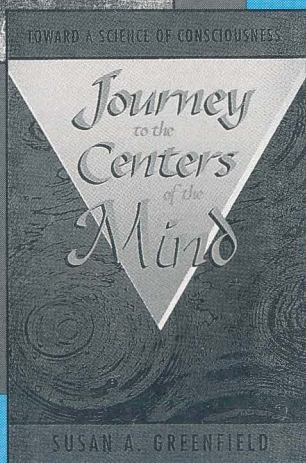
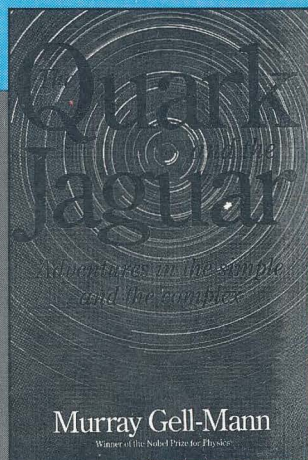
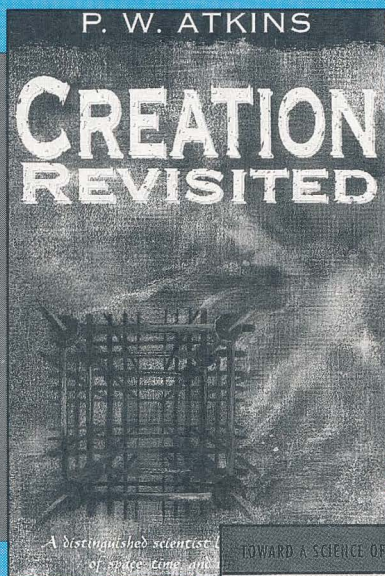


# FAITH & THOUGHT

BULLETIN



OCTOBER 1996 NUMBER 20

**THE VICTORIA INSTITUTE**  
or Philosophical Society of Great Britain

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**EDITORIAL**

Once again, we welcome new members to the Institute.

This issue includes the Annual Lecture of the Institute, given in May by Dr. David Burnett, All Nations Christian College, and concerned with Millennial Movements, which are around us in many different ways.

Other short contributions to this issue are the Editor's summaries of two further discussions under the aegis of the Scientific and Medical Network, and a paper by The Rev'd Peter Sills, Vicar of St. Mark's Church, Purley, who has studied economics. This paper was given to an International Ecumenical Conference at Hamm, Germany in April this year. A fuller paper is in preparation for publication elsewhere.

Other items included here are notices of future events, and publications which we hope will be of interest to readers. The Editor would like to make a request for articles for further issues of the Bulletin. As you see, our remit is fairly wide, so long as the material is devoted to the Christian faith and how it relates to the world of today, scientific, economic, social, philosophical, etc.

**NEW MEMBERS OF THE VICTORIA INSTITUTE**

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Dokkyo University, Japan

**ANNUAL GENERAL MEETING 1996**

The Annual General Meeting of the Victoria Institute took place on Wednesday 15th May at Dr. Williams's Library, 14 Gordon Square, London WC1. The Chairman, Terence Mitchell, presided and, after receiving apologies, the minutes of the 1995 AGM were accepted. (Published in *Faith & Thought Bulletin* No. 18 of October 1995).

**Election of Officers**

The President and Vice-Presidents were elected for a further term of office, as also were two members of the council, The Rev'd Michael J. Collis, BA., BSc., MTh., PhD., and Mr. Terence C. Mitchell, MA. No nomination had been received to fill the vacancy created by the resignation of the Honorary Treasurer.

**Accounts**

Mr. Weller presented the Accounts for year ended 31st December 1995, which were formally accepted, subject to formal examination as resolved at the 1994 A.G.M. He drew attention to, and thanked members for, the greatly increased donations which produced a surplus and avoided further deterioration in the General Fund cash position. Together with the profit on investments, this showed an increase over the previous year of £4,611 on the Balance Sheet value at 31st December 1995. The total Balance sheet value, with Special Funds included, was £36,056.

The Chairman took the opportunity to encourage and thank members, underlining the value of Gift Aid and Covenants. He then invited The Rev'd Charles W. Karunaratna to take the Chair to welcome and to introduce the speaker, Dr. David G. Burnett, PhD., BSc., MA., of All Nations Christian College. The subject of his address was *Millennium Movements: New Religious Movements at the Dawn of the Twenty-First Century*.

## **MILLENNIUM MOVEMENTS:**

### ***New Religious Movements at the Dawn of the Twenty-First Century***

On Monday 19 April 1993, a total of 72 men, women and children died in the inferno at Ranch Apocalypse, the headquarters of group led by the self-appointed Messiah David Koresh. Perhaps the essential question for this evening's lecture is "Why did this happen?" The surprising thing is that this "cult" is not unique, and throughout the world other similar movements have occurred.

The word "millennium" registers many thoughts. Perhaps initially the word is perceived as a period of one thousand years and the rapid approach of the psychologically significant date of AD 2000. At a theological level it is associated with the particular school of Christian doctrine that advocates the personal reign of Christ on Earth (Rev 20:1-5). Out of the growing confusion and destruction of the world Christ is believed to enter and initiate a new world order characterised by justice, happiness and prosperity. Many Christians are surprised to realise that the concept of a new world order is common in many societies. In extreme conditions it is common for people to ask; "What can be done?" "What shall we do to be saved?" One common answer is the belief that a new world order will be imposed from above - the millennium.

#### **The Dawn of a New Age**

The concept of history moving towards a climax has been a recurring element in all the major religions - an "Apocalypse". As Christians, we see a significance in the fact that it is two thousand years since the birth of Christ. In Buddhism, history has often been perceived as periods of 500 years, based partly on the fact that the Buddha was claimed to have said that if women were allowed into the Sangha, the movement would only last 500 years. There were therefore great expectations in the Buddhist world in 1986 AD when the 2,500 anniversary of Sakyamuni Buddha was celebrated.

In Islam there have been similar periods of heightened expectation in the 100 year periods after Hijra (0 AH) to 622 AD, when the prophet fled to Medina from Mecca. At these times a reformer, or Madhi, has emerged encouraging a rediscovery of pure Islam often through the use of the sword. Hinduism is more complex, but once again we have periods of renewal normally seen as cycles of decline in the Kali age, and emergence into light.

Millennium has been a common response to the social catastrophe that many traditional societies have faced with the impact of the European peoples. Among the North American Indians in the the nineteenth century there have been several such movements generally known as "Ghost Dance". In these movements the fears that the white-man was destroying the life and culture they had known for centuries emerged in new dreams and revelations. A new age was predicted in

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which the white-men and the ecological damage they were causing would be swept away and a renewed earth would emerge. In order to withstand the white-man's attack, the Indians were promised to be protected with invisible "bullet-proof" vests. Needless to say, when the Indians rebelled against the white-man, they were killed off in large numbers.

