thanks, from the Journal of the American Scientific Affiliation. The second article is a G.P.'s thoughts on strengthening faith when this wavers. Any comments on these would be welcomed.

The Editor is always ready to consider articles or correspondence for publication. We need your input, and the Institute has always maintained an open policy as long as contributions bear on the faith-science debate.

NEW MEMBERS OF THE VICTORIA INSTITUTE

Alastair J. Kirk	Durham, UK
Stephen R. Foreman	Aberdare, Glamorgan
Rev'd. E.L.B.C. Rogers	Finchingfield, Essex
Rev'd. R.D. Hesketh	BFPO 28
Sam Strain	Glasgow, Scotland

**ENVIRONMENTAL ETHICS -
FROM EDEN TO RIO - AND BACK AGAIN?**

My association with the Victoria Institute started 41 years ago. I know this because in those days members' names were printed in the back of the Transactions of the Philosophical Society of Great Britain, as the Institute was then called. I am proud to have been associated with the Institute for so long. Much has happened in those 41 years, but I want to go back even further - to the beginning of the human race. There are three points along the journey which I propose to make in this lecture - Eden, Rio and then the future - back to Eden again?

Eden

The archaeology of the Garden of Eden has been explored by Victor Pearce and others. The Genesis account suggests that it was probably situated on the slopes of the Anatolian Plateau about 10,000 years ago during the period we call neolithic. Its geography and ecology are quite precisely described in Genesis 2. What we are told is there was a garden which needed tending. The climate was equable, presumably fairly predictable. The inhabitants talked with God, and also with the devil, and they were given commands or ordinances to keep. These latter included the exertion of dominion over the created order (Gen. 1:28) and the charge to reproduce and fill the earth. Note that the New Testament equivalent of the latter is the New Covenant in Christ, where the descendants are a spiritual rather than a genetic line.

The Sabbath was to be kept special (a serious charge on the inhabitants - Gen. 2:3) and they were to till the ground and husband it (Gen. 2:15). Male and female were complementary and formed a discrete family unit, a truly nuclear family which involved leaving their parents to do so (Gen. 2:24). A particularly important charge was the command to abstain from eating the fruit of one tree in the garden (Gen. 2:17).

It is interesting to compare these creation ordinances with the Ten Commandments or Decalogue. The latter are on the whole negative statements but reflect the same commands made positively in the creation ordinances. There is a strong correlation between the two schemes. In particular, the command to avoid certain fruit can be regarded as a counterpart of the first two commandments to love God and make no graven images. Obedience is paramount.

Eden ended when Adam and Eve disobeyed God and were cast out (Gen. 3:23). This was a spiritual death which is separation from God; biological death was already present. We do not know whether or not our first parents ate animals, but they ate plants and that is just as much biological death as the death of an animal.

What we do not know about Eden is whether it could have continued

indefinitely if no sin had entered. We do know that Christ's redemptive work was built into God's purpose from the start. Nor do we know whether the ecological relationships were different from today's. There could have been a 'fiat' change at the Fall, which is Schaeffer's view (*Genesis in Space and Time* p. 64 ... "the creation which God made was at peace with itself, and will eventually be restored to peace with itself"). See also Is. 11:6-9. Schaeffer writes, "... profound changes to the external, objective world made it abnormal by 'fiat'" (p. 95), but this is going beyond the words of scripture. Such an interpretation is only plausible if we follow Philip Gosse (one of the Victoria Institute's first vice-presidents) and his idea of an 'apparent age' for the universe. That is to say, the universe was created 'as if it was old'. The alternative is a long, presumably evolutionary, history for the earth, with disease, predation and death present from the start. Remember that the death introduced at the Fall is primarily a spiritual death, a breakdown of relationships. Adam did not die physically for some time after the debacle of Genesis 3. In the New Testament life made possible through Christ is the end of the death which took place in the Garden - a restoration of relationships. We do not know the answers to many of our questions about the Fall; what we can be sure about is our current situation: there is much awry in our world, which is God's creation.

Paley argued, as a deist, that there is design in creation. His God was 'above the bright blue sky' and had made a mechanistic universe. Such a God was, so to speak, a 'post-enlightenment' God. This is not the Biblical God, who is not only transcendent but immanent - a maker and sustainer. Paley's interpretation could not survive the Darwinian revolution credibly, and deism had to be replaced by theism; we have a trinitarian, not a unitarian God. Indeed, Christ has redeemed the whole of creation, and brought it into relationship with himself (Col 1:16-20). This is true not only of humankind, but of the whole universe. "God so loved the world (the Greek is 'cosmos')" and not just you and me.

