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ABOUT THIS JOURNAL

FAITH AND THOUGHT, the continuation of the **JOURNAL OF THE TRANSACTIONS OF THE VICTORIA INSTITUTE OR PHILOSOPHICAL SOCIETY OF GREAT BRITAIN**, has been published regularly since the formation of the Society in 1865. The title was changed in 1958 (Vo. 90). **FAITH AND THOUGHT** is now published three times a year, price per issue £3.00 (post free) and is available from the Society's Address, 29 Queen Street, London, EC4R 1BH. Back issues are often available. For details of prices apply to the Secretary.

FAITH AND THOUGHT is issued free to **FELLOWS, MEMBERS AND ASSOCIATES** of the Victoria Institute. Applications for membership should be accompanied by a remittance which will be returned in the event of non-election. (Subscriptions are: **FELLOWS** £10.00; **MEMBERS** £8.00; **ASSOCIATES**, full-time students, below the age of 25 years, full-time or retired clergy or other Christian workers on small incomes £3.00; **LIBRARY SUBSCRIBERS** £10.00. **FELLOWS** must be Christians and must be nominated by a **FELLOW**.) Subscriptions which may be paid by covenant are accepted by Inland Revenue Authorities as an allowable expense against income tax for ministers of religion, teachers of RI, etc. For further details, covenant forms, etc, apply to the Society.

EDITORIAL ADDRESS

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FAITH AND THOUGHT

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A Journal devoted to the study of the inter-relation of the
Christian Revelation and modern research

ANNUAL GENERAL MEETING

The Annual General Meeting of the Institute for 1980 was held in the Chemistry Lecture Theatre at Chelsea College, Manresa Road, London, S.W.3. on Saturday, 17th May 1980 at 10 a.m. As the President was out of the country, the Chairman of Council presided.

The Minutes, previously published in this Journal (Vol. 106, No.1), of the Annual General Meeting held on the 19th May, 1979, were taken as read and adopted.

On the nomination of Council, the President and Vice-Presidents were re-elected for further terms of office.

The appointment of Mr. Michael W. Poole, B.Sc., co-opted by Council since the last Annual General Meeting to fill a vacancy, was formally ratified.

Dr. C.A. Russell, the Rev. Dr. M.J. Collis, and Dr. R.E.D. Clark, who formally retire from Council, were re-elected for a further period of service.

As the office of Honorary Treasurer was vacant, following the death of Mr. Francis Stunt, The Secretary to Council presented the Annual Accounts and Auditor's Report for the year ended 30th September, 1979, and these were adopted *nem. con.*

Messrs. Benson, Catt and Co. were re-appointed to act as Auditors.

The Chairman gave a report which was not a formal record of the year ended 30th September, 1979, but rather an informal outline of the current thinking of the Council.

CHAIRMAN'S REPORT

The Chairman first reported on the appeals which had been made last June to the Institute's membership and towards the end of the year to a large number of Charitable Trusts.

The response to the former had been very encouraging, in respect of both the number of replies received and the undertakings contained in those replies. Many members gave special donations, some promised regular annual donations over and above the normal subscriptions, several transferred from membership to fellowship, thus increasing their subscriptions, and others agreed to pay their subscriptions under deeds of covenant, thus increasing the Society's income. In addition, many helpful comments and constructive criticisms had been received and had been considered by the Council.

The response from Charitable Trusts, however, had been rather disappointing. This perhaps is not surprising in the present economic conditions. Nevertheless, approximately £4,500 had been received and had been invested; and the interest would be used to assist with administrative expenses. But such funds fall far short of what is needed to provide for the proposed part-time research fellowship/editorship appointment.

The response from the membership had been taken by the Council as an indication that the work should continue. But it was felt that a number of changes should be made *as finances permitted*.

Firstly, the Journal, which represents the main part of the VI's work, had been the subject of much discussion by the Council. At present, it includes a mixture of academic papers and short 'popular' notes, and probably succeeds quite well in meeting the needs of our diverse membership; but there are indications that academic libraries, which represent a significant part of our clientèle, are happy to pay for the solid meals but not for the fancy snacks. The Council had therefore adopted the suggestion from several members that the Journal should concentrate on papers and reviews (not necessarily long ones) of academic quality; while the interesting snippets should go, along with certain other items, into a News Letter, which would be sent only to members.

To guarantee the academic status of the Journal, its articles should be refereed, as circumstances permit, by competent authorities before publication, and it should be made known that such refereeing occurs. The News Letter should contain, in addition to the *News and Views* and *Short Notes* of the present Journal, members' correspondence on any current matters of relevance (not just comments on papers), and also notices of meetings, lectures, etc., of potential interest to members.

The Council appreciated the success of the Editor in minimising the effects of inflation on the cost of producing the Journal, but was aware that the quality of its production now left much to be desired. One of the first aims of the Institute must be to improve this quality.

The only realistic key to the future success of the VI is a greatly increased membership; and the Chairman once more appealed to members to do all they could to recruit further members. The Council and Officers were seeking strategic ways to publicise the Society's work through the Christian press, and through the medium of provincial meetings.

The Council appreciated the comments and suggestions that had been received in recent months from the general membership, and hoped that this wider participation in the work would continue.

The Chairman announced that the Council had reluctantly felt obliged to increase the annual subscriptions next year as follows:

Associateship	£3	
Membership	£8	
Fellowship	£10	
Library subscription (already increased, 1979)		£10

It was also announced that the date of the next AGM would be the 16th May, 1981, when it was planned to hold a symposium on Biblical Archaeology.