In Polynesia dozens of so-called Cargo cults have arisen in which people have cleared strips of ground and constructed make-shift towers on which to stand while looking into the sky awaiting the arrival of aircraft. They remembered the US soldiers and all their wonderful artefacts, and had concluded that these were not made by human hands but had come from the ancestors. Now they wait for the arrival of such "goods" from their ancestors. In Africa, many prophets have arisen and their followers have formed into new denominations numbering thousands of members. One such movement is the Church of the Army of the Cross of Christ, which has about 80,000 members in West Africa, but has in the the past been ostracised by the main-line denominations. These new religious movements are now an inherent part of the Church in Africa today.

Christian millenarianism flourished in the early Church when Christianity was no more than an unpopular minority. When Christianity became acceptable under Constantine this belief was ignored, and did not emerge until the Middle Ages. As the year AD 1000 approached, panic occurred in many cities of Europe. The close of the Middle Ages was accompanied by great social change as people reacted to Papal domination. During the Hussite revolution of 1415 it was taught that avenging angels would destroy all sinners, which were mainly lords and monarchs. Then, Christ would come to usher in a new order in which the owning of private property would be a sin.

A hundred years later in Germany (1525) the town of Munsta became the focus of a rebellion mainly among the urban unemployed. The "League of the Elect" as they were called expected the imminent coming of Christ to Munsta from which the whole world would be conquered. A communist state was established in Munsta, and the rich were killed. The town was eventually besieged and the people starved or killed. This movement had a continuing influence in the Anabaptist tradition. These movements all have a social dimension and occur during periods of change when people are wanting to initiate a new just order. This may be likened to a super-saturated solution which, when seeded by a single crystal, leads to wholesale crystal growth.

#### **Visions of the New Age**

During these periods of social dislocation "special revelation" becomes the key element in pointing the way forward. Dreams and visions are common sources of revelation, and often provide the call and message for the prophet. For example in the case of Jim Jones, he had an unhappy childhood, and when he was 22 (1953) he went into a feverish semi-coma, probably caused by hepatitis, during which he had many visions.

Sometimes the revelations are written down and become a new religious text for the movement. Joseph Smith was born in 1805 during the period of great social change in North America. At the age of fourteen he sought guidance about church membership, but had a vision telling him that he should join no denomination as they were all in error. At the age of seventeen, he is said to have had a second vision in which the angel Moroni told him of some gold plates and two seer stones hidden in a near-by hill. He found these stones and was able to translate them into what is known as "The Book of Mormon".

Similar visions continue today even in some unexpected places such as the former Communist countries of Eastern Europe. For example, in 1992, "New Jerusalem" was constructed in an isolated wooded area of Romania. At the centre of the buildings is the tree of life, which is surrounded by many symbols associated with the coming millennium. New, or renewed, interpretation of existing texts have been common in Christian history. The biblical books of Daniel and Revelation have particularly been the sources of much speculation as people have tried to interpret the visions they contain.

In 1382, John Ball called the common English people to cast off their yoke of oppression. Like the wise farmer in Matthew ch 13 they were to gather in the wheat (the poor) and burn the weeds (rich lords). The activists were seen as the angels of God sent out into the field at the end of the world. The millennium reign would be one of Christian socialism.

Similarly, Charles Russell who was born into a Presbyterian Calvinistic Family, rejected the orthodox interpretation of the Bible and in 1870 prophesied that Christ had come invisibly and in three and a half years would establish his kingdom. The failure of the prophecy caused disappointment, but later new dates were set. Today, the movement is known as the Jehovah Witnesses, and they believe that Christ returned invisibly in 1914 and that this is now the end times.

Yet again, William Miller, a Calvinistic Baptist, forecast that Christ would come again on 10 October 1843. When this did not occur, he made a second prediction as 22 October 1844. When this did not occur, he confessed his error. However, Mrs. Ellen White became leader of the group and taught that Miller's prediction was correct, and that in 1844 Christ has completed his work of atonement. She taught that those who kept Sunday as the Sabbath had the mark of the beast upon them. Today, only a few Seventh Day Adventists hold to the teaching of Ellen White. A minority did hold to this teaching and it is in this section that David Koresh gained prominence. He, therefore, did not forge a new apocalyptic vision, but appropriated the long-standing one held by the Branch Dravidian sect of the Seventh Day Adventists.

In mainstream Christianity one of the recent milestones in popular ideas of the millennium has been Hal Lindsey's book "The Late Great Planet Earth" (1970s). It has sold over 18 million copies world-wide, and is undoubtedly a Christian world best seller. President Reagan was very much influenced by

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prophecy and believed that America had to be prepared for the nuclear Armageddon against the "bear" from the North. This popular view among fundamentalists in the USA has tended to collapse with the changes that have recently occurred in Russian politics.

Jim Jones believed that American society was sliding into social chaos when blacks would be destroyed by white extremists, and the poor would be eliminated in a class war. The Peoples Temple was seen as providing a refuge of salvation and protection for the weak and vulnerable. His move to Guyana was an attempt to protect the members from what he considered to be the imminent collapse of American society in "the last days".

### **The Charismatic Community**

Religious movements emerge from specific social contexts, and growth occurs around a new vision of reality. Like the crystal growing in the supersaturated solution, the initial crystal is an analogy of the prophet whose revelations offer prospects of a new age. The sociologist, Max Weber spoke about three types of authority: *Rational*, such as a King (bureaucratic); *Traditional*, like a priest; and *Charismatic*, like a prophet. Charismatic authority is wider in scope and more intense than the first two. A policeman, for example, can arrest you for speeding but he cannot tell you who to marry. In contrast, a prophet can tell you who to marry because he, or she, is speaking with the authority of God, or some 'heavenly powers'.

Individuals give authority to charismatic leaders because they have certain characteristics. First, the "prophet" claims, either directly or by implication, to be a divine emissary. Second, they offer what their followers perceive as the promise of salvation. Third, the teaching given is dogmatic, and contrasts with what many people hear in the orthodox churches. Finally, the prophet sets great ambitions for his followers who often perceive themselves as the pioneers of a new world order.

This authority can be strengthened by conformity. By participating in the particular ritual, the individuals commit themselves increasingly to the group and its beliefs. This pressure to conform can be increased by isolation from "the world", which is considered to be hostile and threatening to the new community and especially the prophet. It can also be increased by building strong group dependency through social care, and lack of privacy that hinders individuals raising personal criticisms. Jim Jones claimed, "You have never been loved as I love you." He often reached out to the poor, the fat and the ugly and embraced them. Physical expressions of unity often move into the sexual relations. Both David Koresh and Jim Jones had children from multiple sex partners. Koresh also established a military "men's house", which was separated from the women. This dual practice of polygamy and the "men's house" created a militant religious movement bound together by the patrimonialist cadre of the prophet's followers focused upon the defence of the prophet.



