

FAITH & THOUGHT

• BULLETIN •

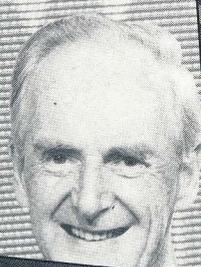
DAVID PORTER
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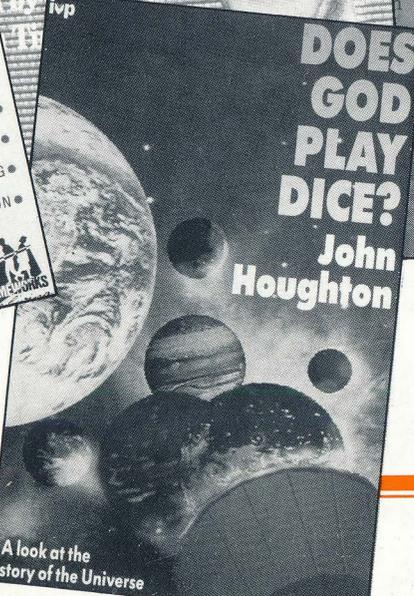
FRANK POWERS

The Open Mind
and other essays



by ivp

DOES GOD PLAY DICE?
John Houghton



A look at the story of the Universe

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NUMBER 10

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EDITORIAL

The Editor is happy to report that there has been a welcome amount of material for inclusion in the Bulletin, so that some has had to be held over. We try and keep the size of the Bulletin to 24 pages for reasons of cost. Please don't allow that consideration to deter you from sending in a contribution. We always have to delay the publication of some book reviews, which could take up the whole issue if permitted.

This issue contains the comments of Prebendary Pearce on the essay 'Who Was Adam?', and a reply by the author. Closely related to this is a paper by John Durant on 'Human Origins'. Readers may find it of interest to compare these, and Reg Luhman's essay, published in the last Bulletin. The Editor also owes apologies to Mr. Luhman for errors in the essay which were not picked up in proof-reading. These are to be noted under 'Errata'.

A letter has been received from John C.R. Upton, of Victoria, Australia. Writing to the Institute, Mr. Upton speaks of the death of his father earlier this year. Dr. Christopher J.F. Upton was a member of the Victoria Institute, certainly from 1948, and it was the V.I. which was instrumental in bringing Dr. Upton to take up a scientific post in Australia. Mr. Upton writes movingly of his father, and we of the

Victoria Institute extend to all his family our sympathy and prayers at this time.

ANNUAL GENERAL MEETING, 1991

The 1991 AGM of the Victoria Institute was held on Tuesday, May 14 at the London Institute for Contemporary Christianity, St Peter's Church Vere Street, London. About 15 members were present, and the Chairman, Terence Mitchell presided. Apologies had been received from the President, Dr. David Ingram, and the Treasurer, Mr. Brian Weller. In the case of Mr. Weller, absence was the result of a heart attack, and the meeting expressed their sympathy coupled with sincere hopes for a rapid recovery. A card expressing these feelings was signed by those present.

The minutes of the previous AGM, published in the Bulletin, Number 8, were approved. There were no matters arising from these minutes.

The election of officers followed. Dr. Ingram was proposed as President, and the names listed in the Bulletin as Vice-Presidents. Mr. Weller was proposed as Treasurer. Mr. David Williams and Rev. Dr. M.J. Collis, due to retire this year, were proposed for a further term. All these members were elected en bloc to the separate offices.

In the absence of the Treasurer, Mr. Weller, it was proposed that the accounts up to September 1989, duly audited, were accepted. This was carried out. Later accounts were not complete since, for example, the printing bill for *Science and Christian Belief* had not been received from Paternoster Press. A serious fire had delayed the firm's business. In the event, the adoption of the 1990 accounts, as an interim measure only, were proposed, and carried. It was hoped to ratify this later when complete audited accounts for 1990 were available.

The firm of Benson, Catt and Co. were proposed and adopted as auditor for a further term.

The treasurer, Brian Weller, had written with the proposition that the accounting year, normally to the end of September, should be extended to the end of December in 1991, and that therefore each accounting year should run from January 1 to December 31. This was carried by the meeting. A suggestion from the floor was made to the effect that in view of the heavy load on the treasurer, an assistant should be sought. In view of the absence of Mr. Weller, this was held over for the time being.

The chairman, Terence Mitchell outlined in his remarks the present situation of the Victoria Institute. He recalled remarks made by the past-chairman Gordon Barnes, who in 1986 had regretted the decline in membership of the Institute, poor attendances at the symposia, and increases in the cost of *Faith and Thought*. Since 1989, with the inauguration of *Science and Christian Belief* whilst retaining the Bulletin, the downward trend in membership had been reversed. In 1991 there had been an increase of 14%, and 450 subscriptions were now received annually. The depressing thoughts of 1987, when it was suggested that the Victoria Institute should be wound up, had been replaced by guarded optimism. We shall keep going—but new members are always needed, and welcome.

Mr. Mitchell paid tribute to the memory of Professor F.F. Bruce, who had died during the year. F.F. Bruce had been President of the Institute from 1958 until 1965, and Vice President thereafter. He had also been Editor of *Faith and Thought* from 1949 until 1956. Mr. Mitchell's obituary of Professor Bruce appears in the last Bulletin, Number 9.

Finally, congratulations are due to Mr. Reg Luhman, the winner of the Gunning prize essay 'Who Was Adam?', which appears in the last Bulletin also.

(Since the meeting in May, an apology for absence has been received from council member David Williams. Mr. Williams' mother died at the time of the AGM, and our sympathy goes to him and his family at this time.)

This concluded the business of the meeting, and the chairman handed the meeting to Rev. Dr. Michael Collis, who introduced the speaker for the evening. This was Rev. Dr. Ernest Lucas of Christian Impact. Dr. Lucas' topic was 'Science and "New Age" spirituality'. This proved to be a fascinating subject, and will be published in a future issue of the Bulletin.