Lastly, the Chairman announced that the prize due for award this year is the Gunning Prize in the area of physical or biological science. But as no papers clearly falling into this field had been published in the Journal in the last three years, the Council had decided to hold a prize essay competition, the details of which would be published in the Journal (see below).

THE GUNNING PRIZE

The Council is offering a prize to the value of £40 for an original essay of relevance to the Institute's interests on any topic within the field of physical or biological science.

The entries should not exceed 7,000 words in length, should be precise in thought and language, and should, as far as possible, quote authorities for statements. Each essay should be furnished with a synopsis of not more than 200 words, which should specify what material, if any, is claimed as original.

The Council wishes to encourage young writers, whose age will be taken into account in evaluating their entries.

Essays should be typewritten, and undersigned with a motto only, which should be repeated on a sealed envelope containing the author's name and address. A writer below the age of 26 years is invited to state his date of birth also on the outside of the envelope. Entries should reach the Editor by the 28th February 1981.

The final decision on the award of the Prize rests with the Council, which may decide to withhold an award if no entry achieves a satisfactory standard or to divide the Prize if two entries are deemed of equal merit.

The copyrights of essays submitted will belong to the Institute.

Candidates will be assumed to have assented to these rules by the sending in of an essay.

NEW MEMBERS

Fellows	Dr. Laurence E. Nicholas	Edinburgh
	Phillip Miller	London E11
	Dr. John Edward Nixon	St. Albans
	Thomas R.J. Hudson	Bedford
	Mrs. Ragnhild Ann Hudson	Bedford
	Dallas E. Cain	Scotia N.Y., U.S.A.
	Richard N.F. Skinner M.A.	Exeter
	Rev. Terry Michael Griffith	London E.9.
Members	Anthony Gordon Tyers, MB, FRCS, DO,	London N.1.
	David Cecil Makepeace, BDS., LDSRCS., Dip. Theol.	Taunton
	Patrick Douglas Corke, B.Sc. in Geophysical Sciences.	N. Walsham
	Stephen Wylie	Surbiton
	Miss Susan Patricia Windebank, S.R.N.,	London SE23.
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	Samuel Nketa	Cambridge
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	Leslie Arthur Everitt	Sevenoaks

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	Rev. W.R. Sawtell	Colchester
	Fergus R. McInnes	Edinburgh
	Peter Charles Lacey	Cardiff
	Rev. David George Willis B.A.,	Wallington

SYMPOSIUM

INTERACTIONS OF CHRISTIANITY AND CULTURE

Chairman: Rev. Michael J. Collis, B.A., B.Sc., Ph.D.

Speakers: David A. Burgess, B.A. (Lecturer in Chemistry, Hammersmith and West London College of Further Education)

PARADIGMS, PROGRAMMES, AND PROGRESS IN SCIENCE

A.G. Newell, M.A., Ph.D. (Sub-Librarian, University of Liverpool)

THE LUCUBRATIONS OF MID-ATLANTIC LINGUISTIC BUREAUCRACIES: Modern Translations of the Bible and the Status of Language

David Lyon, Ph.D. (Senior Lecturer in Sociology and Social Policy, Ilkley College)

CHRISTIANITY AND MARXISM: The Aftermath of Dialogue

Andrew F. Walls, M.A., B.Litt. (Professor and Head of the Department of Religious Studies, University of Aberdeen)

RACE, SPACE, AND GRACE: The Christian Gospel as the Prisoner and the Liberator of Culture

News & Views

SHROUD OF TURIN

In this issue we print a fascinating article on the Shroud by Ronald Diprose. Quite recently a leading scholar on the Byzantine period, Professor Averil Cameron, the new Professor of Ancient History at King's College, London, spoke about the Shroud in her inaugural lecture. According to Ian Wilson who claims that the Shroud dates back to the beginning of our era, the Shroud and the Mandylion (a famous Christian relic which has not survived under that name to our day) are one and the same object but under different names. The Mandylion, she says, first appeared in Christian history in Edessa in the sixth century. But it is not mentioned in one of the most reliable reports of the siege of Edessa in AD 544, which makes it improbable that it existed at that date. In later accounts it is mentioned but descriptions of it gradually change in the course of time: first it is a painting, then a miraculously produced icon, and later again in the 8th century an imprint of Jesus's face on a piece of cloth - which is what ultimately gave rise to the suggestion that it is the Shroud. However, the Shroud has no known previous history before AD 1353, she concluded. (Reported, *Times*, 30 Ap. 1980. Discussion followed in issues of 9 and 24 May).

Since it was stated some time ago that a few threads from the Shroud had been sent to two American laboratories for carbon dating, (though Ian Wilson denies this: threads have been made available on previous occasions for less important tests), it would seem that results may have been obtained by now. But none have been recorded in the press: we have merely been informed that results of one test are being withheld for the time being.

NUCLEAR WEAPONS RACE

On Nov. 8 1979 Lord Zuckerman addressed the American Philosophical Society in Philadelphia on the subject of the nuclear weapons race. He argued cogently that the present nuclear arms race is completely irrelevant to the issue of national security, but that he, along with other scientific advisors to governments, has failed to get the point across to the politicians.

Politicians have been blinded to the irrelevance of the nuclear arms race in a number of ways. Thus ABMs (antiballistic

missiles) were widely talked about around 1967 but President Johnson discovered that all the experts agreed that no such defence against missile attack was possible. By 1972 when Nixon was President the main AGM programme was halted yet research and development continued and it continues still though it is known for certain that neither side could escape irreparable disaster in a nuclear exchange. Though some of the ABMs might be effective, enough missiles would get through to make calamity certain.