Paul seems to teach an historic Adam (Rom. 5:12-17, 1 Cor. 15:21,22) and thus, logically, an historic Eden, and an historic Fall. The environmental chaos in Romans 8:19-22 is the consequence of human failing. It is better perhaps to accept that the Bible does not tell us explicitly that there was no disease or physical death before the Fall, but that the results of the Fall are a direct consequence of our disobedience and inability to fulfil God's role for us. The author Charles Cranfield writes in this vein:

"What sense can there be in saying that 'the sub-human creation - the Jungfrau, for example, or the Matterhorn, or the planet Venus - suffers frustration by being prevented from properly fulfilling the purpose of its existence?', the answer must surely be that the whole magnificent theatre of the universe, together with all its splendid properties and all the varied chorus of sub-human life, created for God's glory, is cheated of its true fulfilment so long as man, the

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chief actor in the great drama of God's praise, *fails to contribute his rational part*. The Jungfrau and the Matterhorn and the planet Venus and all living things too, man alone excepted, do indeed glorify God in their own ways; but since their praise is destined to be not a collection of independent offerings but part of a magnificent whole, the united praise of the whole creation, they are prevented from being fully that which they are created to be, *so long as man's part is missing*, just as all the other players in a concerto would frustrated of their purpose if the soloist were to fail to play his part."

Similarly, Kidner in his Tyndale commentary on Genesis (p. 73) says:

"This multiple disarray is, from one aspect, his punishment, pronounced by God; from another, it is the plain outcome of his anarchy. Leaderless, the choir of creation can only grind along in discord."

We are created by God and for God, but are apart from God. A powerful visual aid to me is the Celtic cross, where the cross of Christ is superimposed upon the globe, a symbol of the world. Calvin writes:

"The earth was given to man, with this condition, that he should occupy himself in its cultivation . . . The custody of the garden was given in charge to Adam, to show that we possess the things which God has committed to our hands, on the condition that, being content with the frugal and moderate use of them, we should take care of what shall remain."

Even the wilderness is God's creation; it is up to us how we treat it. We are commanded to have 'dominion' over it, and this means that it is wrong merely to seek to preserve it and, in effect, consign it to a museum. The whole world is our responsibility. In the Old Testament, the promised Land was a fragile environment, and the promise that it would flow with milk and honey was dependent on obeying God's commands (Lev. 26). It was a Land easily mis-used, and was so by the Israelites. They never fully occupied it, they fought over it and never cleared out the previous occupants. The conditions in Leviticus were not kept, i.e. if we obey God we shall have the fruits, and the obedience is that of caring for the land - the first command of God.

Eden to Rio

We can distinguish four phases in environmental concern. In the 1930's and 1940's we began to recognise that the earth was finite in its resources, and this crystallised in the 1970's with the pictures of earth from space - a potent prompt. Already in the 1950's pollution was becoming a threat and getting into people's consciousness. Then, in 1962, there appeared a seminal book, Rachel Carson's *Silent Spring*. This has an apocalyptic theme in which song birds of the world are killed off by over-use of insecticides. The Torry Canyon disaster of 1967 could be

regarded as a blessing in disguise in that it sharpened this country's awareness of the effects of pollution. Although a relatively small incident, it awakened people to the threat of massive oil pollution. Then, in 1972, a computer simulation produced at MIT was taken by the Club of Rome and turned into a powerful predictive model showing that the best available values for non-renewable resources and their use lead ineluctably to their exhaustion within a century or so. In 1972 also, the first UN conference on the environment took place in Stockholm. During the same period there was a series of conferences chaired by the Duke of Edinburgh under the title *The Countryside in 1970*. The Church of England's contribution to these was a report *Man and His Living Environment*. It said,

"We are all seeking nothing less than a cultural revolution in which it is affirmed that despoiling the earth is a blasphemy, and not just an error of judgement, a mistake, in which a proper concern for all living creatures, including man, becomes righteousness, and not mere sentimental kindliness.

Notwithstanding, blame for spoilage of the world fell on Christians. A paper by an American historian, Lynn White (1967) was very influential:

"We are superior to nature, contemptuous of it, willing to use it for our slightest whim. Both our present science and our present technology are so tintured with orthodox Christian arrogance towards nature that no solution can be expected from them alone."