ERRATA

FAITH AND THOUGHT BULLETIN, NUMBER 9, APRIL 1991

Two lines have been omitted.

Page 14 line 34 should read 'Even so the Jewish exegetes believed that Adam was a real person. (34) The New Testament affirms the historicity of Adam (see Luke 3.27. Acts 17.26 and especially Romans 5: 12-18)'

Page 15 line 18 should read, 'Creationists have consistently

criticized scientific dating techniques, (39) but such criticisms often involve questionable assumptions such as the existence of a water canopy around the earth prior to Noah's flood.'

COMMENTS BY PREB VICTOR PEARCE ON GUNNING PRIZE ESSAY, 1990 'WHO WAS ADAM?'

The essayist rightly refers to 'over-zealous researchers making wild claims' who resort to 'argument rather than evidence'. An example is the drawings of Richard Leakey which depict ape-men gradually walking upright from a stooping gait. No such intermediary fossils have been found. The Laetoli footprints and Australopithecus and Neanderthal men all walked upright, yet some anthropologists slip back into representing a slight stoop. It is not generally realized that upright walking required a radically different design throughout the skeleton from that of the ape. It was not a matter of straightening a bone or two. The whole frame is a different design from foot to head, from the heel and foot to the femur, the sciatic notch to the pelvis, a flat rib-cage instead of a dog-shaped keeled chest, and a backward arched spine to the occipital condyl at the base of the skull.

Anthropologists also show that hominids were not descended from apes who brachiated (swing in the trees) otherwise they would have inherited long arms and fingers. The ape has become specialized for brachiation and the essayist is correct in quoting Sir Le Gros Clark's guidelines for assessment, one of which is that 'extreme specialization may exclude a specimen from being ancestral to a less specialized group'.¹ The ape was specialized for brachiation which the hominid never was.

Another example of misguided zeal is to think that *Homo neanderthal* developed into *Homo sapiens* of the Upper Palaeolithic and therefore to ignore Brothwell and Higgs' correction to Dorothy Garrod's excavation of the Mount Carmel caves.² Throughout Europe and the Middle East, the cave strata show a ten thousand year hiatus after the Neanderthals disappeared and *Homo sapiens* appeared, but Garrod thought the *Homo sapiens* cave of Tabun followed immediately after the Skhul cave of *Homo neanderthal*. Brothwell and Higgs' re-examination revealed the same ten thousand years separating the two. Solecki's famous Shanidar cave of Irak shows the same and ten other caves of the Middle East.³ They also record an even larger hiatus before the appearance of farming man.

Concerning dating of the Oldovai skulls, the millions of years given by potassium-argon are questionable as this method can only

Correlation

SEANIDAR CAVE

excavated by R. S. Solecki

CAVES in the Middle East with a Hiatus before the Mesolithic:

- Shanidar cave
- Hazarmerd
- Babkhal
- Kebara
- Ksar' Akil
- Yabrud
- Warwasi
- Kara Kamar
- Havah Fteah
- Mt Carmel (revised)
- Adlum (Lebanon)

Caves commencing with the Mesolithic:

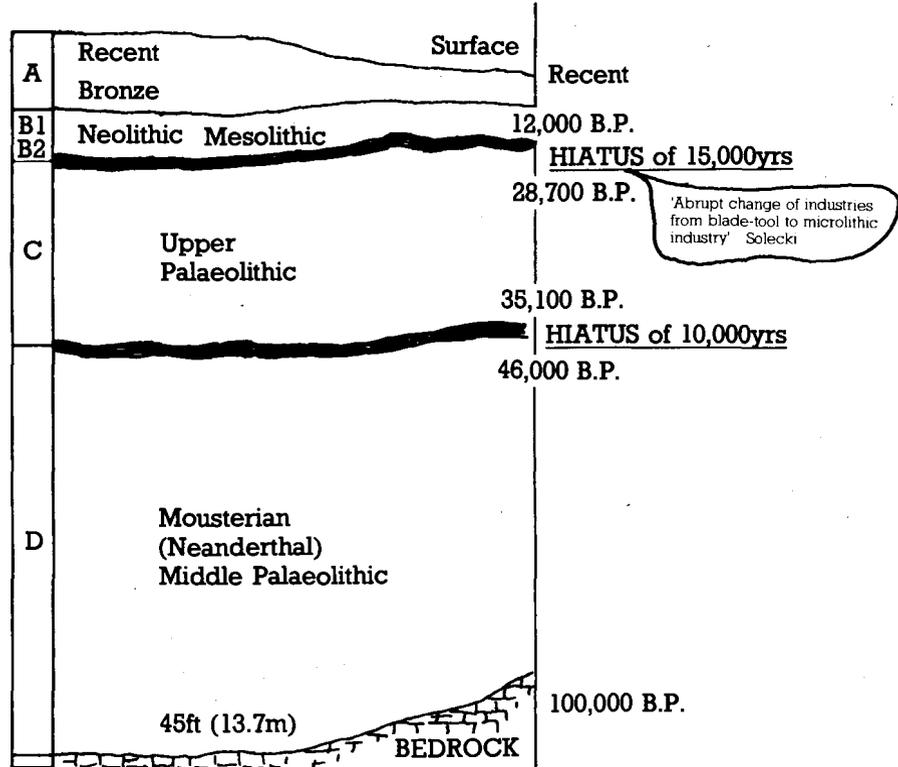
- Zawi Chemi
- Zarzi
- Palegawra
- Hotu
- Belt

Open Sites:

- Karim Shahir
- M'Lefaat
- Giro Chai

(Listed by Victor Pearce, Pitt Rivers Museum, Oxford)

Flood →
The first Farmers →
Gen. 2:8-17



accurately measure much larger dates. Also there is the problem of contamination.⁴ It also makes difficulty in correlating the African specimens with those of East Anglia which has a full sequence of the ice-age stadials in the Hoxne-Runton sequence and the Thames terraces. For example, the Swanscombe skull of the second interstadial would date 200,000 b.p. but to correlate to African dates of pluvial periods would have to date some two million years b.p.