In such movements, the end of the world is taken as a central tenet in which the response of the group will depend on their construction of the apocalypse. The movement can move in one of two directions. At one extreme, a group may retreat to an "other-worldly" community in isolation from the evil world all around them. They seek to establish the Kingdom of God here on earth as a model community of the life to come. Many Christian groups have taken this stand, and have therefore rejected modern developments such as television, cars and contemporary fashion.

In contrast, the new community may actually seek "Armageddon" in order to precipitate the new age. This is exactly what John Ball sought to implement in 1382 with his "angels of God" going out to destroy the rich. A contemporary example is the Aum Supreme Truth Cult in Japan. He predicted that America would launch a nuclear strike on Japan within two years, so built a nuclear bunker near Mount Fuji.

These two contradictory tendencies sometimes remain in volatile play within the same group, and unexpected responses can occur due to the attitude of their opponents. David Koresh did not establish a stable heaven-on-earth, and as such did not set its own autonomous fate.

Instead, we need to recognise that, like Jonestown, the conflagration at Mt Carmel was the product of religious conflict between a militant sect and opponents who, unwittingly or unwittingly, helped fulfill the sect's emerging apocalyptic vision.<sup>1</sup>

### **Attitude of Outsiders**

In general, society has the stereotype of "cults" as dangerous and destructive. How are these stereotypes formed? There are three points to make in this connection.

First, during the last few years a number of anti-cult organisations have arisen often sponsored by Christians. These anti-cult movements engage in a campaign to defeat, or at least curtail, the growth and spread of unconventional religious groups, which they usually call "cults". These movements are larger and more developed in the USA than in the UK and have come together under an umbrella organisation: Cult Awareness Network (CAN). Anti-cult groups often include those who believe that all cults use "brain-washing" methods, and the only response is to use "deprogramming" to rescue members of the group.

Concerning the Branch Davidians, in the summer of 1992, David Block was deprogrammed by Rick Ross in the home of the CAN national spokesperson. The deprogrammers gained information from Ross about the stored weapons on the property and, according to the Treasury report of the BATF, their information "was based almost exclusively on the statement of one former cult member, David Block."<sup>2</sup> The report into the Waco affair criticises the agency for failing to consider how Block would be far from objective in his information.

Secondly, as shown by the work by Eileen Barker among the Moonies in the UK, 90% of members leave voluntarily. This has been supported in studies of

other movements. When one talks to members who have been deprogrammed as opposed to leaving voluntarily, one gets a very different opinion of the movement. A recent television programme presented an interview with a small boy who had been released from the house at Waco just prior to the fire. He told of how he missed his friends, and even three years after the conflagration he told of the happy times he had there. An author of a report on the Waco incident confirms the view. "There is a gross disparity between my field-work on cults and the portrayal of them by others."

Thirdly, stereotypes of "cults" are generally negative. For example a newspaper may report a car accident with the headline: "Cult member dies in car crash". "Anglican dies in car accident" would hardly make the same impact on its readers. Most journalists acknowledge that the act of reporting involves more than reflecting the objective facts. The media focuses upon the sensational, and seeks to write a plausible scenario - the storyline. Prior to the Waco incident the *Waco Tribune-Herald* wrote a series of articles on the "Sinful Messiah", with reports of child abuse.

Crises' events trigger public response. The media influences public opinion, which in turn puts pressure upon the authorities to act. In the Waco situation, the media were frustrated with waiting for 51 days with little to report but the apparent weakness of the BATF agents, who felt under pressure to act. In their endeavour to respond to the situation they initiated the Armageddon they were seeking to avoid.

### Concluding Remarks

Some final comments:

- 1) Millennium movements are common in times of social confusion. Christians should be presenting the Christian message in ways that are relevant and meaningful.
- 2) These movements can take a wide variety of forms, and we should be aware of false stereotypes.
- 3) The vast majority of people leave New Religious Movements (NRM) voluntarily. The most important thing for the family and friends of those involved in these movements is to maintain an open and welcoming relationship.
- 4) We should try to get accurate, unbiased information and try to understand the underlying dynamics of such movements.
- 5) Deprogramming is unethical and illegal, but its rejection does not mean that we do nothing. Parents and friends of people who have joined NRM should keep in touch and foster good relations.

David G. Burnett

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### References

- 1 Wright, S.A., *Armaddon in Waco* (Univ. Chicago Press: Chicago, 1995) p. 207
- 2 *ibid*, p. 89

**CHURCH AND STATE:  
*People's Church or Confessing Church?***

I begin with two pictures. After the Falklands war opinion in England was divided over the form that the commemoration service should take. The Government wanted a service of thanksgiving for victory, but the Church held a service of repentance and forgiveness. That is one picture to hold in mind. The other picture is of the Church of Annunciation in Nazareth. Around the interior there are a series of chapels provided by different nations. On the north wall, next to each other, are the chapels of England and Argentina. It so happened that during the Falklands war pilgrims from both countries met as they visited their respective chapels: they greeted one another and prayed for peace. These two pictures illustrate the question I have been asked to reflect on: "How do Christians deal with the increasing distance between Church and State?" Does the Church simply bless the secular wisdom of the day, as the Government wanted, or does it challenge it as the pilgrims did? This is particularly a question for an established Church, like the Church of England, which is widely expected to provide a religious equivalent of the national health service - something that treats everyone - without cost.

This question is nothing new. It has faced the Church in every age, and we should not think that the gap between Church and State today presents us with a novel situation. Even in former times, when the rulers were more religious in their daily lives, they still expected the Church to bless their actions. This expectation can also be seen very clearly in the Bible. When Jeremiah prophesied against the policy of King Zedekiah, he was put in prison. And in the exile to Babylon which followed, Israel had to learn that Yahweh was not their tribal God bringing success to all their endeavours, but the sovereign Lord of all, judging them rather than blessing them. It was the prophets who were justified before God and not the Kings. Jesus placed himself firmly in this prophetic tradition. In many ways our situation today feels like an exile, and just as Israel had to learn hard lessons in Babylon, so do we have to learn hard lessons about our witness in the alienation and anonymity of our modern world. Chief among those lessons, I believe, is the need for the Church to recover her prophetic ministry.

There are, of course, many signs that this recovery is well under way. The Falklands service is one example; another one from England is the report on urban deprivation, *Faith in the City*, which has had a major influence on social policy and social action over the last ten years. And around the world the Church has been active and effective in its witness against racism, war and other evils of our times. There is, though, a much more basic issue on which the Church is called to prophesy, and that is the nature of truth and the source of value.

Since the Enlightenment we have lived in an age which has believed that the path to truth is through the scientific process. Rational thought is the way to certainty; any other way, for example through intuition or revelation, leads only to individual opinions which lack certainty. This has had the effect of marginalising religion, which has been reduced from the category of public truth to that of private opinion. The church is thus caught up in a battle about the nature of truth, which is, of course, also a battle about the source of value: are values given or chosen? This is where the battle for the soul of Man is being fought today, and therefore it lies at the heart of most modern problems, whether it be the environment, the economy, personal morality, education or sexual behaviour - problems which contribute to the distance between Church and State.