Lynn White's paper was reprinted by Schaeffer in his *Pollution and the Death of Man* with approval. White has, however, been severely criticised on both historical and theological grounds. For example, many monastic orders have always had a tradition of caring for the environment, and of stewarding the land.

Another phase was reached in the mid-1970's with the Arab oil wars. Although a general consensus to look after the environment had grown up in the Western world, the threat to oil supplies by the Arab states led to large price increases and destroyed the existing consensus almost overnight. Eric (Lord) Ashby in *A Second Look at Doom* stressed the danger of violence: "... big brother is not going to allow our reserves to be stolen". The Gulf War could be regarded as a manifestation of this prophecy.

In 1980 a World Conservation Strategy (WCS) was published by the International Union for the Conservation of Nature, the UN Environment Programme and the WWF. This strategy argued that economic growth need not conflict with environmental care. One has to look after one's resources in order to have economic development. The term 'sustainability' came into popular parlance. The trouble with the strategy was that it assumed the 'enlightenment' fallacy, i.e. that if one accepts the conclusions of an argument one is necessarily going to behave in line with these conclusions. Although the Strategy made an excellent case for environment and development going hand in hand, little action

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followed. We should, perhaps, not be too surprised at this. As early as 1662, John Graunt showed in London that there was a close correlation between death rates and atmospheric pollution. Many attempts followed over the centuries to legislate to reduce the latter. It was only, finally, in 1952 following the last great London 'smog' and the ensuing disease and death that people woke up to the true dangers of smoke, and Parliament enacted comprehensive control legislation.

Suggested Diagnoses and Solutions

The divide between anthro- and bio-centrism is well marked. For some, mankind is seen as the big problem. This leads to the question, which often turns into an assertion: "Are we just one species among many?" An extreme of this is 'Deep Ecology' which assumes biological egalitarianism. In the 1960's there was a common belief in the West that the Eastern religions were 'better' because their adherents were, on the whole, 'nice' to the world as a result of their faith. In practice this is not so: economic factors overtake other considerations, even in the East, and pollution is even worse in parts of China, Japan and India than in Western countries.

Another 'Green Religion' is dispensed by a former American Dominican, Matthew Fox, who has attempted to substitute redemptive theology by creation theology.

We must re-envision the paschal mystery story as the story of the Earth. I reject the stewardship model (that God is an absentee landlord and we humans are serfs, running the garden for God); it does not appeal to the young or to our hearts - it is just one more duty, one more commandment to follow . . . We need mysticism - God IS the garden.

Matthew Fox, 1990

To return to the WCS, which of course makes no claim to be a religion, it virtually omits any mention of ethics - the basis of right and wrong choices. However, the Strategy, being in part a UN document, needs national resources from UNEP member countries. The Nature Conservancy Council in the UK set up working groups to study the implications for the UK of different aspects of the Strategy. Ethics was one such group, chaired by Lord Ashby and written up by myself. The report argued that valuation was a key factor, but the same resource may be valued differently in different places. For example, in South East England water has a greater value than it has in North West Scotland: we look after what we value. So who has an interest in such valuations? There is my personal interest, there is the community interest (which may or may not be the same), there is the interest of future generations and there is nature's interest. The Church of England produced a document to reflect upon these different interests: *Our Responsibility for the Living Environment*. With regard to the last, nature's interest, there are in practice only two alternatives: mysticism or Christian stewardship. The Worldwide Fund for Nature (WWF) had its 25th anniversary in

Assisi and called upon the world's religions to make a statement about environmental care. Although different statements resulted, there was a recognition that such care had more to it than old-fashioned rationality.

Forward to Rio

In 1967, the Brundtland Commission developed and reported upon the idea of sustainable development, which it defined as:

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs". (WCED)

The aims were to balance our needs today with those of the future. Then, in 1989, the G7 nations held a conference on environmental ethics in Brussels. There were expectations that difficulties would arise over reaching a common mind but, in the event, all participating nations agreed upon responsible stewardship of the whole earth, even though, for example, Japan has a different ethos from Western nations. The deliberations were accepted by the heads of state of the G7. The following year, the UK Government issued its formal environmental policies in a document which also formed its submission to the Earth Summit in Rio in 1992. The UK paper commences with a chapter on ethics, almost 'religious' in its tone:

"The starting point for this government is the ethical imperative of stewardship which must underline all environmental policies. Mankind has always been capable of great good and great evil . . . We have a moral duty to look after our planet and to hand it on in good order to future generations."