The essayist quotes me as saying that the Flood did not reach America. My reply to questions in *Faith and Thought*⁵ could have been clearer, so let me say that the Flood affected America but left the copper-stone culture there. In examining a number of digs with several universities in the western states, I pointed out that whole populations of animals were wiped out—horses, elephants, tigers etc. which never returned to America until Europeans brought them back in recent times. Their bones appear under a stratum disjunction of the same time as the Flood in the Old World—5,000 BC. This is a consistent feature in the Wildcat Cave.^{6 7}

The essayist thinks that the Garden of Eden was not a geographical reality. As D. Kidner says in his Tyndale Press Commentary on Genesis,⁸ the description of the location is a geographical one even as the rivers named are geographical realities. The Garden of Eden was stated to be at the river sources of the four rivers. These rise on the East Turkey plateau and that is also where farming commenced as Genesis 2 depicts.

But did God create Adam in the Garden of Eden? Not necessarily. Chapter 2, verse 15 says that God created him and then placed him in the Garden to cultivate it. I think that the creation of farming man was separate from the origin of old stone-age men, and cave stratigraphy would support that. It may well be that old stone-age men, as distinct from the new stone-age farmers, did originate in Africa as the majority at the Cambridge Anthropological Conference of 1987 seemed to think,⁹ though even that continues to be fiercely debated. At that Conference, workers in four geographical areas presented evidence respectively for a *Homo sapiens* origin in the Near East, Central Europe, China and Australasia.¹⁰

The mitochondrial DNA experiments swayed the Conference towards Africa as man's origin but with a warning, i.e. 'Additional work is needed to obtain a more exact calibration'. Also, because the various disciplines were so out of correlation, the Conference stated 'Fuller interaction between palaeoanthropology, archaeology and molecular biology will allow a deeper analysis of how our species arose'.

The molecular biology that God used to make a woman by taking a

cell from Adam's side in the neolithic farming age, reveals that the Creator can spring some surprises by using both nuclear DNA and mitochondrial DNA, thus upsetting theories of modern Sadducees who 'know not the power of God'.¹¹

There is one item on which I must correct the essayist, however. There is an overall consensus of opinions in all branches of anthropology that all human beings on earth today are descended from one origin. For physical anthropology, W. Le Gros Clark said,¹² 'It is now generally agreed that all the modern races of mankind are variants of one species, *Homo sapiens*'. For social anthropologists Raymond Firth wrote, 'All living human beings are classified as members of one species, *Homo sapiens*'.¹³ For geneticists, Dunn and Dobzhansky wrote, 'It looks as though the whole human race obtained its genes from the same source'.¹⁴ Mitochondrial DNA now points to one woman as ancestor¹⁵ (nicknamed 'The Big Mama!').

The Royal Anthropological Journal reported independent computations from blood-group gene frequencies.¹⁶ Cavalli-Sforza and Edwards and also Kidd took samples from worldwide races. They all traced back to one origin. So St Paul was right in Acts 17:26.

The importance of cultural succession should not be overlooked. The Bible has got it right. The discovery of malleable native copper and iron in Genesis 4:22 is later than neolithic farming of chapter 2, and later than the building of neolithic cities of chapter 4, verse 17. (Discovered by Mellaart on the Turkish Plateau).¹⁷ Copper and iron began to be beaten into artifacts in 6,000 BC at Catenu on the Turkish Plateau.¹⁸

A literal translation should be 'He was a hammerer, a copper-worker in copper and iron'. The Hebrew, n'ghoh-sheth, means copper. The LXX correctly translates 'Hammerer', 'Sphurokopus', and 'Chalkens' means a worker in copper. The beating out of bog-iron ceased because of its toughness and was not used until the secret of iron smelting was invented, 1,500 BC by the Hittites. In the time of Moses, therefore, the mention of Hittite iron is correct, but the Hittites held a monopoly of iron smelting as a secret even from Egypt and from Israel until the eleventh century BC (1 Samuel 13:19). Who told Moses thousands of years before him, the correct cultural succession, as a background to the story of Adam's race?

1. W.E. Le Gros Clark. *The Fossil Evidence for Human Evolution*. Chicago U.P. (3rd rev. ed. 1978) 23-51.
2. Brothwell and Higgs. *The People of Mt Carmel*. *Proc. Prehist. Soc.* 1961. 27:155.
- E. Higgs. *Some Pleistocene Faunas of the Mediterranean Coastal Areas*. *Proc. Prehist. Soc.* 1961. 27:144.
3. The Shanidar cave by Solecki—see diagram.

4. G.H. Curtis. *The Problem of Contamination in Potassium and argon dating*. Schaeffer. N.Y. Springer-Verlag.
5. V. Pearce. *Faith and Thought*. 1975. 21; 1974. 228-241.
6. D.L. Cole. *Archaeological Excavations. Wildcat Canyon*. U. Oregon 1968.
7. R.D. Daugherty. *The Inter montane*. *Amer. Ant.* vol. 28. 1962.
8. D. Kidner. *Genesis*. Tyndale Press. p. 62.
9. *Cambridge Anthropol. Conf.* Mar. 23-6, 1987.
10. (*Man. Journal of R. Anth. Inst.* 1990. 25:1. 129-143). S. McBrearty. *Origin of Modern Humans*.
11. Meilars and Stringer. *Human Revolution*, Edinburgh U.P. 1989.
- V. Pearce 'Adam's cells', *Who was Adam?* Paternoster, p. 96.
12. W. Le Gros Clark. *Fossil Evid.* p. 50 (ref. 1).
13. Raymond Firth. *Human Types*. Mentor 1963.
14. Dunn and Dobzhansky. *Heredity Race and Soc.* Mentor. 1959 p. 122.
15. R.L. Cann 1987 *Mitochondrial DNA and Human Evolution*. *Nature* 325. 31-6.
16. *R A I Journal*.
17. J. Mellaart. *Catal Huyuk, a Neolithic City in Turkey*. Thames and Hudson 1967.
18. V. Pearce. *The Technological Succession in Genesis*. Thesis 'Accuracy and Authorship of Genesis'. 1981.