By 1964 it had become evident to those who knew the facts that more nuclear testing and development of weapons would decrease rather than increase national security, a conclusion, says Zuckerman, "I had also in all logic been driven at the start of my career as scientific adviser to the Ministry of Defence."

Another rationalisation used to keep the arms race from petering out is the notion of tactical nuclear warfare. There are no vast tracks of desert in Europe and low yield weapons of a few kilotons would cause devastation within a radius larger than the average distance between the numerous centres of population.

A state of mutual deterrence was achieved by the late 1950s. The vast increase in the size of the arsenals since that date has decreased rather than increased security. It is nonsense to suppose that a nuclear war, tactical or otherwise, would be contained. The plain fact is that each side is in a position to kill people in millions within a few minutes and to destroy countless cities, towns and villages. "Once the threshold of mutual nuclear deterrence has been crossed, there is no technical sense in the further elaboration or multiplication of nuclear weapon systems". But though the presidential science advisers and directors of defence, research and engineering recognise the truth of this fact, it has not been accepted by the politicians. Here it is the armaments experts who rule. "For it is the man in the laboratory - not the soldier or sailor or airmen - who at the start proposes that it would be useful to improve an old or to devise a new nuclear warhead". It is he, the scientist, the technician, who confuses nuclear destructive power with military strength, forgetting that "if the battle is for the hearts and the souls of men, there is no point in winning a war for the hearts of the dead." (*Times*, 21 Jan. 1980).

Attention has been increasingly directed to the harm caused by the nuclear arms race in time of peace. Accidents have taken their toll (e.g. Urals, 1957). A report from Melbourne (*Times* 6 May 1980) tells of a team of investigators who are visiting an area 45 miles north of the British test site at Emu fields where two British atomic bombs were exploded in 1953. The 45 native aborigines living there witnessed a "rolling black mist" coming towards them. Within a short time all suffered Diarrhoea and vomiting followed by a measles - like skin rash. Healthy children

became blind, some permanently, and old people began dying after five days. Later there were several cancer deaths. At the time the natives had no idea as to the cause of the black cloud: only recently have they learned of the British tests.

DEATH

Can any conclusions as to the after life be drawn from the experiences of those who have nearly died but have subsequently recovered? I. Stephenson and B. Greyson have recently asked this question (*Journ. Amer. Med. Assoc.* 1979, 242, 265; summarised in *Brit. Med. Jour.* 15 Dec. 1979, p.1530). The coverage includes near deaths from climbing accidents where those who fell expected to die, records from those who suffered cardiac arrest and other near-fatal illnesses and of those who survived suicidal jumps from the Golden Gate bridge, San Francisco (the world's favourite locality for suicidal jumps). Most of the survivors comment on the increased speed of thought, on the slowing down and expansion of time, on the absence of fear and on calmness and tranquility of mind. Many tell of a vivid panoramic memory of their past lives which they were able to review, but this applied especially to those for whom the death experience was unexpected, not to the attempted suicides. The experience of feeling that they had separated from their bodies which they could see from the outside was common. A feeling of depersonalisation was also common, as were mystical or transcendental experiences, the seeing of heavenly colours, visions, a conviction of having "entered an unearthly realm" etc. The striking agreement in reports from people covering different countries and cultures, encourages the view that they point to some continuance of the personality after death. But the authors are right in advocating caution. For, after all the near-dead are not dead.

It seems that it is only in the rarest cases that near-death experiences change mens' views about religion. M. Dobson *et.al* (*Brit. Med. Journ.* 1971, 3, 207) questioned patients whose hearts had stopped and who had suffered amnesia for up to 14 days. Returning to consciousness, an atheist said "there is nothing there" but a believer found his faith vindicated, "there seemed to be music and angels singing on the other side." None of these people changed their views about religion as a result of their experiences.

It is a noteworthy feature of these modern accounts that a fear of death is rarely mentioned. This may be because, as Geoffrey Gorer suggests, death has now replaced sex as an unmentionable. Uneasiness regarding it is often relieved by a new form of "dirty joke" ("black humour") while it is represented in art in exaggerated unreal forms and by violence in books and films to protect us from its reality. (V.C. Ferkiss, *Technological Man* 1969, p.220).

Another reason may be that suggested by Richard Spilsbury (*Providence Lost*, OUP, 1974 p.115) who claims that the fear of normal death is now outclassed by the fear created by science, both because of its warlike applications (atomic explosives, missiles, etc.) and by the humanist view of science which gives men a feeling that they are caught in "an aimless life set down in a desert of meaninglessness".

WILL-O'-THE-WISP

A fascinating article on this subject appears in *Chemistry in Britain* 1980, 16, 69) by Dr. A.A. Mills of the Department of Geology, Leicester University. It is extraordinary that for centuries chemists and others have discussed this very real phenomenon but still no concrete plausible explanation has been suggested. From a Christian point of view will-o'-the-wisp illustrates the extraordinary tendency on the part of scientists to invent dogmatic explanations even when there is no shred of evidence that they are true. Chemists have long known that crude phosphine (made from alkali and phosphorus) ignites in air and so, for a long period, school texts asserted that this was the explanation for marsh gas igniting in bogs and giving rise to the alluring flames which led travellers to their doom. The fact that no one has noted the smell of phosphine near bogs where the 'flames' play and that in fact there are no flames anyway, at least in the conventional sense (for the flames do not ignite paper and Knorr's observation that a piece of metal held in the 'flame' for 15 minutes did not even become warm), were simply ignored. Enough that chemists could think of one gas and only one which ignited.

It is difficult to avoid the conclusion that there is deep dishonesty in the way science is presented to the public and at school level. The world is full of mysteries and it is wrong to pretend otherwise.