What is happening is that there is an increasing realisation by states that the world's problems are not only local and regional, but global. For example, the increase of CO₂ in the atmosphere acting as a blanket and warming the globe, and the explosive growth in skin cancers with the damage to the ozone layer. All such problems are compounded by population growth, which is itself not a direct problem save for its impact upon both renewable and non-renewable resources. The original WCS document was revised for the Rio Summit, and in 1991 *Caring for the Earth* was issued. The conclusions of this were that . . . "the symptoms of unsustainability are ecological, socio-cultural and economic, and the causes - population growth, environmental demand and mismanagement". The strategy to cope with such problems has global warming at the top of the list. Following the Brussels conference, the G7 set up a working party to attempt to produce a code of environmental conduct. The Working Party produced a code based on the following premise:

"An environmental ethic involves: stewardship of the living and non-living systems of the earth in order to maintain their sustainability for present and future, allowing development with forbearance and fairness."

The 'teeth' of this statement lie in the obligations which follow its acceptance.

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In practice, such an ethic bears on the behaviour of governments, multi-nationals, industries and individuals. As part of preparing for the Earth Summit, the General Synod of the Church of England called for a statement to challenge the government, the people and the Church. It accepted a document based closely on the G7 environmental code, albeit written in a Christian framework:

"We all share and depend on the same world, with its finite and often non-renewable resources. Christians believe that this world belongs to God by creation, redemption and sustenance, and that he has entrusted it to humankind, made in his image and responsible to him; we are in the position of stewards, tenants, curators, trustees or guardians, whether or not we acknowledge this responsibility.

Stewardship implies caring management, not selfish exploitation; it involves a concern for both present and future as well as self, and a recognition that the world we manage has an interest in its own survival and wellbeing independent of its value to us."

Meantime, the International Environmental Law Commission was working on an International Covenant on Environment and Development, which it saw as a charter for the environment, parallel to the Charter for Human Rights. The Covenant has about 80 clauses, starting with 10 -15 'fundamental principles'. These can be re-arranged as 10 statements. Thus:

1. Both conservation and development are essential, and are indissolubly linked.
2. All life is unique and warrants respect.
3. All individuals have a duty to the environment.
4. All nations have a duty to the environment.
5. There is a desperate need to eradicate poverty and unsustainable consumption.
6. The 'precautionary principle' must be put into operation (i.e. we must not wait until things become obviously worse before acting).
7. The 'polluter pays' principle must be applied without fear or favour.
8. We must have 'environmental impact assessment' on all new developments.
9. We must have full internalisation of environmental cost (cost placed on the developer or operator).
10. Justice, peace and the integrity of creation are interdependent and indivisible.

Let us return to Lynn White:

"What we do about ecology depends upon our ideas of the man-nature relationship. More science and technology are not going to get us out of the present ecologic crisis . . . Since the roots of our

trouble are so largely religious, the remedy must be essentially religious, whether we call it that or not."

When Chris Patten was Secretary of State for the Environment he wrote:

"The relationship between man and his environment depends, and always will depend, on more than just sound science and sound economics. For individuals, part of the relationship is metaphysical. Those of us with religious convictions can, if we are lucky, experience the beauties, as well as the utilities of the world as direct manifestations of the love and creative power of God."

As a young man, Thor Heyerdahl, of Kon-Tiki fame, sought peace outside Europe and, with his new wife, went to settle in an unspoilt tropical island. They gave away most of their possessions for a simpler life-style and tried to live the same way as the local inhabitants. However, they were miserable, persecuted by those they believed to be 'noble savages', ravaged by diseases, and came to the conclusion that:

"There is no Paradise to be found on earth today. There are people living in great cities who are far happier than the majority of those in the South Seas. Happiness comes from within, we realise that now. It is in his mind and way of life that man may find his Paradise - the ability to perceive the true values of life, which are far removed from property and riches, or from power and renown."

We have inherited a world where things are constantly changing, just as in Bible times. We started in Eden, and have come to the city. When John Ray wrote at the end of the seventeenth century the world seemed to be changeless, but we realise now that we are in a dynamic situation with the world upheld by God, but - in accordance with the creation ordinances - it has to be managed by us. In the recent Brent Spar oil-rig saga, Shell took all the steps which seemed to them to be necessary to understand the situation, and employed experts to advise them. But they did not keep the public informed, and Greenpeace capitalised on this. Now lessons have been learned, and Shell is almost obsessional in encouraging wide debate about its environmental action. That is what Christians should be doing in the world. We should be making up our minds about the issues and sharing our understanding with others. We must give a lead in environmental matters and so witness to the glories of God's creation - the creation He has redeemed. The photograph *The World in Space* has become a modern icon. It has awakened people to the environment and its fragility. We are living in a finite, not infinite, world and this is all we have. Even worse, we depend upon a thin film of atmosphere. It is all we have.