COMMENTS ON VICTOR PEARCE'S CRITIQUE

I am grateful to Mr. Pearce for his comments on my essay.

The Garden of Eden

I agree that many commentators believe that the Garden of Eden was meant to be an actual geographical location. Pearce quotes Kidner who wrote, '... vs. 10-14 (of Gen. 2) go to some lengths to present it as an actual, not an allegorical or mythical spot.' But notes that, by contrast, Ezek. 28 11-19 '... presents a dazzling, celestial Eden in the taunt over the king of Tyre.' (D. Kidner, *Genesis* (London. Tyndale Press. 1967) 62).

The problems of exact identification have long been recognized with the rivers Gihon and Pishon being variously identified with interpretations ranging from tributaries of the Tigris to the Nile and Indus. 'Cush' usually means Ethiopia in the Bible, although it could refer to Kassite territory in Mesopotamia. The ancients (e.g. Arrian, *Anabasis* 6.1) believed that Africa and India were once connected and some have seen this belief lies behind the idea of Eden being watered by the Nile and the Indus, and thus Eden represents the ancient world. (See B.S. Childes. *The Interpreter's Dictionary of the Bible* (New York. Abingdon 1962) 2. 22-23.)

I mentioned Jewish traditional interpretations of the Garden of

Eden. These are of variable value. Ecclesiasticus chapter 24 praises wisdom which it identifies with 'the word spoken by the Most High' and the one 'who covered the earth like a mist' and therefore presumably the Spirit of God who hovered over the earth in Genesis 1.2. His dwelling place was in high heaven and he sought a place to settle when the Creator commanded him to dwell in Israel. Later in the chapter (verses 25-26) mention is made of the rivers Pishon, Gihon, Tigris, Euphrates and Jordan, which implies that Israel is to be identified with Eden. Rabbinic tradition claimed that Eden had seven gates. The outermost gate, according to the 13th century A.D. Kabbalist commentary (Zohar), opened in the cave of Machpelah where Adam was buried. Most ancient commentaries (Genesis Rabba [5th century midrash] and the Jerusalem Targum [1st-2nd century A.D.]) claims the gate opened on Mount Zion.

This view has the support of many modern scholars and, although he believed in a literal Garden of Eden situated in Mesopotamia, Calvin was prepared to accept this view as a possibility. (For a balanced discussion of the various interpretations of the Garden of Eden, including that of Mr. Pearce, see H. Blocher *In the Beginning* (Leicester I.V.P. (ET. 1984) 112-121.)

Pearce sought to correct me on the claim that all human beings on earth are descended from one origin. This is a view that I espouse in the essay, although I argue that the ultimate origin of the human species is probably to be found in terms of evolution. This is what I take Le Gros Clark, Firth and Dunn and Dobzhansky, whom he quotes, to mean. They are presumably not saying that the human race is a unique species specially created by God because, as far as I know, none of these authorities is a Christian who believes in special creation. All they are saying is that the modern human race is one species and that the races of mankind are not sub-species nor members of a different species or genus. They are not denying the possibility of the species *Homo sapiens* being descended from other species of animals.

REG. LUHMAN

CORRESPONDENCE

Press Release

With the purpose of reaching reconciliation as a solution to disputes, the Christian Mediation and Arbitration Service (C.MAS) was launched in London on 28 April 1990.

C.MAS, a company affiliated to the International Christian Chamber of Commerce, offers mediation based on applied biblical principles, particularly to those engaged in business and commerce. Its services are now available to Christians in pursuance of 1 Corinthians 6 and also to the public in general.

The members of the Board are Giancarlo Elia, Michael Fenton-Jones, Roy Peacock and James Lockett and the panel consists of seventy accredited mediators and arbitrators. For information please contact the General Secretary, C.MAS, PO Box 78, Greenford, Middx. UB6 0JR, tel. 081-903-8290.

Dear Mr. Robins,

I hope you don't feel it is ungracious of me to record that I am most unhappy with this tape (of Rev N. Mercer's talk to the Victoria Institute, Bulletin 8, October 1990) and with other efforts by theologians, like Gordon Wenham for instance to accommodate interpretation to evolutionary belief. Their expositions are seriously at fault and open to serious criticism, not least of arrogance.

This reflects, I fear, a trend in Victoria Institute publications, and those of the associated Christians in Science group to smother and censor non-evolutionary beliefs and contributions. One notices the inclusion, for instance, of an anti-creationist member on your committee. The result will be, I fear, the setting of idealistically unreachable standards *only* on those who write critically of evolutionary conclusions, and the result will give the impression that there are no scientists of non-evolutionary conviction who are of high intellectual competence. It would be far more commendable if the position the Victoria Institute used to hold were reverted to, and the committee were self-critical enough to realize this tendency, and seek to redress it, rather than to make a position credible by piling up the number of semi-establishment members, professors and the like, who are prepared to commend it. There was a hint of what might be done in the proposed (but apparently aborted) visit of some from the USA who were seeking to establish that there are two competing belief systems in conflict in this issue . . . a word of warning from someone who has valued very highly the Victoria Institute might be useful.