If the church is to prophesy about the nature of truth it must engage in a dialogue with science. Science has brought untold benefits to mankind, and I would not want to be without them, but its success must not blind us to the very limited focus of scientific enquiry. Galileo said science should concentrate on primary phenomena, what can be weighed and measured, and science has purchased its success by this limitation of its ambition. Its success has been awesome, and scientists have become a sort of modern priesthood, able to explain mysteries hidden from ordinary mortals. So much so in fact, that we have come to believe that the limited vision of science is the total picture. Truth cannot be so limited. Science tells us how things are made up, how they work; but to be able to describe how something works is not to know all about it; in fact it is not to know the most important thing about it. Take a watch, for example. Knowing how it works is useful, but it will not tell you what it is for; and you need to know what it is for in order to know whether it is a good watch or a bad watch. Judgements of value depend on purpose. Scientific enquiry tells you nothing about purpose and value, but these are part of the truth. However, we ignore this; we live by the so-called technological imperative: *because we can do it, we must do it*; and this means the skill of the scientist is used for undesirable ends. Maybe the best example within the experience of us all is the way the wonders of satellite technology have resulted in a cataract of trash being poured into every home. The Christian prophet has a vital role in today's State asking questions about purpose and value. Science has to saved from the corruption of its own success.

There is, though, something more important to say about the nature of scientific enquiry. Science is not simply a rational exercise; it is intuitive, and it is motivated by belief. Put simply, the decision to pursue a particular experiment or line of enquiry is made because the scientist *believes* it will solve a problem. He cannot know in advance that it will provide the solution, he believes that it will; and it is within the experience of every scientist that these beliefs are given. They might prefer to call them 'hunches', but essentially they are intuitive or revelatory experiences. Science has much more in common with artistic and religious

experience than the scientific establishment admits. However, some scientists have decided to be more open about the true nature of their work, and in 1973 formed the **Scientific and Medical Network**. It is an informal, international group which brings together scientists, doctors, psychologists, philosophers, therapists and other professionals. Its aim is 'to deepen understanding in science, medicine and education by fostering both rational and spiritual insights in a spirit of openness, rigour, sensitivity and responsibility'. This is a prophetic work, and a recent series of dialogues, *Transformations of Religion and Science*, between leading theologians and scientists, have shown an enormous amount of common ground. The Network is an excellent example of the way in which the Church could pursue its prophetic ministry today.

Nevertheless, despite its success, there is a widespread disillusionment with science today. It has not brought about the expected utopia, nor has it given us a meaning and purpose to live by. This disillusionment has been fed by a discipline that has ridden to prominence on the back of science, namely economics. Today's culture is economic culture. The language of economics is the language through which the world is understood, social problems defined, and solutions expressed. Our lives are dominated by rituals of getting and spending. If the Church is to prophesy about values it must engage in a dialogue with economics.

The main reason why economics has such a pervasive influence is simply that it has legitimised the sins of avarice, jealousy and gluttony (in the sense of undisciplined appetite). It rests on the belief that happiness comes by increasing wealth and material possessions: more is always better. This pervasive influence has been powerfully helped by the success of economists in presenting their discipline as a science, a body of knowledge which is value free. Quite simply, this is not the case.

Economics differs from the natural sciences in that the data upon which its conclusions are based includes the human element which is unpredictable, so economists have sought to base their theories on a series of axioms, statements about human behaviour which are assumed to be universally true. One basic economic axiom is that people act in a rational way to maximise their utility. This axiom rests on the assumption that we know what we want and that we know how to achieve it from all the possible alternatives. Needless to say the real world is not like that! We all know the effect of fashion, advertising and peer pressure on the choices we make, not to mention the altruistic motives of love, charity and the needs of family and friends. Not only is the basic economic axiom false, it also rests upon a value judgement about the value of human life, namely maximising utility. Despite the fact that this too is false, and that the everyday lives of Christians and non-Christians alike show it to be false, the modern world is largely constructed upon the assumption that it is true. I believe that this disjunction between theory and reality is the major source of our moral

confusion and apathy, and this is why it is in economics that the Church faces a major challenge to her prophetic ministry. Like science, economics takes too limited a view of the world, and has persuaded us that its limited view is the total picture; the Church must work with those striving to get economics based upon better foundations.

One foundation that needs to be put in place is fairness. Fairness is a central concept in all moral systems, but economists find it difficult to incorporate into their assessments because economics has no way of distinguishing needs from wants. The market responds to demands, and it is both blind and deaf to the character of those demands. Economic interpretations of welfare assume it has increased so long as one person is better off and no one is worse off - 'welfare' meaning, of course, 'material welfare'. This aggregating approach is a crude measure of welfare, and one of its effects is to blunt our sensitivity to the poor. It ignores the inequality in the increase in welfare between different sections of society, and between different parts of the world. So today we have the biggest gap for fifty years between rich and poor; economically welfare has increased, but morally it has declined.

The ethical basis of economics needs rebuilding on different foundations. Economic values are unashamedly utilitarian, and like the other bases of economic theory, this is taken to be axiomatic. Many features of modern life flow from this, the most insidious being that happiness comes from increasing consumption, be it consumer goods, clothes, food or sex. Utilitarianism has contributed powerfully to the ecological crisis because it encourages the view that the environment is to be exploited for gain, rather than to be conserved: we all see the effects of this in the ever increasing use of the private car. It has contributed to the crisis in personal morality because it places the individual firmly at the centre of concern; my happiness is what counts, and the ethics of marriage and divorce, procreation and abortion, death and dying, are shaped accordingly. It has also contributed to the re-evaluation of work. Utilitarian thinking leads to the view that we work in order to consume; the Christian conception that work is something we do because it is intrinsic to human nature, and to the development of personality, is driven out. Work is thus reduced to being a means to an end, and its nature is thereby devalued. Economic man sees work as ultimately about getting and spending; shopping becomes a leisure pursuit, and the motto of the age is *Tesco ergo sum*: 'I shop, therefore I am.' This view of work inevitably affects the view taken of the workers, who become merely part of the process of production, to be taken up and laid aside as required like so much raw material, bringing with it the erosion of job security and the consequent increase in social dislocation, apathy, drug abuse and crime.

This is enough to illustrate my theme. Different conceptions about the nature of truth and the source of value lie at the heart of the distance between Church and State. Evangelism cannot be restricted to bringing people to a personal faith,

it must also be concerned with building the Kingdom. To do this the Church must engage with the 'principalities and powers' of the age, which, as Walter Wink has said, incarnate themselves in the structures and institutions of society. We need rather less of the 'Falklands-factor', and rather more prayer and penitence. Taking on the principalities and powers is not a task for the bishops and other national Church leaders, but for every local congregation. All of us must find appropriate ways of engaging in this dialogue with those around us; prophecy is too important to be left to the experts!