R.J. Berry

THE GREAT EXPERIMENTER?

Those of us who occupy a middle position in the creation-evolution debate are still searching for a satisfactory answer to one question that those at the extremes of the debate do not have to worry with. That is, why would an all-powerful Creator go about populating the Earth in the halting, round-about ways of theistic evolution or progressive creation, if he knew from the beginning what he wanted and how to get there?

Of course, the flat creationists have no such problems since for them creation was definitely carried out quickly and deliberately. Their main problem lies in explaining away the fossil evidence for a large variety of creatures that came and went long before humankind ever appeared. The Gap Theory probably provides as good an alternative explanation as any for this purpose.

Secular evolutionists from Darwin to Stephen Jay Gould have argued that imperfections in nature are clear evidence that no superior intelligence could have been involved in their creation. At least no intelligent Creator would have designed so many body parts less well than a present-day engineer could.¹ Why does the human body, for example, have a vertical column that seems better suited for our walking on all fours than for standing all day, an appendix that seems designed for no useful purpose other than the enrichment of surgeons, gills on embryos which will never swim in an ocean and a reproductive system that is so inefficient that half of all pregnancies end in miscarriage? If there were an all-knowing, all-powerful Creator, would he not have done a better job of designing for safety and efficiency than what we see in nature? Why would a supernatural Creator have littered the landscape with the remnants of millions of creatures that long ago became extinct and why would he have left several unusable oddities in the bodies of both embryos and adult living creatures? To secular evolutionists this seems to indicate a ridiculous streak of whimsy in the character of the Creator.

A typical conclusion from the secular evolutionist viewpoint is that of Beverley Halstead, a British scientist: "I personally do not see how the concept of evolution can be made consistent with that of creation by a personal god, or indeed any sort of God."² At least, it's puzzling to many why an all-powerful God, who already knew everything, would choose such a haphazard way to design humankind. Also, the picture of a Creator, who could have done better but didn't care to do so, does not appeal to most people.

Of course, a believer can always say that God must have had his own reasons, that that's just the way he did it, or that's not our job to question his workings. But can we really expect to get even a borderline agnostic to consider the possibility of intelligent design, if we are unable to explain the intelligence behind the design?

Theists could argue that maybe God chose to create living things in the rather halting ways of gradual evolution or progressive creation just to make his

involvement in creation less obvious and avoid forcing anyone to believe in his existence against their will. This could be seen as the flip side of the argument from design. The fact that this freedom to disbelieve did not really become widely operative until Darwin came along is against this being an important reason.

It might be helpful if we were to take seriously the advice of the Apostle Paul and look at the details of nature to help us gain a better understanding of the workings of the Creator. "Ever since the creation of the world his eternal power and divine nature, invisible though they are, have been understood and seen through the things he has made" (Rom. 1:20. NRSV). While we don't seem to have much difficulty in seeing the evidences in God's power in the mountains, the seas, and the heavenly bodies that he has created, we may be overlooking what the living creatures he has made can tell us about the limitation imposed on the creative process by his divine nature.

Edward Fredkin, one of those largely self-taught pioneers in computer science, has compared the task of creating and operating the universe to that of running a computer program. From such a comparison, he has drawn a rather unconventional theological conclusion:

There is no way to know the answer to some questions any faster than what's going on . . . Suppose that there is an all-powerful God. And he's thinking of creating this universe . . . Okay, now, if he's as all-powerful as you might imagine, he can say to himself, "Wait a minute, why waste the time? I can create the whole thing, or I can just think about it for a minute and just realise what's going to happen so that I don't have to bother." . . . I can say I don't care how powerful God is; he cannot know the answer any faster than doing it. Now, he can have various ways of doing it, but he has to do every . . . single step with every bit or he won't get the right answer. There's no short cut.³

Could God's knowledge of the future actually have been that limited when he set out to create the universe? It is no longer unusual to question whether God could actually have foreknowledge of the decisions that human beings may make in the future without destroying their free will. (For example, see Richard Rice's *God's Foreknowledge and Man's Free Will*.⁴) Fredkin gets into a related area when he denies his hypothetical Creator foreknowledge in the process of creation.