Yours sincerely,
J.E. HOLLINS

REVIEW ARTICLE

HUMAN ORIGINS

John Durant (editor), Oxford Science Publications, Clarendon Press, Oxford 1989, pp. 147 £25.00

In the autumn of 1984 a series of lectures was given in Oxford under the auspices of the University Department for External Studies. The title of the series was *Human Origins* and eight lectures were given on the general theme of the scientific study of human evolution. The lecturers were chosen as experts in their own particular field by Dr. John Durant, staff tutor in biological sciences in the Department. After the completion of the series, the lectures were revised, and then published in book form with Dr. Durant as editor, under the same title as that given to the series.

There were eight lectures in the series, but there are nine chapters in the book because the contents of the first lecture were divided into two to form the first and last chapters of the book.

The editor in his preface defines the scope of the book as follows:

Modern science deals with only a very few questions that are truly fundamental. Three of the most outstanding are: What is the nature and origin of the universe? What is the nature and origin of life? and what is the nature and origin of humankind? The first of these questions constitutes the subject matter of cosmology, while the second and third belong to the domain of evolutionary biology . . . This book is concerned with the origin of humankind (p. v).

The first chapter is by Richard Dawkins, the Oxford zoologist and author of *The Blind Watchmaker*. His subject is 'Why any study of human origins must be Darwinian'. He writes with great enthusiasm and is anxious that his readers should understand exactly what is meant by natural selection. He regards this concept as Darwin's main and lasting contribution to the study of human origins. Dawkins defines natural selection as a process which is gradual in its appearance, continuous in its operation and cumulative in its effect.

Michael Day, an anatomist at St Thomas's Hospital Medical School, reviews the fossil evidence for human origins in the second chapter. He calls his concept of human origins the 'mushroom' theory and he summarizes this concept in the form of a diagram (p. 13). As well as discussing the osteological finds, he draws attention to the significance of the footprints of three hominids found at Laetoli, south of Olduvai in Tanzania. These footprints suggest that hominid bipedalism appeared earlier in prehistory than had been previously thought.

'The strange and complex world of the genome' and its contribution to the study of biological evolution is discussed in the third chapter by Alec Jeffreys of the Department of Genetics at Leicester University. He points out that the scope of molecular biology in this area is limited because it can only examine the genes of living organisms and so can tell us nothing about the possible succession of any hominid ancestors. Attempts to recover DNA from fossil remains have been made, but it is not known whether DNA survives in them to any significant extent. Molecular biology can, however, demonstrate genetic relationships between living beings and so define the relationship between living primates. Jeffreys believes that evolution is ultimately a genetic process and that molecular biology can supplement other studies in the field of evolution by shedding light on the types of molecular processes which may have altered genes during their evolutionary history.

The fourth chapter is by Richard Leakey of the National Museum of Kenya in Nairobi, who describes the recent fossil finds in East Africa. He first draws attention to the problems facing the study of human evolution. One of the greatest of these is the paucity of the fossil material available. A good number of fossil specimens are known, but they are mostly fragmentary and incomplete. Another major problem is that of nomenclature, including the definition of a species in general and of the human species in particular. A still further problem is the significance of the geographical distribution of the material so far discovered. Finally, there is the question of fossil dating. After considering these problems, Leakey goes on to discuss the recent fossil specimens found in East Africa, where he is himself at work in the field. He ends with a brief consideration of the part that archaeology may play in the understanding of early human behaviour patterns.

In the next chapter, Christopher Stringer of the Department of Anthropology in the British Museum (Natural History) looks at the problem of the geographical distribution of fossils which Leakey had mentioned. He begins by defining the criteria he uses to recognize the 'modern' morphology of the species of *Homo sapiens*. Then he surveys the various areas in which significant fossil finds have been made in Africa, Asia, Australasia and Europe in order to try to answer the question of whether *Homo sapiens* had a single or multiple location of origin. On the evidence available he finds in favour of a single origin (the so-called Noah's Ark theory), with Africa as the most probable location, a suggestion which was originally made by Charles Darwin and Thomas Huxley.

The author of the sixth chapter is Adrienne Zihlman of the

Department of Anthropology in the University of California. She discusses the question of the possible common ancestor of humans, chimpanzees and gorillas. She begins by reviewing the history of the search for the 'missing link' which in its earlier stages was based on osteological studies. Zihlman then proceeds to use clues from anatomical and genetic sources to construct a family tree. She concludes that the pygmy chimpanzee (*Pan paniscus*) most closely resembles the common ancestor she sought. This species is rare today and is found only in a small enclave of the basin of the Zaire river.

The seventh chapter is concerned with the contribution of archaeology to the study of human evolution. It was written by the late Glynn Isaacs, who was professor of anthropology at Harvard University until his death in the year following the Oxford lecture series. He presents a table showing the differences between modern humans and chimpanzees (p. 109). Then after a brief look at the anatomical and physiological differences set out in this table, he concentrates on the behavioural differences which he suggests are more important. These include the presence of social organization, reciprocal personal obligations and language. He suggests that light may be thrown on the origin of these human behavioural characteristics by the study of the ecology of the present-day African savannah communities.

The subject of the eighth chapter of the book is 'The origins of human intelligence'. The original lecture formed the last of the series and was given by Richard Passingham of the Department of Experimental Psychology in the University of Oxford. He begins by saying:

It is plausible that evolution could have created the human skeleton; but it is hard to credit that it created the human mind. In just a few million years, evolution came up with sapient man, a creature unlike anything the world had ever known. The mental gap between man and ape is immense; yet evolution bridged that gap in a short space of time (p. 123).

He then reviews the various morphological and functional differences between the brain of humans and chimpanzees which might explain the mental gap between them. Three are related to the size and development of the brain and three concern the way in which the brain acquires information during postnatal development. He suggests that these differences explain the increased efficiency of the organization of cerebral function and the improvement in the processing capacity of the brain which allow humans to profit by education by their fellows and to adopt language as a means of communication.