Reverting to Willie, I am told that he may still be seen at Mildenhall Fen, and at Lakenheath Fen. There is also a place called Sutton Golf near Ely where there is a no man's land which is flooded by the river every winter but where in the summer will-o'-the-wisps can be seen from the roadside and look like sudden shoots of flame. Another informant tells me that there is an area of bog at Dartmoor where an entire army vehicle was lost some time ago and where the lights are easily visible at a considerable distance.

LYSENKO AND TELEOLOGY

Marxists have had a disconcerting time trying to explain away the sad case of T.D. Lysenko. A year or two ago Dominique Lecourt bravely attempted to undo some of the damage done to their cause.

(Proletarian Science? The Case of Lysenko, Intro. by L. Althusser, New Left Books, 1977, trans. from French edition of 1976). Lecourt, himself a Marxist, gives us as clear an account of the muddled thinking of Lysenko as one might, perhaps, hope for. Lysenko was an enthusiastic Darwinist. Darwin, for him, laid the foundations of biological science, in that he founded biology on materialism and discovered the natural causes of the purposiveness of nature which we see in the structure of the organic world (p.90 etc.)

But Darwin was also responsible for introducing two serious errors. Firstly he taught that there is struggle within a species whereas there is no such struggle. ("I affirm once more that no one has ever yet produced, or ever will produce, any scientific proof that competition within a species exists in nature.") Secondly, Darwin introduced reactionary Malthusian ideas into science which reflected the class struggle. "So we are the true Darwinists," said Lysenko, "the heirs to what is materialist and revolutionary in Darwin's work. We want to develop and rectify Darwin" (p.91).

What, then, did Lysenko put in place of Darwin's errors? It is instructive that Monod attacked Marxism as a modern form of animism. And he took his cue from Lysenko. Lysenko's ideas, to which Stalin was 100% converted, were quite extraordinary. Competition was a fiction invented by the bourgeoisie to justify the class division of society. "The rabbit is eaten by the wolf but does not eat other rabbits: it eats grass. Likewise wheat does not crowd wheat out of existence".

From this theory Lysenko deduced one of his most famed techniques. Plants were to be planted in 'clusters' or 'hills'. With Stalin's help he sought to transform nature by planting Russian rubber dandelion (*kok-sagyz*) and forest trees in this way.

His aim was to assist the plants, he said. He made the peasants plant, for example, 100-200 dandelion seeds in one hole. There were so many of the seeds that when they began to grow their enemies, the weeds outside the 'hills', could make no headway. Marcel Prenant in 1949 talked to him about this procedure.

"I admit that young trees should be planted in a cluster; they may thus be better protected at first; but is it not necessary to remove some of them after a few years?"

"No," replied Lysenko, explaining: "They will sacrifice themselves for one." "Do you mean, I replied, that one will turn out to be stronger and the others will weaken or perish?" "No", he repeated "they will sacrifice themselves for the good of the species" (from p.96. Also quoted by Medvedev).

Here it is evident, as Lecourt notes, that "for struggle, Lysenko has substituted sacrifice: theology is decidedly the inseparable companion of teleology. The apparent Marxist justification cannot mask the religious character of these passages". In addition, Lysenko sought to explain fertilisation by the concept of 'marriage for love'. Here are the words of Safonov, one of his admiring followers, on wheat:-

The wind carried a cloud of pollen. And from this cloud the plant elects the pollen suitable for it. It does not pollinate itself with just any kind of pollen. It *chooses* its pollen... We could clearly and distinctly see the operation of the most profound, important and beautiful laws that govern all living things on Earth - both animals and plants. We were not surprised at the bold and beautiful words with which Lysenko described what was going on among his wheats: "Marriage for love".

It would be hard to find a better example of how teleology, thrown out of the front door comes in at the back.

EVOLUTION IN SCHOOLS

Creationists have stirred up much controversy of late, notably in the *Daily Telegraphy*, the *Biologist* and the *School Science Review*; even the columns of *Nature* (17 Ap. 1980, 284, 588) recently devoted six columns to the anti-evolution movement in Canada. G.H. Harper of the Centre for Science Education, Chelsea College, has published two articles on the subject in the *School Science Review* (1977, 59, 258 and 1979, 61, 16), the first arguing that current teaching on evolution is indoctrinatory, the second that, in view of the lack of any compelling evidence that life forms have originated from widely different originals, it would be more honest to present pupils with a choice between belief in evolution and the *Steady State Theory of Species*. It is reasonable to ask them to keep an open mind about life in the distant past so that "the steady state theory is generally applied only to the period since the start of the fossil record." The classic text-book arguments for evolution, he argues, have all been seriously challenged, a fact which the young should know. The evolution theory is far too prestigious and it is wrong to encourage the young to think grandiosely and uncritically at school level. Indoctrinated with evolution a student who feels critical of one line of evidence for his grandiose theory will not feel free to discard the theory: he will always imagine that there may be other lines of evidence for evolution in other areas of biology which he has not yet studied. "It is surely up to us as teachers to prevent pupils and students getting into this situation... It is frequently claimed that Darwinism is central to modern biology; on the contrary if all

references to Darwinism suddenly disappeared, biology would remain substantially unchanged. It would merely have lost a little colour." (Photocopy sent by Mr. P.J. Hocking of Cardiff).

PERSECUTION OF SCIENTISTS

Historians of science tell us that, when ever in the past science began to become established it was deemed to be dangerous by the prevailing religion and destroyed. Only in the Christian religion, with its emphasis on God as Creator and on the love of truth was it possible for science to become established.