Is there any evidence to back up Fredkin's claim other than making analogies with the functioning of computers? Does the universe itself suggest that he is right? If a supernatural Creator were subject to the limitations regarding knowledge of the future that Fredkin believes that he would have to have been, could he have predicted exactly what would happen in response to each of his creative acts? Might we find a clue if we consider how such a Creator might have gone about creating the universe and filling the earth with living things, if his

fore-knowledge of the results were actually as limited as Fredkin believes?

The usual fiat creationist pictures God as architect and engineering designer. First he planned exactly how all things - from the smallest nuclear particles up to the largest star - were going to be constructed and how they were to function in his new universe. Then he created it all from nothing and set it in motion. Unfortunately for the creationist case, such a Creator may not have been in the same situation as human planners are when they set out to design a building or a machine and then build it. They, at least, have had some experience in similar designs or have books by other, more experienced designers to fall back on. They also know something about the materials they will use.

On the other hand, the creation of the universe could have been a new experience for even an eternal God unless, of course, he had experimented earlier (as the Gap Theory implies). The results, however, favour this universe's being the original experiment. In Fredkin's terms, God is still waiting for this "computer" to grind out the final answer.

Since even God may not have been able to predict exactly the behaviour of particles that had never yet existed, much less what would result when they were placed together, a logical place to start might have been to create some undifferentiated matter and see what could be done with it. Maybe just take a lump of nothingness and split it into matter and anti-matter. Then wait until the dust had settled from the resultant explosion before proceeding to shape it into the universe we know.

When it finally came to making living creatures, a Creator with limited experience likely would have begun with simple organisms and gradually added more complicated features. To save time he may have tried a variety of approaches almost simultaneously (as in the Cambrian Explosion). He may even have used natural selection to make improvements in some and to discard what was unpromising in others. Some creatures would be allowed to become extinct, while others would be left to just occupy a niche that suited them and change very little over the years.

François Jacob, a French geneticist, has concluded that the designer of the creative process did not work as an engineer might but rather as a tinkerer would. He used parts available from earlier model machines to produce an improved, but still workable object. "Evolution does not produce novelties from scratch. It works on what already exists, either transforming a system to give it new functions or combining several systems to produce a more elaborate one."⁵ Isn't it likely that a Creator without previous creative experience in the area would do the same?

Professor Halstead partly agrees: "If the process were directed it suggests that God was continually learning from his mistakes."⁶ Perhaps, except that "mistakes" or "errors" are not the usual terms we use when an inventor (or a cook) tries something that has never been tried before and does not initially get the

results he or she had hoped for. "Experimentation" better describes the process.

Actually human engineers are not always as successful in designing new pieces of equipment as we would like to think. This is particularly true if the new structures bear little resemblance to anything already in existence. Some of the most notable recent flops that been in military hardware. The results have been generally more satisfactory (and with fewer cost overruns) whenever engineers have been allowed to gradually improve the design of equipment that was already in use. Similarly an intelligent Creator might have worked just as the tinkerer that Jacob describes, if that were the most reliable way to arrive at workable structure given the paucity of prior experience with anything similar.

If scientists such as Fredkin and Jacob are reading the record correctly, it may be more accurate to think of the Creator, not as the Great Designer, but as the Great Experimenter. It may well be that God utilised the gradual development of organisms by mechanisms of both natural and guided selection or that he actually created a series of progressively more complex organisms because that was the best way to get the desired results.

Fortunately God did not wipe the slate clean after each stage and leave us in the dark about our origins. He has left us remnants to discover and interpret. God as experimenter rather than God as designer might be a more useful paradigm for understanding his workings.

To some it may seem heretical to suggest any limits on the foreknowledge of God, but actually Judaism and Christianity have always claimed that God is all-knowing only of things that are knowable. He is all-powerful only to do things that are doable. We hardly honour him to claim things about him that could not be so. We need to take into account the actual Universe that we have as we try to understand better the Creator who made it. This is not to build a natural theology from scratch as much as it is to use the facts found in nature to clarify the revealed theology we already have. The result should be more scientifically defensible and might even remove a few of the stumbling blocks that keep some scientists from considering religious faith as a personal option.