The second part of the lecture with which Richard Dawkins inaugurated the series forms the ninth and final chapter of the book. Its title is 'Darwinism and human purpose'. He divides the concept of purpose into two parts which he distinguishes as Purpose Type 1 and Purpose Type 2. Type 1 he explains as the variety of purpose which can be accounted for by natural selection on the basis of survival value. Thus some characteristics of a living animal may appear to be best explained by invoking the purpose of a designer, but in fact they can be accounted for by the working of the principle of the survival of the fittest. So although such characteristics may look as though they were designed by a clever mind with a purpose in view, no such purpose needs to be postulated. Dawkins calls this type 'pseudo-purpose'. Type 2 purpose is an adaptation evolved by natural selection by which the human brain has acquired the capacity to recognize and retain what may have survival value for the human species. He recognizes, however, that many humans seek goals which are the expression of purpose but which cannot be regarded as having survival value. This means that, in his view, natural selection has produced a survival machine (i.e. man) which has become too clever by half, and has over-reached itself so far as its original Darwinian purpose is concerned. That purpose was to preserve and propagate our genes. However, the provision by natural selection of a capacity to set up goals, originally intended simply to propagate our genes, was a flexible one which could be used to set up other goals. This is how Dawkins explains human behaviour of both desirable and undesirable kinds. Nevertheless, he feels that all is not yet lost, and he ends his chapter (and the book) with the following comment:

There are *some* grounds for hope. That same flexibility, versatility, and foresight, which threatens us by throwing away our stately Darwinian evolution into runaway overdrive, could also be our salvation.

It will be obvious from the outline of the book just given that it is well worth while reading. It gives an up-to-date and succinct account of the current state of thought about human origins from the point of view of neo-Darwinianism. However, there are some aspects of the book which call for comment.

The title chosen for the book (and for the lecture series which preceded it) is too pretentious and gives a misleading impression of the contents of the book. Any adequate account of human origins must include consideration of the origin of life, the human body and the non-material part of man (whatever term we may use to describe it), and also the human environment. It is not satisfactory to banish the latter to the domain of cosmology as the editor does in his preface.

The origin of man in modern scientific thought has come to be very much bound up with the origin of the universe and the human environment in the discussion of the recently-introduced concept of the anthropic principle. This principle maintains that if the universe was in the slightest degree other than it is, then man could not have appeared in it. Nor is it satisfactory to say nothing about the origin of life, but simply to accept its existence and proceed from there. If there had been no life, there would have been no man and the problem of human origins would not exist. In spite of its title, this book is concerned only with the origin of the human body. Even when one of the lectures does discuss the origin of the human mind (in chapter 8), it is in the physical terms of the anatomy and function of the brain. To explain the origin of the human body is not to explain the origin of a human being, who consists of more than a physical body. In view of the understandable concern of the book with fossils, it has been suggested that a more appropriate title for it would be Human Remains rather than Human Origins!

The next comment on the book is that its authors show no recognition of the ambiguities of terminology which arise in any discussion of the subject of the origin of humankind. One ambiguity is in the use of the term *evolution*. In its Darwinian sense, which is the sense in which it is used in this book, this term means change brought about by means of natural selection, which is believed to explain the existence of the complexity of all life and living things without recourse to any other explanation or cause. There is no doubt that natural selection occurs, for its operation is readily observable in nature. The classic textbook example is that of the melanotic change which was observed in the peppered moth (*Biston betularia*) in industrial areas where soot blackened the tree trunks on which the moth rested. The appearance of dark forms of the moth rendered it less visible to its enemies and so increased its chance of survival. On the basis of this phenomenon and other similar ones, the conclusion is drawn that in this process of natural selection acting upon genetic mutations we have the explanation of all the changes in living things which may or may not enhance their chance of survival. Furthermore, these changes are believed to be responsible for the diversity of living things which we see in the world, and so natural selection is regarded as the means by which human beings came into existence, the method by which they were created.

There is, however, a further stage in the interpretation of the significance of natural selection. This is when the principle of natural selection in itself invested with the power of creation so that it can create living beings, including human beings, without the need for

any other agency or the intervention of any other power. This means that the key to the origin of living beings in nature, including man, is to be found in nature itself, which is the belief at the basis of the philosophy of naturalism.

It is clear then that there is an ambiguity in the use of both the word evolution and the phrase natural selection. Both of them can be used in three senses, i.e., to refer to an observable fact of nature (sometimes referred to as microevolution), a theory which seeks to explain the origin and diversity of all living things (macroevolution), or a philosophy which finds the explanation of nature within nature itself (which is referred to as evolutionism). It is important to bear these different senses in mind when considering the subject of evolution through natural selection or any other means. This is not done in this book where the term is used predominantly in the third sense of evolutionism, and no indication is given of the other possible meanings of the word. The result is that the impression is given to the reader that since microevolution is a fact, evolutionism must also be regarded as a fact, a conclusion which by no means follows.

Another term which is used ambiguously in this book is the word law. Dawkins speaks of 'the problem of how the simple laws of physics, unaided by any supernatural designer, could have given rise to the organized complexity we call life' (p. 1). Later in the book he speaks of 'the Darwinian law' (p. 138). In both cases he means that category of law which is a description of what is observed to occur in nature, and now what is obliged to occur by the operation of the kind of law under which people live in human society. The laws of physics could never have given rise to life, but they could describe the conditions in which life might have arisen from some specific cause. Likewise, 'the Darwinian law' could never produce any living organism or its characteristics, though it might describe how they may arise. A simple illustration of a law of nature may be seen in Boyle's law which states that the pressure of a gas is inversely proportional to its volume. This is a general statement based on the observation of the behaviour of a gas, but it does not oblige a gas to behave in this way as a judicial law would do, with the subsequent imposition of appropriate penalties for failure to obey the requirement of the law. In short, natural law is descriptive, whilst judicial law is prescriptive. It is unfortunate that the same word is used in both cases because it gives an authority to the description and interpretation of natural phenomena which is misleading. In the present context, the ambiguous use of the word law gives the impression that what is termed a law can actually create living things, which, of course, it cannot do.