Peter Sills,  
Vicar, St. Mark's, Purley

### **TOWARDS A UNIFIED THEORY OF SCIENCE AND RELIGION**

This is a summary of a discussion under the auspices of the Scientific and Medical Network which took place on February 22 1996 at Church House, Westminster. Details of the Network were given in Bulletin 19, April 1996.

The chairman, Lord Rees Mogg, briefly set the scene, recalling that, for much of history, science and religion have run on parallel lines as paradigms for the world around us. Divergence between science and religion began in the Enlightenment of the late 16th century. Robert Boyle set up a fund for lectures to be given in science and religion. Another sharp break occurred with the advent of Charles Darwin in the 19th century. Thus it is that the 'man in the street' today considers that science has 'done away' with religion.

The first speaker, the Rev'd Dr. J. C. Polkinghorne has been in the forefront of those who attempt to reconcile the scientific and religious viewpoints, and has written a number of books on the subject. Dr. Polkinghorne claimed that both science and religion hold to truth, whereas in the world outside, it is often relativism that speaks loudest. From the theological view point, every picture of God must be an idol of some sort and both science and religion can only *approach* the truth. It is often claimed that science is 'hard' truth, whereas religion gives an opinion. The price we must pay as scientists is that of limiting the aims and objectives of our studies; religion is perhaps more 'personal', a matter of trust. In fact, however, both viewpoints are motivated beliefs. For example, science is not just facts, but interpreted facts - a chosen point of view. Also, religion is not merely speculation since there are facts here also, and experiences to explain. It is a mistake to think that only objective experiences are 'real'. We need to take a generous view of things. There is value in the created world, and beauty too, but possibly the 'Grand Unified Theory' will only be found in God Himself.

Both science and religion agree that foundationalism is dead. Descartes is not viable today, and science is more subtle and supple than once was supposed. It was Polanyi's thesis that science is a personal activity as well as a community activity. Moreover we cannot look for absolute certainty in either scientific or religious models. Gödel and others have demonstrated this for science. We need

intellectual daring, not being afraid to 'stick our necks out', but always travelling. We need insight rather than proof as science and religion are separate disciplines, albeit with different concepts, but we must see them in relationship to each other.

Professor Christopher Clark, applied mathematician in the University of Southampton, was the second speaker, and opened his remarks with the question "How far must we stick out our necks?" Is it really the case that science and religion *are* separate - could they interpenetrate? Echoing Polkinghorne, Clark emphasised again that science and religion as separate domains are often portrayed in the picture of human values in opposition to an impersonal universe, which is value-free. The danger in such a separation is that spiritual aspects are suppressed. An example is consciousness, and also environmental matters. The 'Gaia myth' needs to be brought into the scientific domain. We need a holistic view because a 'machine' view denigrates. Religion has also suffered in this way because we do not often use the scientific method to explore and test its claims. Most religions put an embargo on testing and experimentation. Furthermore, claims of objectivity need to be examined, for example in Information Technology. The essence of the scientific method is that truth is inter-personal, for everyone. We all need to open ourselves to the truth, and suppress our egos, though often we do not know how to do this. We need acts of daring, since it no longer a matter of science *or* religion but of science *and* religion, leading to benefit for humanity.

In the discussion which followed, it was pointed out that the scientific method has been applied to inner experiences and the Alister Hardy Institute was instituted for this purpose. The question of prayer was mentioned. Do we sometimes delude ourselves? Scientific analysis *could* be defeating. For example, marriage would suffer from such an investigation. Values are paramount here. On the other hand, can we have such a thing as value-free science? Maybe only in scientific papers, which may be very arid as a result. Polkinghorne raised the justification for science's exploring the very large and the very small, but so often ignoring the world around and its problems. We must work against the dualist viewpoint except the dualism between the Creator and the creation.

Other points raised include that of emergence (that the whole is greater than the sum of its parts). Is consciousness, for example, an emergent property? The very complexity of the subject often mitigates against experimentation, but we must not be afraid of being opened up to reality. Professor Clark wondered, in the area of consciousness, whether it is possible to have a religious view in which the Holy Spirit interacts with the brain.

Some interaction between the chairman and the speakers was occasioned in answer to questions. For example, are pre-death experiences merely the result of ischaemia? Lord Rees Mogg could see no evolutionary advantage in such happenings; did such experiences serve a survival purpose? Polkinghorne replied that not *everything* has a survival value - "What use is our mathematical



ability for survival?" Belief often connects science and religion, but perhaps we should rather leave belief behind; stop 'believing' and start 'supposing'. Belief may be only unauthenticated conjecture.

Other comments which cannot be elaborated in detail include time, intuition, politics - where science has sometimes been prostituted in the service of state or system.

In summary, Professor Clark claimed that we are a blend of physical and spiritual - we each have science *and* religion in us. Dr. Polkinghorne claimed that religion lifts our horizons, whereas science helps to simplify the world, but at a cost. In the areas of time and of consciousness there is a long way to go, and much to work at from both religious and scientific viewpoints.

### **MATTER, LIFE AND SOUL**

This was the last of the series of dialogues arranged by the Scientific and Medical Network, and took place on 16th April, 1996. Professor Chris Isham, Physics Department, Imperial College, London was in the chair. He opened the proceedings with remarks of his own, commenting that there has been a lack of crossing the boundaries between matter and soul, but that things are now changing, even in biology. Life is more than atoms and molecules, and mind is more than matter. Even the sciences are crossing boundaries more than at one time, as evidenced by the speakers for the evening.

Professor Russell Stannard of the Open University was the first speaker, and he has done more than many to cross boundaries. He broadcasts regularly, has had a series on Radio 4, and a very successful video series "The Question is . . . ?" He has written several books to stimulate younger readers, such as the Uncle Albert books, and "Here I Am" (Faber 1992). (The video series is reviewed in *Science and Christian Belief* 1996, 8, 82.) Life on earth is dependent upon the sun, a small star of perhaps 100,000 million others within the Milky Way alone. In fact, to count all the stars in our galaxy would require every person on earth to count 20 stars each. It is a huge universe, still expanding, so we believe. How do we react to this? The Psalmist saw God in the universe (Ps. 8), but today perhaps we see our insignificance rather than the majesty of God. There seems an overabundance of everything. Why? Most of the universe is hostile to life as we know it. Weinberg claims that the more we understand the universe, the more pointless it seems. Does the so-called Anthropic Principle help us here? It suggests that there is a design of finely-tuned physical forces and constants. Implosion within stars lead to explosion, and atoms have to get out of the stars where they are made in order to lead to life eventually. How did the universe arrange this? Was it God? Is there a large number of universes, so large a number that *one* could, by chance, have produced life? The Christian and theist view is that before the Big Bang there was God. But 'before' is a difficult word to use, since there was no 'time' previous to the Big Bang. Augustine realised this long ago. The Big Bang means, firstly origins, and secondly *something* rather than

*nothing*. Alone in the created order humanity has these thoughts, and asks questions. We have consciousness and are the most complicated beings in the universe. We need to adopt two languages, the physical or quantitative, and the qualitative - pain, happiness, etc. In the future, will we evolve into super-humans? Some problems in the future will be - the question of allowing the unfit to survive against the natural order. What future awaits us arising from the Human Genome Project? On the other hand, should we concern ourselves with the future - we might indeed be transferred to another piece of hardware sometime in the future.