It is fascinating to see history repeating itself today. Not only are the Russians now persecuting many of their scientists, but "throughout the Middle East science is suffocated by vicious bureaucratic harassment, political persecution and intimidation, and suppression of the inquiring spirit that is the essence of science" (Z.Sardar, *New Scientist* 13 Mar. 1980 p.810). Scientists from Egypt, Pakistan, India and Korea who work in the oil-rich Arab states are being humiliated: a state of terror is widespread, many are in prison, and some have disappeared or been sentenced to death.

A later report (*New Scientist*, 10 Ap. 1980) tells of executions, without trial, of many scientists, engineers and doctors by the Ba'athist Iraqi government. Others have received long prison sentences. A prominent atomic physicist was immediately imprisoned for the crime of enquiring why a colleague had been arrested and sentenced to 10 years' imprisonment.

CRUELTY TO ANIMALS

It is gratifying to note that the New Baptist Hymnal includes a hymn (No.49) by F.J. Brailsford (1841-1921) which previously, apparently, was only in the Wesleyan Hymn Book

All things which live below the sky
Or move within the sea
Are creatures of the Lord most High
And brothers unto me.

.....

Make me a friend of helpless things
Defender of the weak.

Despite our Lord's obvious love of animals (Not a sparrow falls to the ground without your Father) the so-called Christian church in the West has tended, over the years, to encourage cruelty. Islam, on the contrary, though cruel in other ways, frowned on turning cruelty into a sport. Thus in England a hand

bill, dated Ap. 27, 1702 promises the spectacle of a bull "with Fire-works all over him, and two or three cats ty'd to his tail, and dogs after them." (Quoted by B.B. Evans, *The Natural History of Nonsense*, 1947, p.167.) John White's *A Rich Cabinet with Variety of Inventions* (2nd ed., 1653), a book which Isaac Newton read when a boy, tells "How to make dainty sport with a Cat" (p.5) - some of the suggestions being revoltingly cruel. In Roman Catholic countries such cruelties continue (e.g. bull baiting in Spain) (Fox hunting is, perhaps, in a different category).

Today cruelty continues, but often under the protection of science or commerce. In her Presidential address to the Psychology Section of the BA in 1978, Dr. Alice Heim commented on scientific malpractices involving "experiments that demand the infliction of severe deprivation, or abject terror, or inescapable pain, either mental or physical, on the animals being experimented upon." Scientists often replied, she said, that animals had grossly inferior nervous systems and did not suffer in the same way as humans. "It seems strange that psychologists of this persuasion should continue to claim that their work with rats is germane to human psychology", she commented.

A recent report by the Royal Commission on environmental Pollution found that on some farms the conditions in which animals are kept is "repugnant" (Hugh Clayton, *Times*, 4 Feb. 1980).

In other countries wild life is suffering increasingly - elephants, especially, since the rise in ivory prices in 1972. In Africa, where 1,300,000 elephants are scattered among 35 countries, the "killing methods have become increasingly cruel". Poachers are poisoning water holes with battery acid, fruits on which the animals feed are being poisoned with insecticides, elephant hunters are leaving their wounded quarries to die slowly and corrupt officials are turning a blind eye to ivory exports in excess of legal quotas. (*Times*, 23 Ap. 1980, based on a four-year study by I. Douglas-Hamilton). In Uganda where, in two national parks 12,000 elephants lived 7 or 8 years ago, only 310 are now alive. The poaching which was extensive during the Amin regime, still continues unabated and elephants in Uganda are now in danger of extinction. (*Times*, 8 May 1980.)

EARTH'S MAGNETISM

The dates of a number of potters' kilns associated with ancient palaces in Crete have been previously estimated by archaeologists. They have now been redetermined more accurately by thermoluminescent dating. The dates (i.e. of the last time they were fired) vary between BC 2000 and BC 1300. When particles of magnetisable minerals (usually magnetic) are heated past their Curie point, as happens in the firing of a kiln composed of clay but containing

minute specks of the mineral, they lose their magnetism but on cooling through the Curie point they are magnetised once more in the earth's field. The intensity of the resulting magnetisation measures the strength of the earth's field when a kiln was last fired. Wall materials from the potters' kilns have been examined and it has proved possible, by this means, to measure the earth's magnetic field over a period of 700 years of recorded history. For three hundred years after BC 2000 the earth's field turns out to have been slightly weaker than at present, but by BC 1500 it had nearly doubled. (*Nature*, 1980, 283, 54).

It is clear that the intensity of the field is subject to many slow and apparently erratic variations, apart from changes in direction and complete reversals which again do not take place at regular intervals. American 'Creationists' often argue that since the intensity of the Earth's field is now falling, (about 0.1% per year - *New Scientist* 3 July 1980, p.4) it must have been vastly greater in the past. Extrapolating backwards they claim that around 10,000 BC its value must have been exceedingly high, too high to be believed. Therefore the age of the earth cannot exceed 10 or 12 thousand years.

DISHONESTY IN SCIENCE

Cases of dishonesty in science are being reported with increasing frequency. A Letter in *Nature* (275 313) announced the discovery of an exciting way to remove plutonium from the body by using two chelating agents instead of just one. The junior worker, S.K. Derr fooled his senior collaborator J. Schubert (both of Hope College, Holland, Michigan) into thinking that the results he had written up were genuine. The discovery seemed so important that hundreds of thousands of pounds were spent in other laboratories in attempts to confirm and extend them. (*New Scientist* 4 Oct 1979 p.3). When, repeatedly, other workers failed to confirm the work they tended to question their own competence rather than the original supposed findings so that exposure was delayed.