James O. Morse

NOTES

- 1 Stephen Jay Gould, *The Panda's Thumb: More Reflections in Natural History* (New York: W.W. Norton & Co., 1980), 26.
- 2 L. Beverly Halstead, "Evolution - The Fossils Say Yes!", *Science and Creationism*, ed. Ashley Montagu (New York: Oxford University Press, 1984), 240.
- 3 Robert Wright, "Did the Universe Just Happen?" *Atlantic Monthly* (April 1988): 43.
- 4 Richard Rice, *God's Foreknowledge and Man's Free Will* (Minneapolis: Bethany House, 1985).
- 5 François Jacob, "Evolution and Tinkering," *Science* 196 (June 10, 1977): 1161-1166.
- 6 L. Beverly Halstead, "Evolution - The Fossils Say Yes!" 240.

HOW TO MAKE BELIEF

It is hard for an English man to believe in God. Fewer than half of us do. We pride ourselves on being hard-nosed realists. We put our faith, such as it is, in science. The facts, evidence, experience . . . these are the things that count in our intellectual world. Many of us regard the 93 per cent of Americans who are believers as naïve optimists. We prefer our sophisticated pessimism. Or do we?

Despite our cynicism, we are acutely aware of our lack of purpose. We wish that life had more meaning. Fear denies us peace. Above all, we wait nervously for death, that endless nothingness at the end of brief being. Aware of our lack of importance in the cosmic scheme of things, our material preoccupations begin to look like mere occupational therapy. Our scepticism, in short, has given us nothing. We have sacrificed all possibility on the sad altar of intellectual pride. Secretly, we envy the believer. But the gap between secular "certainty" and the speculative world of the spirit is too wide. We cannot bring ourselves to make the leap of faith.

But the agnostic can become a believer without sacrificing his intellectual principles. I know how, because I have been a life-long sceptic, and I am a sceptic no more. There is only one pre-requisite. The person for whom all religions are unprovable superstition must *wish* that he was a believer; must *hope* that God exists; must *want* the comfort that belief in God seems to give to the faithful.

Behavioural science, pioneered by Pavlov and developed by Watson, Skinner and others, is mainstream, copper-bottomed, stand-up science. It predicts and has proved beyond reasonable doubt that thoughts, ideas, and *beliefs* can be changed by behaviour. By acting as if something is true, we can learn to believe that it *is* true. This approach is used to great effect in psychiatry, especially in the treatment of phobias, clinical anxiety, obsessive-compulsive disorder and anorexia nervosa. First, change the behaviour, the way a person acts, and you can bring about a change in the way he thinks.

Behavioural therapies based on learning theory are barely 50 years old, yet man has used them throughout history. It was Pascal, 300 years before the birth of behavioural science, who first applied it to religious belief. Pascal invented the famous Gambler's Argument for the existence of God: "Either God does exist, or he doesn't," argued Pascal, "and we can't know which." But we would do well to wager in favour of God's existence, since, to bet against it gives us no advantage. Anticipating behavioural therapy, he maintained that belief in God would follow from behaving as if he existed. "Custom is our nature," he said. "Anyone who grows accustomed to faith believes it."

I began to practise behaviour therapy on myself as I travelled the hard path to belief. First came prayer. In the lonely night, when the worries circled in the darkness, I spoke to someone I did not know existed. I pretended. I acted in my prayers as if God was listening. Gradually, make-believe turned into made belief. I began going to church. I repeated the meaningless words until, gradually,

meaning seeped into them. Frequently, I just imagined the sound of God's name. God, in that little way, was inside me.

Always I fought against rationalism and my pathetic, puffed-up intellect. I tried to *feel* God, because God is known in the heart, not in the brain. I believed with Pascal that "the heart has its reasons of which reason is ignorant". I began to realise that, through these simply conceived steps, I had stumbled on a religious way of knowing. I resisted all attempts to prove God's existence. That was the dead-end street in which I had played all my life. The Problem of Evil (the gas chambers; Myra Hindley and torture of children; the Aids virus) effortlessly overrode the Free-Will defence (God wished us to have choice). The Design argument (the universe is so complex and ordered it must have had a designer) foundered on the problem of who designed the designer. The First Cause argument (everything has a cause and the first cause is God) begs the question of who caused God. The Ontological argument (God is perfect and nothing can be perfect unless it exists) falls on the Kantian criticism that existence is not a property of things. We can conceive of unicorns, but they don't exist.

Now I see that the most fundamental truths are truths of emotion and not of reason. Does reason tell us whom to love, whom to marry? Does the intellect tell us what is good and beautiful, what bad and ugly? Does the brain tell us the difference between right and wrong? We have put our trust in science, but science shifts like the sands of the shore, its laws lasting a few hundred years, 50 or fewer. It tells us only about the unimportant things. Who would ever, has ever, died for a principle of science?