The second speaker, Professor Erwin Laszlo, is Chairman of the European Academy for Evolutionary Studies, among other titles. Professor Laszlo claimed that the aim of science is to raise questions rather than to search for eternal truth. But science expands in understanding as we move into greater complexity. Everything had a beginning at some time, and we ask, "How did things come to be?" rather than, "What is it?" There is a continuous evolving, and some questions cannot be answered. We have a network of causes and interactions. It is not so much upward causality, but rather a self-organising universe. Life can be considered, biologically, on a post-Darwinian view as a series of accidents. In classical terms, the genes in the genome are isolated from the environment, and can mutate. We develop as mutants, fitted for the environment. Another view is that of directed development, in which the genome is not isolated from the environment entirely. It is a question of 'top down' AND 'bottom up', and somewhere consciousness evolved. This is not just functional, and Jung talked of the 'collective unconscious'. Looking into the future, we see a non-deterministic development in which we are *part* of the system, not above it, or over it. Before Bacon's time this *was* indeed more the view, and the separation of ourselves from the environment only became the view since Bacon. We are returning to this today. We may still create a liveable future, but we may also destroy it.

The chairman asked the speakers whether the matter of life, matter and soul could be sorted out with our present ways of thinking, or whether we need a new approach. Stannard thought that we might not recognise an explanation if we received one. We have not as yet produced a unified way of looking at a human being, and have several sets of languages. Laszlo accepted that knowledge is changing. Many scientific papers are simply ignored, and what drives science forward is what we don't know. An hypothesis will develop to incorporate an anomaly - and so progress goes on.

A question from the floor was, "What measures have we for the survival of the species?" Love is one answer, but we also see self-interest. We need to mend our ways, only possible with God's help. Laszlo replied that we are living in a support system in which our society changes much more rapidly than other, natural, changes. We must move to stop inimical processes and try to slow down change - to 'buy time'.

Other questions ranged over consciousness - have only humans got this, or is this a conceited view? Humans *know* they are conscious. What about the soul, and life after death? These had not been addressed by the speakers. Stannard felt that the 'soul' was not a helpful word to use, and Laszlo warned against dualism. Definitions are notoriously difficult to achieve.

It was an interesting discussion and, as so often, raised more problems than it sought to address. But it is good to hear that so many are thinking and talking together about such matters. All the lectures of the series were well-supported, which is a measure of the interest around.

### NOTICES AND MEETINGS

1. 'Churches Together in England' have published a booklet entitled *A Chance to Start Again* to mark the Millennium. Such a booklet is appropriate in view of our lecture this year. Copies may be obtained from Church House Bookshop, 31 Great Smith Street, London SW1P 3BN. Tel: 0171 340 0276 at a cost of 25p or £6.25 for 25.

2. The Hockerill Foundation (whose 1992 lecture was published in the April 1993 Bulletin, Number 13) has published more recent lectures, under the titles:-

*The Place of Christianity in the Curriculum* - Professor J.M. Hull, 1993

*What is and What Should Be? Vision for the Education Service* - Professor Tim Brighouse, 1994

*Education for Citizenship at the Millennium* - Professor Peter Toyne, 1995

These are available from the Hockerill Secretary, 'Ingrebourne', 51 Pole Barn Lane, Frinton-on-Sea, Essex. CO13 9NQ.

3. Each year, at St. Giles-in-the-Fields, London WC2 a series of lectures is held entitled 'Annual Bible School'. This year the series has the theme "The Biblical Use of Light", and is a series of 8 talks by Canon Iain Mackenzie, Worcester Cathedral. The lectures are on Monday evenings from October 7th from 7 - 8 p.m. Although the lectures are free, it is advisable to apply to the St. Giles-in-the-Field Trust, 26 West Street, London WC2H 9NA in advance. Tel: 0171 240 2532 or 636 4646. Canon Mackenzie is the author of *An Anachronism of Time and Dynamism of Space*, both published by Canterbury Press, Norwich.
4. *God and the Big Bang and Is There a Hope for Planet Earth?* are full-colour pamphlets produced by CPO, Garcia Estate, Canterbury Road, Worthing, West Sussex BN13 1BW. Both these items are particularly helpful for youthful - and other - enquirers. The former leaflet is written by Michael

Poole (author of *A Guide to Science and Belief*, Lion Press, 1994). Both pamphlets are priced 35p, and may be ordered in multiples of 25.

It will be of interest to readers that the science-faith discussion has been highlighted in *New Scientist*, August 10, 1996, page 46, in an article by Tony Jones.

### BOOK REVIEWS

**Robert Osserman**, *Poetry of the Universe: A mathematical exploration of the cosmos* (Weidenfeld & Nicolson, 1995, xiv + 210 pp., £18.99 [hardback] ISBN 0-297-81516-4).

This is an attractive book with a goal which is simply stated but by no means easy to achieve. Osserman has set out to lay before his readers a non-technical 'map' of the cosmos as it has been revealed by mathematical physics. Interestingly the approach he adopts is a broadly historical one. As one might expect from a Professor of Mathematics, he concentrates on the mathematical aspects of this history.

He begins, appropriately, with Pythagoras and Euclid, describing some of the major successes of Greek and Arab geometry (the science of measuring the earth). The gap between the early Middle Ages and the eighteenth century is filled by a chapter on the science of mapmaking and the notion of projection, culminating in the geometrical work of Euler. Chapter Three introduces us to Gauss and the geometry of curved surfaces. This provides a jumping off point for a discussion of non-Euclidean geometries, highlighting the work of Lobachevsky and Riemann.

With the foundations firmly laid, Osserman turns in the latter half of the book to the basic features of modern relativistic cosmology. A brief account of the discovery of the electromagnetic spectrum offers a way in to a discussion of the discovery of the expansion of the universe. This is followed by a chapter on Einstein-Minkowski space time. The book ends by exploring the relevance of topology and fractals to our understanding of the shape of the universe.

Two recurring themes stand out. One is the uncanny correspondence between the world of mathematics (a product of the human mind) and the physical universe. The other is the less-surprising but often overlooked correspondence between mathematics and artistic creativity. Osserman does not attempt to explain these correspondences. However, in drawing the reader's attention to them he succeeds in painting a more attractive picture of mathematics.

The book is lucidly written and succeeds in its aim of providing an accessible non-technical account of the geometry of space-time. Some potential readers may be disappointed by the fact that it has little to say about the more glamorous aspects of cosmology (no black holes, worm-holes in space, or wrinkles in time).

On the other hand, this omission means that the book will still be useful a decade from now when many of its competitors will have been discarded as outdated.