The contents of this book can be divided into facts and speculations. It is important to distinguish between these two categories in assessing their significance. The existence of fossil remains such as bones is a fact, unless these remains turn out to be artefacts like the Piltdown fossils which were 'discovered' in 1912 by a dentist, called Charles Dawson, and called *Eoanthropus dawsoni*, but were proved to be fraudulent in 1953. There are references to many authentic discoveries in this book and their existence must be accepted as factual. But facts frequently need interpretations and there are many interpretations and speculations in this book, some well-founded and others not so well founded. Facts cannot change, but their interpretation, and the speculations based on them, may and do. This needs to be borne in mind when reading the two chapters by Richard Dawkins which are the least factual and most speculative in the book.

We have already indicated our welcome to the book as an excellent account of the present state of palaeoanatomy, but the editor makes a larger claim for the book and its contents than that. In his preface he writes as follows:

I believe that the contributions contained in this book represent some of the best things which can be said today about the fundamental question of why, and how, we came into existence (p. viii).

When the book is considered in the larger context suggested by this quotation, it becomes clear that this claim is made in total disregard of the relevance and importance of any contribution which might be made by disciplines other than those which are usually classified as 'sciences'. The authors appear to be unaware that some of their statements are philosophical and theological rather than scientific, and are based on assumptions not derived from science, which they neither acknowledge or discuss. In the final chapter of the book, Richard Dawkins seeks to give an account of the nature and origin of human free-will, human evil, human purpose and even human hope without any reference to the contribution of philosophy and theology to these subjects. It need hardly be said that these subjects are not such as persons with a purely scientific training can claim any special competence to deal with. Nor can a scientist claim any special competence in discussion of the *why* of human existence in spite of the editor's claim quoted above. Dawkins' view that the human body came into existence 'to preserve and propagate the genes that ride in it' (p. 137) is a purely reductionist speculation about the reason for man's existence. It is like explaining the reason for the existence, function and value of a famous painting in terms of the chemistry of the pigments used in its production. Such a view may be

true from the narrow perspective of molecular biology, but it is not adequate to account for all the other functions of the human body and the human being. An adequate account must concern itself with the whole of the human being and include contributions from other disciplines in addition to those of science. In particular, there must be contributions from those disciplines which have been much concerned with the description and understanding of human nature, purpose and destiny.

Dawkins specifically excludes the work of 'a supernatural designer' in his explanation of the origin of life and of humankind (p. 1), and wrote his book *The Blind Watchmaker* in an endeavour to show that such an explanation was unnecessary. In other words, he has no place for God or religion in his view of the world. However, what has escaped his notice is that his view is just as much based on faith as is a belief in God. To believe that God does not exist and that man was 'created' by natural selection is just as much an act of faith as to believe that God does exist and that he created man. Furthermore, from the point of view of science, faith is a matter of probability, and it is much more probable that the marvellously organized complexities of life and living things were the creation of a designer's mind than that they came into existence by chance. It is also more probable that the occurrence of genetic mutation and the operation of the principle of natural selection were the creation of a designer's mind than that they arose by chance.

What has just been said may be put in another way which demonstrates that we are dealing here with a confusion of logical categories. Creation in this context is a theological or philosophical category not a scientific one, whilst evolution is a biological category and not a theological or philosophical one. Creation describes an act by an agent, whilst evolution, whether by natural selection or any other means, describes the method or process by which the act is carried out. On this basis there can be no conflict between belief in divine creation and acceptance of evolution as a possible method by which such creation was carried out. Conflict only arises when evolution is transferred from the category of biological concepts to that of theological or philosophical concepts. When this is done, evolution becomes no longer simply a method of creation, but the agent performing the act of creation. This means that evolution is no longer a biological concept, but has become a theological or philosophical concept, which must be judged by appropriate criteria which are not those which can be applied by science.

A final comment must be that it is interesting to find in a scientific textbook some of the characteristics which scientists sometimes

allege are true of philosophers and theologians. First, there is the dogmatism which is illustrated in the title of the first chapter (by Dawkins), 'Why any study of human origins must be Darwinian'. Then, there is the use of the *argumentum ad hominem*, i.e., if you cannot defeat his argument, then attack the personality of the man. This is illustrated by the editor's comment:

Anyone who reads these chapters and still refuses to admit the relevance of Charles Darwin's theory of natural selection to an understanding of human existence must be beyond the reach of rational argument (p. v-vi).

The editor also speaks of one or two people who attended the lectures and who asked questions which queried the validity of the evolutionary perspective on human origins. He dismisses these people as 'mud-slingers' (p. viii), which presumably means that he and the lecturers were unwilling to allow the validity of the concept of evolution to be questioned and discussed. This is another indication of the dogmatism to which we have just referred.

To sum up, then, this book as a scientific book gives an excellent account of the present state of study of human prehistory, and presents evidence which must be taken into account in any explanation of the origin of humankind. However, as a philosophical and theological interpretation of the evidence, the book presents only one interpretation (that of evolutionism) and completely ignores the contribution of disciplines other than scientific ones to the understanding of the origin, nature and purpose of humankind.

JOHN WILKINSON

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BOOK REVIEWS

L. B. Brown, *The Psychology of Religion: An Introduction*. SPCK, 1988. 150 pp. £6.95

The study of the psychology of religion has not always been the 'Cinderella' amongst the specialties of psychology. At the end of the 19th century, some of the most eminent psychologists such as William James made it their central concern. Since then, however, it has been largely eclipsed by other areas of the subject. From 1960 it has seen a revival, and Professor Brown's book documents the renewed interest for the non-specialist.