Cyril Burt: Psychologist by L.S. Hearnshaw was published last year (Hodders, 1979, 370pp., £8.95). In this we learn that in his diary, written when he was an Oxford undergraduate, Burt wrote, "My purpose in life concerns primarily myself. It is to produce one perfect being for the universe." Though his life was not all bad, for he was extremely helpful to those with whom he had no disagreements, the dishonesty in his scientific publications was extensive, the wonder being that he took so little care to cover his tracks. He even left incriminating diaries and tapes. (See also this JOURNAL 106, 18.)

SEEING IS NOT BELIEVING

In a charmingly written collection of lectures given in Australia and New Zealand in 1975 by Professor P.A.M. Dirac, one of the better known founders of 20th century physics, the author tells the story of the discovery of the positron (positive electron) (P.A.M. Dirac, *Directions in Physics*, Wiley, 1978).

Dirac's mathematical researches suggested to him that such particles might exist. But in those days, in the 1930s, only protons, electrons and neutrons were recognised. Dirac tells us that he just did not dare suggest that there were positive electrons too! However, another physicist (Weyl) *did* say this.

But how strange it was that the physicists had never found them! Why had they not been discovered? "I think the only answer to that question is that they were prejudiced against new particles" says Dirac.

In fact physicists had seen them not once but many many times. They showed up in the cloud chamber tracks but were taken to be ordinary electrons moving in the reverse direction. No one noticed that the tracks often went *into* radioactive sources, which could hardly have been sucking in electrons from surrounding space. Final proof came only when physicists were definitely on the look out for the new particles.

The positron story, by no means the only one of its kind in science, reminds us of the Gospel words - "You may look and look but you will never see" (Mt. 13:13).

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SHORT NOTES

Our Father. Helen Oppenheimer (Letter, *Times*, 4 Feb 1980) draws attention to the coincidence that resistance to the idea that God is masculine now coincides with the habit of talking to God as if He were a person like ourselves. "Until recently we had the Thou forms in our liturgy and the capital H in print to signal that the Deity is more than a straightforward human being ... Perhaps it is not too late to preserve these clues in our speaking and thinking. In an egalitarian age we need them in a way in which those who were first taught to call God Abba did not."

Abortion. In many discussions on this subject the main issues at stake are overlooked, says Professor W.H. Thorpe (Letter, *Times* 7 Feb. 1980). "What is of supreme value to mankind is the existence, not of ova and sperm, but of persons." When ovum and sperm "come together, the *basis* for a human person is provided" but not a person. "A foetus which has barely started to be able to coordinate its senses, and certainly cannot make choices, cannot be described as a person. The miracle of person building comes gradually, not by sudden fiat; but in it parental care and love will later play a crucial role". Serious risk to the mother's health cannot be considered the only justification for abortion "the future infant should surely be considered as well", especially if the parents are not prepared to play their proper role.

Babylon. The exploration and restoration of ancient Babylon by the Iraq State Organization for Antiquities and Heritage continues apace, the present series of digs being scheduled to last for eight years. It is intended to rebuild a number of the ancient buildings and preserve the city largely as a museum. A hitherto undiscovered temple of the god Nabu (biblical Nebo) has been discovered. Professor D.J. Wiseman has been examining inscribed tablets found in one of the rooms. They were mostly written by young scholar scribes at the beginning of their education. They were written at about the time of the Jewish exile and Daniel and his friends may have been taught in the very room. (Reported by D.J. Wiseman, *The Witness*, May 1980, p.147). The Iraqi News Agency reports that difficulties occasioned by underground water seeping into its foundations from the Hella river, a branch of the Euphrates, are being experienced. To save the city it will be necessary to lower the water level by 20 metres. Experts are considering how best to meet the situation. (*Times*, 25 Jan, 1980.)

An 'Eye for an Eye'. Correspondence in the *Daily Telegraph* on this subject proved interesting. It appears that Jews have never understood the command "an eye for an eye and a tooth for a tooth" in a literal sense. The idea behind it was taken to refer to monetary compensation for an injury. Moshe Davis (11 Aug 1979)

points out that the Aramaic (Targum) translation of the OT which preceded the Vulgate by several centuries uses a word which means "in exchange for".

Psychology of Early Evangelicalism. Those interested in the Psychology of religion should not miss Philip Greven's *The Protestant Temperament: Patterns of Child-rearing, Religion and the Self in Early America*, (Alf Knopf, NY, 1977.) With amazing candour, it tells of the spiritual struggles of passionately devoted Christians, such as Jonathan Edwards, Cotton Mather, and Michael Wigglesworth, who sought to subdue the flesh in a society where all expression of anger, etc. even among small children, was forbidden. The frequent quotations, some originally written in shorthand, convey a vivid sense of the suffering Christians have endured as a result of their longings to follow their Lord -- suffering which, however needless it may seem to us, God will without a doubt honour in the day of judgment. Often no conscious sin was involved. Wigglesworth suffered agonies from such experiences as -- "Night pollution escaped me, notwithstanding my earnest prayer to the contrary" (p.131).