**Lawrence Osborn**

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**Melvin Konner, *The Tangled Wing. Biblical Constraints on the Human Spirit*** (Penguin Books, London, 1993 [First published 1982], xx + 543 pp., £7.99, ISBN 0-14-017606-3)

Certainly, the first point of interest of this book is not religion; and it is possible that its publishing, more than ten years ago, had disappointed people who had been attracted by the sub-title and its mention of human spirit. Konner proposes here a sort of inventory of knowledge about behaviour and emotional life (human and largely animal life), at the beginning of the 1980's. He notes effectively that 'the last few years have seen moments of dire confrontation between biological behavioural or social scientists over certain issues in the biology of behaviour' (p. 412), perhaps because these two fields have met difficulties in the collection of data, methodology, theory or uses. And particularly, 'human behavioural genetics is the most dreadfully controversial of all pursuits in behavioural biology, as well it should be' (p. 148).

If his book finishes by forecasting and sometimes philosophising or moralising (he appeals to a rediscovery of beauty and wonder), the main project of Konner is to present results, in genetics and behavioral science, from today or the past, and to compare them. At the end, he wants to offer a new comprehension of human nature, and particularly its limitations, the constraints which weigh on it. So the second part of this book is entitled: 'Of human frailty'.

Sections of this part receive suggestive titles: Rage, Fear, Joy, Lust, Love, Grief and Gluttony. The author always uses data from animal studies: monkeys are naturally the 'stars', with their confusing likeness to people. The question is however not the eventual common origin of monkey and man but the possibility to study mammal attitudes in particular situations, sometimes morally unacceptable for humans; this is the concept of the animal model. The following results should be kept in mind.

These studies lead not 'to deny the possible influences of genes on complex behaviour - indeed, it assigns to them more powerful influences than many thoughtful people would allow' (p. 403). But, 'in the real world, the nongenetic sources of variation on behaviour may be so large as to swamp any effects of the genes' (p. 404). This conclusion arrives after evocation of the phenomena of imprinting (Konrad Lorenz), of habituation (Stanley Schachter); after the recognition of cross-cultural process (even if behavioural scientists have their favourite societies, here probably the I Kung San from South Africa); after the showing up of the relations between these different frailties of human (with social or 'surgical' investigations); and after the studies of the roles of hormones,

enzymes. So Konner does not take position between preponderancy of genetics and preponderancy of behaviour any more than between body and soul (his book begins with a quotation of "The Marriage of Heaven and Hell" from William Blake), or between life and death. For him, the challenge of the comprehension of human nature is not to defend certain fields of science against others, but to take from these, dimensions of humanity that might lead to a better understanding of the human evolutionary response to the adaptive problem posed by the environment, in the end, analysis of behaviour, human limitation, 'can lead to an increase not only in human welfare, but in human freedom' (p. 105); in other words, 'recognizing the limitations of human nature, and the evil in it is a necessary prerequisite to designing a social system that will minimize the effects of those limitations, the expression of that evil' (p. 406).

Konner does not go further: perhaps it is not his job but that of philosophers and theologians. For a religion is more than wonder before a waterfall or at the first picture of our planet taken from the moon! That could be the subject of another book.

**Jacques Arnould,**

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**Janet Browne,** *Charles Darwin voyaging* (Jonathan Cape, 1995, 606 pp., £25, ISBN 0-224-04202-5)

**Adrian Desmond,** *Huxley* (Michael Joseph, 1994, 476 pp., £20, ISBN 0-7181-3641-1)

**Michael White & John Gribbin,** *Darwin: A Life in Science* (Simon & Schuster, 1996, 322 pp., £9.99, ISBN 0-684-81678-4)

Of the making of biographies there is no end, especially of Darwin, which seem to be produced at the rate of two a year. Biographies of Darwin's scientific contemporaries are rare so it is good to have one, or the first half, of a life of Huxley, whom Desmond mutates from being Darwin's Bulldog to his Rotweiler.

It is tempting to compare Browne's biography with that of Moore and Desmond (Penguin 1991) but this would do justice to neither. Both are based on an excellent knowledge of contemporary sources, especially Darwin's correspondence. In style Browne is more literary and restrained, not feisty like the 'dynamic duo', and is less concerned with radical political undercurrents to Darwin's life and work.

*Charles Darwin voyaging* is the first volume of a two part biography and takes one up to 1855 when he planned to write a book entitled *Natural Selection*, which was shortened to be *The Origin of Species*. Thus the voyaging includes both circumnavigating the world and moving from being an old-earth creationist of an Anglican hue to a thorough-going evolutionist.

In one sense Browne is traversing old ground, but she has focussed on Darwin as *scientist*, rather than his psychology as did John Bowlby, or his sex, religion and politics, as did Desmond and Moore. Because of this, *Charles Darwin voyaging* is a most useful biography, being written by one who is both a scientist and a historian, and puts Darwin's science in historical context. That does not mean the *human* aspects of Darwin's life are neglected, his humanity and thorough decency come to the fore. As Bishop Wilberforce wrote in the 1860's, "Darwin is a capital fellow." The biological aspects of Darwin's work are very well expounded, as is the account of the *Beagle* voyage and her treatment of Darwin's barnacles shows how the *Origin of Species* was based on incredibly detailed and almost tedious study as well as speculation. Her treatment is not without humour as she describes Darwin's fascination with the sex-life of barnacles. Darwin's relationship with Fitzroy is explored, especially his concern over Fitzroy's espousal of Anti-geology or a view of Flood Geology in the years after his return from the *Beagle* voyage. To this reviewer one of Browne's implicit revelations is just how little research has been carried out on Darwin as a geologist, especially his work in Wales, or his relationship with Fitzroy, which was remarkably good.

Suffice it to say Browne's book is both comprehensive, well referenced and an enjoyable read for both beginner and expert alike.

*Huxley* fills an important gap and like Browne's work will be in two volumes, with the first volume stopping at Huxley's presidency of the British Association in 1870. A major weakness is that the author is more anti-clerical and anti-Anglican than Huxley himself, and Desmond's negative comments here are both exasperating and detract from some superb analysis of a controversial figure. On p. xiv Desmond writes that "Thomas Henry Huxley came from nowhere" expanding this in p. 4 T.H.H.'s "was an ignominious beginning. Not for him Darwin's silver spoon" and, like Michael Meacher on himself, tries to exaggerate Huxley's roots. Compared to the Darwins the Huxleys were poor, but then so were most of the aristocracy in Shropshire, like the Mostyn Owens and the Herberts of Powis Castle who borrowed money off the Darwins. Huxley's father was a teacher at Ealing School, a minor public school, who was left penniless after its closure, thus it would be better to say the Huxleys were struggling middle-class who fell on hard times, as were Bishop J.C. Ryle's family.