The author's aim is to show 'how psychological methods and theories have been used to interpret or understand religious belief and practice' (p. viii). He succeeds admirably; his whole approach is characterized by a perceptive selection of examples of recent work. This he presents simply, clearly, and critically. As a guide for someone who wishes to delve more deeply into this whole topic, his book provides not only key journal references, but also suggestions for further reading, in an appendix.

Some of the psychological interpretations of religion which enjoyed wide publicity in the past are treated fairly, but set in their proper perspective. Thus, the Freudian notion of God as a father-figure is judged against the actual evidence for its support. Brown concludes (p. 6) 'Without a great deal of additional evidence, it is unreasonable to assume that talk of God as a father expresses an unusual psychopathology about one's natural father'.

The work is well stocked throughout with interesting and useful nuggets of information from surveys of religious beliefs and practices. This fits in well with his own position, which is that (p. 15) 'Any psychology of religion must be built and data gathered by using such methods'. Dealing with specific topics such as church attendance he is able to conclude (p. 48) that 'those who go to church at least once a week are more similar in religious terms to equally-regular attenders in other denominations than they are to infrequent attenders in their own denomination'. One could, of course, say that we knew that already, aware as we are of the closer links we have with our devout Roman Catholic brethren than with nominal adherents to our own denomination. Professor Brown recognizes that there is relatively little that is counter-intuitive from empirical studies in the psychology of religion, yet such studies are necessary if a firm data base is to be built against which various theories of the psychological functions of religious belief and practice can be tested. Brown is certainly not naively impressed by the 'facts'. He comments that (p. 50) 'it is not helpful to know that bishops are, on average, two inches taller than the clergy'!

His chapter on 'Religion and Personality' is particularly helpful. At the end of each chapter the author gives a summary, and on this particular issue he writes (p. 61) 'there is little support in studies of the links between personality and religion for a direct or simple relationship between them ...'. He also sympathetically, yet searchingly, exposes the recurrent evidence for hidden agenda concealed beneath overt claims made for why religious individuals or groups do this, or that. Thus, when discussing religion and social life, he notes (p. 65) '... belonging to a "special" group can itself be

rewarding and improve one's perceived social status, or increase one's sense of belonging to a community'. In the same chapter, he lays bare the shakiness of the oft-made claim that religion is a compensation for deprivation—a view espoused by Marx and Freud. He comments (p. 70) 'The evidence for a deprivation theory of religion is, however, weak'. Moreover, elsewhere he is quite ready to assert (p. 82) 'Many psychological explanations often disregard more obvious reasons'.

There are a number of pervasive aspects of the author's general treatment. First, he indicates how changes in the psychology of religion frequently reflect changes and methods in mainline psychology. Second, he notes how much evidence indicates how often religious belief and practice tend to be separate aspects of religion. Third, he returns frequently to the distinction between extrinsic and intrinsic beliefs. Those who hold the former tend to *use* their religion, the others to *serve* it. In this he reflects Gordon Allport's 1950 comment that 'religion should be less of a servant, and more of a master in the economy of life' (quoted on p. 111).

All in all, this is an excellent introduction, written by one who is a leading worker in the psychology of religion, and who writes as a committed and practising Christian.

MALCOLM JEEVES

John Peters, *Frank Lake, The Man and His Work* Darton, Longman & Todd, London. 1989. 250 pp. Paperback £12.95

Eleven years ago, (1979) a member of my family was diagnosed schizophrenic. I learnt a great deal in subsequent years about mental illness. It was very disappointing during this time to discover that the Christian Churches did not appear to be interested in the mentally ill and those who cared for them, particularly their families. In 1987 a family with the same interest as mine in mental illness founded the Association for the Pastoral Care of the Mentally Ill, an ecumenical organization of lay and ordained people. When this book was put into my hands I found it was about theology and psychiatry and I began to read it with enthusiasm. Very quickly I realized that I should have to be very determined if I was going to finish it. John Peters tells the story of Frank Lake and the Clinical Theology Association.

The object of the Clinical Theology Association is the furtherance of training in the World Council of Churches of pastoral care especially in the training of those whose concern is with persons

suffering from spiritual and emotional distress, from psychoneurotic and psychotic illness, from personality disorders and the like (this special concern being referred to as clinical theology) and the provision of facilities for care and counselling.

The first part of the book deals with the life of Frank Lake. He trained as a doctor in Edinburgh gaining his MB, Ch.B. and later his DTM at Liverpool. He went to India in 1939 as a missionary. He gained a DPM (Leeds) and a MRCPsych in 1973. In the fifties encouraged by Donald Coggan he worked to have his ideas on clinical theology made a regular part of training in theological Colleges and also a part of post ordination training.

The second section of the book is a collection of personal view points. He was a very difficult man to work with because he was always so totally convinced he was right and always coming up with new ideas which needed to be worked out. Frank Lake was both demanding and ruthless and absolutely single minded. There was another side to his character, for those who needed his professional expertise as a psychiatrist were loud in his praise.

A third section deals with his seminal ideas. I am neither a psychiatrist nor a theologian and this section on the whole meant little to me. There is a need to have qualifications in both theology and psychiatry to appreciate it fully.

The final section is headed 'Conclusions' and assesses the value of Frank Lake's work and the future of the Clinical Theology Association.

At the end of the book are notes on the text; a bibliography; an index; and as an appendix the reproduction of an article entitled 'The work of Christ in the Healing of Primal Pain.'

I cannot recommend the book for the layman. The biographical section shows us a very difficult person who could gain respect but seldom love from those with whom he worked. The technical ideas may stimulate thought among those with professional qualifications. If the book is read by families with a mentally ill member it could bring hope that there are trained and concerned people in the area who could give help were the problem made known to them.

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United Kingdom Office:

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Editorial address:

A B Robins BSc PhD
185 Wickham Road
Croydon
Surrey CR0 8TF

Administration address:

Brian H T Weller
41 Marne Avenue
Welling
Kent DA16 2EY

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