An End to War? Before his death not long ago Dr. Christopher Evans, speculated on the effects of computers on war and war-like intentions. "The computer can handle and integrate a far greater amount of data than any human, no matter how experienced, and so is in a better position to judge the outcome of a man made decision than is man himself." Moreover, fed with reliable data, its predictions are "objective and realistic, unaffected by emotional bias, prejudice and hunches." With the development of technology Evans thought it likely that when ever data are fed into a computer, the answer comes out; "You will loose if you start a war". He thought that this factor had already kept the world free from major wars in recent years and that a computer was responsible for USA withdrawing from Vietnam: at the present time computers prevent USA and Russia from attacking one another. (*New Scientist*, 6 Sept. 1979, pp.728-30)

Cause of Delinquency. Delinquency in boys is commoner in large families than in small. The usual explanation is that overcrowding, poor nutrition and neglect by parents is commoner in large families than in small. A more old-fashioned but more Christian explanation might be that evil is contagious: where there are several boys in a family the chances that one will be delinquent will be greater than if there are but one or two, and he will tend to influence the others adversely. Evidence for this second view -- the contagion theory - has been published by Prof. David Offord of McMaster University, Canada, who, with his colleagues, has found that the brothers of delinquents score higher on a rating of anti-social features than do the brothers of a control group of boys. (*Brit. Jour. of Psychiatry*, 1980, Feb. p.139)

Arms and Poverty. The Brandt Commission (Herr Brandt with 17 experts from industrialised and developing countries) boldly links the poverty of the third world with grossly excessive armaments spending: 70% of all exports of armaments exported by industrialised nations now go to the third world which in 1978 spent 14,000 million dollars on them. About 80% of all arms spending is still on conventional weapons. The Commission views with dismay the prospect that within 20 years between 30 and 40 nations will be in a position to make nuclear weapons. The Commission's conclusion is that "more arms are not making mankind safer, only poorer". (*Times* 19 Feb. 1980)

Stonehenge. "Modern society is obsessed with romanticising of ancient societies and making them as capable as ourselves" says Dr. John Patrick (reported in *Times* 22 Mar. 1980). In particular the theory that the builders of Stonehenge were able mathematicians, even by modern standards, and knew a lot about astronomy has become quite an orthodox view. Dr. Patrick has measured 65 stone circles in Ireland and England and tested the dimensions against the theory that precise mathematical measurements were incorporated, against the alternative and older view that no mathematical skill was involved. His conclusion, reached after three years research at Monash University, Melbourne, is that though the builders of these ancient monuments, such as Stonehenge, were skilled in moving large pieces of rock around, there is no evidence "for them having any great mathematical skills at all." Professor C. Wallace, involved in the research, concurs. The popularity of the conventional view is partly due to its sensational nature, perhaps, but partly too to the discredit it seems to throw on traditional religion. If there were brilliant scientists around in ancient days, may not some at least of the biblical miracle stories be a garbled retelling of what the scientists accomplished in those far off days?

Food and Population. A document entitled *World Conservation Strategy*, published by the International Union for the Conservation of Nature and Natural Resources (IUCN) gives a vivid picture of the spoliation of nature that is going on at the present time. Deserts are expanding by 23,000 square miles a year. The world's farmland totals about five million square miles but in developed countries 1200 square miles "are submerged every year under urban sprawl". In Japan there was a 7% loss of agricultural land in the 1960-70 decade due to building and road construction. It is estimated that by AD 2000 one third of arable land will have disappeared. Bad farming and lack of conservation of forests are as serious as urban development. More than half of the arable and forest land of India is affected by some sort of soil degradation. In the normal way it takes over 400 years to regenerate a third of an inch of topsoil. Timber harvesting world-wide is expected to triple over the next twenty years. Tropical rain forests will have diminished by half in AD 2000 and at the present rate will disappear altogether in well under a century. Over exploitation

is causing the rapid collapse of the world's fisheries. Thus, by AD 2000 food resources will be drastically cut but by this time, if present trends continue, the world population will have increased by nearly a half to 6000 m. Urgent measures are obviously necessary to save the world from starvation, quite apart from war. Will warnings fall on deaf ears? (*Times*, 27 Mar. 1980.)

Molybdenum and Life. Francis Crick and Leslie Orgel (*Icarus* 19, 341) suggested that because life (especially plant life) makes use of molybdenum instead of commoner elements such as chromium, it probably originated somewhere in the galaxy where molybdenum is common. M. Whitfield (Letter, *New Scientist* 10 Ap. 1980) points out that molybdenum is leached out of rocks far more readily than chromium and that, despite its rarity, its concentration in the sea is higher than that of chromium. This effectively nullifies the Crick-Orgel argument.

A Notable Conversion. Eldridge Cleaver was recently interviewed on TV (Credo, ITV at 6.0 p.m. on 27 Ap. 1980). As a black Panther terrorist, rapist and hate-monger he was first led to think that there must be a God when he began to rear a family. He reflected on the wonderful process of reproduction and felt that it must point to a God behind the scenes. One night he gazed at the moon and thought. First he seemed to see the dark and horrid shape of himself in its mountains. Then the vision changed and he saw images of his old heroes -- Marx, Engels, Castro and Chairman Mao appearing in succession. Finally a new and unexpected hero took their place. It was Christ. And from then on he became a Christian. He still calls himself a revolutionary: Christ he describes as the most revolutionary person who ever lived.

Sex Education. Writing on sex education (Letter, *Times* 22 Feb. 1980) Lady Scott writes - "The really ignorant and irresponsible are those who think that 'facts' are truth, irrespective of how they are taught, when, and to whom; who think that 'facts' cannot be used to deceive and corrupt. It is a fact that Yehudi Menuhin, playing the violin, is scraping the entrails of a dead sheep with the hair of a dead horse, but it is hardly the musical education we wish our children to receive".

Early Hominids. Footprints in volcanic ash in Tanzania, dated between 3.6 and 3.75 m years ago, have been examined (*Nature*, 1980, 286, 385). Most were made by animals, but three trails made by hominids apparently walking upright were studied. The depth of the impressions made by various parts of the feet show a pattern of transfer of weight and force through the foot which is very similar to that of modern man. (For a reconciliation of such findings with the Bible see Victor Pearce, *Who was Adam?*, reviewed in this JOURNAL 1971, 99, 74).