Desmond gives a good account of Huxley's life, likening his method to a "cine-theory" of narration, which at times runs away with the author. Huxley is presented as both a struggling scientist and one who had to wait until he could afford to marry Nettie. His voyage on the *Rattlesnake* is well described, though it seems to reflect the character of the two naturalists that one went on a *Beagle* and the other on a *Rattlesnake*. On his return in 1851, Huxley then had to struggle to make a living as a scientist, soon 'crossing' Richard Owen and developing a mutual hatred, which goes some way to explain Huxley's antagonism to Wilberforce. However to put the Huxley-Wilberforce controversy in perspective one needs to read the parody of the "confrontation" in the *Water Babies* by Huxley's good friend, Charles Kingsley, to whom Huxley poured out his heart after the death of three year old Noel in 1860. The account of this is the most touching in the book and Huxley's comments on the funeral are very challenging

to a Christian, as is the moving correspondence with Kingsley.

Most interesting is Desmond's treatment of Creation/Evolution, which is a veritable 'curate's egg'. In one place Desmond gives a superb exposition of Huxley's debating tactics, which have bedevilled the issue ever since. "Who," he asked Darwin and Lyell, "imagined elephants flashing into being from their component atoms? . . . Yet many who were branded 'Creationists' never thought in these terms." Desmond concludes that this was "a Manichean Evolutionist *vs* Creationist slogan, us-*vs*-them . . . Few saw him changing the rules." (p. 256). Yet Desmond is still seduced by Huxley's slogans as in his treatment of the Huxley-Wilberforce dialogue. He misunderstands *Essays and Reviews* as a "critique of the Genesis myth and biblical literalism" (p. 278) - which it was not, and then reckons that Richard Owen "might have been coaxing Sam beyond the Six Days to a more informed opinion" (p. 281) demonstrating that Desmond cannot have read *Essays and Reviews*, Wilberforce's *Replies to Essays and Reviews* or Wilberforce's review of *The Origin of Species* in the *Quarterly Review* of 1860. Later for 1868 Desmond describes a lecture he gave at Dean Farrer's invitation stating "Rows of Vicars undoubtedly fidgeted as he undermined the biblical chronology" (p. 364). Much of this distortion could have been corrected by using the *Correspondence of Charles Darwin* vols 7 & 8 for the years 1859 and 1860. This demonstrates that the conflict of science and religion is so deeply embedded in the minds of many that, at times, it seems to prevent proper scholarship. Apart from this Desmond gives a fine account of the first half of Huxley's life.

Thus we have two good half-biographies, one on Darwin who seems to attract one biography a year, and one on Huxley who is overlooked. *Huxley* is a useful biography, despite its infuriating aspects and its inability to understand Christian attitudes to science. *Darwin voyaging* is a most valuable addition to the Darwin repertoire and is probably the best for presenting Darwin as a scientist. Though both are *technical* biographies, superbly referenced and full of academic footnotes, unlike Seymour-Smith's biography on Thomas Hardy, they are in their different ways easy to read and accessible to non-specialists, and demonstrate that *academic* does not mean unreadable. I look forward to the second volumes.

And, lastly, a complete biography, yet another on Darwin, by the team who wrote on Hawking and Einstein. Its virtues are that it is cheap (reduced to £8.49 in some bookshops), very readable, and is a bestseller. However it leaves me very dissatisfied and at times plain angry. The authors give a 'fleshed out' life of Darwin seeking to present both the man and the scientist. They do not succeed at either. The book is basically a rehash of son Francis Darwin's *Life and Letters* written over a century ago, with a few bits thrown in. It is said that the Darwin children were baptised in the Unitarian Church whereas Charles was baptised at St. Chad's Church in Shrewsbury and his mother was buried at Montford. On the day he was born, 12th February 1809, his older sisters went to the morning service at St. Chad's to hear the Rev'd H. Bather preach on Hosea ch. 4 verse 6. Later the Darwins gave much funding to the new St. George's, near *The Mount* at which his sisters ran a Sunday school.

The presentation of the young Darwin is especially weak and although they had at least eight volumes of *Darwin's Correspondence* (published by Cambridge Univ. Press at intervals from 1985) they scarcely use them. On the social side, the



treatment of Darwin's first love, Fanny Mostyn Owen, (who is buried in the crypt in my church) is inaccurate, silly and full of assertions which cannot be substantiated from primary sources. The account of Darwin's development as a geologist is poor. It is asserted (p. 121) that the groundwork for his geological education took place in Edinburgh. In fact, Edinburgh was of little use geologically as is shown by the very poor quality of his geological notes at Llanymynech in July 1831 and how they improved under Sedgwick's tutoring in August 1831. (This I expand in an article for the *Brit. Jour. for the History of Science* 1996.) Further, his crash course lasted ONE week not three, and Darwin left Sedgwick at Bangor not Capel Curig. Paul Barrett (1974) and Jim Secord (1991) make this clear. For his 1831 trip the authors rely on inaccurate reminiscences from his *Autobiography* rather than his notebooks or recent articles. They get the date wrong for his visit to Glen Roy in 1838, giving 1837, and simply do not grasp that Darwin's difficulties in accepting Ice Ages stemmed from his out-uniformitarianising Lyell himself! To claim that Darwin was one of the first of British geologists to give a paper on the Ice Age is simply wrong, and the 1841 paper was about the transport of boulders by icebergs not Ice Ages. Canon William Buckland of Oxford gave the first British paper on Ice Ages in November 1840, beating Darwin by two years. At the same meeting Agassiz demolished Darwin's long paper on Glen Roy in two lines. On Darwin's geology the authors have made "one long gigantic blunder". Again, use of Darwin's easily available published correspondence and scientific papers would have helped there.

The most infuriating chapter is that entitled *Battles with Bigotry*, which shows how alive and well the conflict thesis of science and religion is with some. The writers object to those who challenge the popular story of Huxley and Wilberforce, but only citing Lucas (1979) in references. A close study of Darwin's Correspondence for 1860 (vol 8) gives a very different picture of the alleged controversy with the church, and would not only put Wilberforce in a better light, but would also mention Christians like Kingsley and Asa Gray and others who accepted evolution in 1860. Dismissing Wilberforce as a "narrow-minded bigot" is an absurd description of a competent scientist, with a good grasp of both the scientific and religious aspects of evolution, and the limitations of Darwin's theory. The shortcomings of this book surely indicates where the "Battles with Bigotry" are. One expects better than this from someone of the ability of Dr. John Gribbin. In other words, read Browne's biography, or that by Moore and Desmond.

The comparison of these biographies reveal the problem of popular writing, in which careful scholarship is sacrificed on the altars of mammon.

So to conclude, read Gribbin and White to discover the problem of the popular perception of science versus religion, but not to learn anything about Darwin. Far better give yourself more time and read the other two, and wait eagerly for the second volumes.

**M.B. Roberts**

*The Rev'd M. B. Roberts is Vicar of Chirk, Clwyd, Wales and a geologist.*

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## PUBLICATIONS

	Volumes	Concluded
Journal of the Transaction of The Victoria Institute	1 - 89	1957
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