So, act and believe. Persevere, and lose yourself in the mystery of God. You will learn a knowledge more deep and more meaningful than you have ever "known" before.

Garth Wood is a physician

CORRESPONDENCE

Dear Sir,

I fear I must take issue with Colin Mitchell over versions of the Greek New Testament (*Faith and Thought*, 21, April 1997, 4-9), yet again.

1. Recognising the shortcomings of the 'Alexandrian' text underlying Westcott and Hort does not lead to automatic acceptance of 'Textus Receptus'. Rather, we should consider the full diversity of versions. I agree that we should 'weigh them as we would witnesses at a trial'. Now, 'number and consensus of witnesses' is certainly important. Suppose, however, a jury heard two, totally independent, witnesses agreeing against a large number who happened to be close brothers or workmates. What would they think then?

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2. Recognising the authority of the text type 'acknowledged by the entire Greek church in the Byzantine period', is not the same thing as accepting Textus Receptus. The latter term, properly speaking, applies to the version produced by Stephens, and used by the translators of the Authorised/King James Version. This differs from the Byzantine text, most notoriously 1 John 5:7, which Erasmus had omitted from his first edition for that reason. Only fear of being thought non-Trinitarian, coupled with the discovery of it in a late Greek marginal translation from the Latin, forced him to insert it in later editions, whence it found its way into Textus Receptus. The doctrine of the Trinity depends on the entire witness of Scripture, not that one text, so we should not cling to what is indisputably not Scripture, 'as originally given'. Larger, but less controversial, differences from the Byzantine text can be found at the end of Revelation, for example.

Yours in Christ,
R. H. Allaway (Revd Dr)

NOTICES

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For further details, please contact the Editor, or CPO direct at:
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BOOK REVIEWS

Alan Crook, *A Christian's Guide to Homoeopathy* (Winter Press, 1996, 84 pp., £4.95, PB, ISBN 1 874581 037).

Homoeopathy is a practice about which I feel ambivalent. As a research scientist, at one time in the field of pharmacology, one is conditioned to believe that the effectiveness of any agent must obey the mass-action law, i.e. the greater the concentration, the more effective (toxicity apart, of course). Homoeopathy is the direct opposite of this. Nevertheless, I found this little book very helpful and enlightening, and very honest. Homoeopathy treats the patient rather than the disease, and depends on the principle that symptoms are the body's attempt to

cure itself. Thus, administering a dose of an agent which will help this process will be curative. Such an agent is that which produces the same symptoms in a healthy organism - the 'way of similars'. What is hard to explain is why agents are more effective the more they are diluted, and the more they are shaken in solution. This had led some to claim that such processes are bordering on the occult, the mystical, or that maybe the effect is that of a placebo, and no more.

These objections are dealt with by Alan Crook in a very honest and straightforward way. There seems to be no doubt that homoeopathy works - at least for some people. The possible explanation for the effectiveness at dilutions which exclude the possibility that any molecules of the agent are still present has been made in the 'memory' of the solvent. For a discussion of this, one should read the review of Michel Schiff's book *The Memory of Water*, in *Science and Christian Belief*, October 1997, p. 159 ff. Where I would take exception to some of the explanations is the idea of the 'Force Field' in the human system, what the author calls the patient's 'Vital Force'. But this is not defined in terms of the biochemical processes which are now well-known in the chemistry of organisms. Is it something different? Perhaps it is this aspect which has led to accusations of occult, mystical, oriental religion being levelled at homoeopathy. The author deals with all this very fairly, and concludes that such charges have been unjustly made from fear by those who are obsessively suspicious of any experience outside of the orthodox, Christian canon. As he says, quoting Paul, there is nothing intrinsically wrong with any aspect of God's creation. It is only mental association which makes something unacceptable (1 Cor. 10:25 et seq., 1 Tim. 4:1-7). He quotes those who would belong to a movement which would ban Santa from schools because Santa is an anagram of Satan (p. 49)!

Homoeopathy belongs to the practices of alternative medicine which are now becoming 'kosher' in general medicine. Let us beware of a witch-hunt against such practices, such as befell Beneviste et al (*Nature*, 1988, 333, p. 816-818). I, for one, have found this book very valuable and a challenge to my preconceived notions, and I would recommend it to all. It has a number of references, a glossary, and a good index.

A.B. Robins

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