DISCUSSION

EVOLUTION V CREATION

We have received several comments on the material published in this JOURNAL on the above subject (106 No.1.)

Dr. H.T. Laycock (Pietermaritzburg, S. Africa) writes "In the Barnes v. Radcliffe-Smith controversy I am staunchly behind Barnes every time. I find it much easier to believe in creation by evolution under the direction of almighty God than to postulate a series of creational miracles to fill in the process where ever there are awkward gaps to be bridged". He reminds us of Milton's picture of a lion struggling to get out of the rock in which it had been newly created, much as a butterfly gets out of its chrysalis.

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Mr. Dallas E. Cain (Scotia, USA) draws attention to a neglected book (not mentioned in Bernard Ramm's *The Christian View of Science and Scripture*) by Frederick Hugh Capron with the title *The Conflict of Truth* (Hodders, 1902; 9th ed. 1930). In this large, elegantly but verbosely written work, two chapters (11 and 12) deal with early Genesis. In common with S.R. Driver (*Expositor*, Jan 1886, p.25) the author rejects the gap theory (see this JOURNAL 1945, 78, 13, 21), the day - period theory of J.W. Dawson and others, and the vision theory "adopted and accommodated, with great eloquence and skill" by Hugh Miller.

Capron distinguishes contradictory theories - the "Carpenter-theory of Creation" (Herbert Spencer's wording) which ignores "God said" in favour of "God made" and the "explanatory hypothesis" which emphasises "God said". It is unlikely, says Capron, that God in each case did *two* things - speaking and making.

The "and it was so" and "God made" clauses are better taken as "explanations" of God speaking. On this basis (not very easy to understand?) he attempts to reconcile Genesis with Victorian science - much of it culled, not from reputable scientists of the day, but from Herbert Spencer. The elegant presentation must have made the book impressive in its day - it is still worth reading even though the Nebula Hypothesis, the ether theory and even gravity as the basis of chemistry, are largely forgotten.

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Mr. J. Wilson (Edinburgh) writes to express concern at the wide disagreement among Christians concerning evolution ("This last number of *Faith and Thought* is almost one long bickering among Christian scientists") and urges us to remember an article by

C.S. Lewis (*The Funeral of a Great Myth*) in which he drew attention to the danger not of belief in evolution, but in the myth of evolution: the myth that evolution results in improvement. More often than not (J.B.S. Haldane is quoted) it leads to decadence or extinction. The myth of evolution is having a devastating effect on the world-view of non-Christians today. Christians who are scientists should treat their differences as a private matter "but on the question of the myth, close your ranks in complete opposition."

[The V.I. provides a forum for discussing differences in a kindly spirit. The Editor tries his best to avoid polemics: he apologises if he has failed. Apart from the historical review, only 15 pages out of 88 in 106(1) were concerned with differences between Christians -- Ed.]

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Mr. Glyn Harman (Ashford MDDX), a research mathematician, and one of the younger members of the V.I., sends us a long article in which he asks "why Christians differ so greatly in their views on theistic evolution and creation." He does not take sides, but seeks to help both parties see their own weaknesses and the strengths of their opposites as well as suggesting the possibility of future cooperation for their mutual benefit. Among the points he makes are:

- (1) In our day of specialisation the knowledge required to reach a fair decision is unattainable for most Christians.
- (2) On most important issues the two sides agree. (God is the Creator; life is not the result of chance; with full knowledge available no contradiction between science and the Bible is possible; God is all-powerful; in some way a literal Adam represents humanity; there was a literal Fall; God planned man before He created the universe, etc.)
- (3) The relatively trivial differences centre upon the timing and nature of the processes used in producing the world as we know it today, and in the creation of man in particular.

Turning to these less important details -

- (4) Gosse's *omphalos* (= navel. Did Adam have a navel suggestive of natural birth?) argument is considered. Creationists use scientific arguments in support of a recent creation. Others deny their right to do so (see J. Byrt, this JOURNAL, 103, 171) because creationists criticise scientific arguments when these support an old earth. This objection is discounted, for God may have left a few clues to hint at the real (recent) date. The mass of evidence apparently pointing to an old earth/universe is, however, a very real difficulty for creationists.

(5) The difficulty creationists experience in fighting an evolutionary bias in science, whilst still wishing to be true to the facts, should be fully appreciated and respected by their opponents. On the other hand, the most popular creationist authors often reveal ignorance and misunderstanding of science.

(6) Biblical arguments do not all support creationists. They have difficulty with Gen. 4: 14. Although Ex. 20: 8 and 31: 17 seemingly support their case, creationists are apt to overlook P.J. Wiseman's point that in Gen. 1 God gave names (*day, night, sky, seas*) which only make sense in the context of conversation with man - suggesting a six-day revelation rather than creation.

(7) Theistic evolutionists have difficulties with Adam and NT teaching on the results of the Fall. Evolution implies pre-Adamic evil in nature, yet God declared the creation good.

(8) Some allowance must be made for the fact that evolutionary thinking arose and became established in science in the highly prejudiced philosophical atmosphere of the 18th and 19th centuries.

(9) "A Christian evolutionist not only faces the problem of reconciling the Bible and science, but also the evolutionary problems of reconciling science with itself."

(10) The recognition that both sides of the debate can be guilty of being ruled by pride rather than letting God's revelation in science and the Bible speak for itself is vital. A need for Christian love, shown by both sides, is paramount.

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Mr. N.M. de S. Cameron (Edinburgh) writes:-

"Why," writes Mr. Barnes, "do adherents of the 'creationist' view feel that they must oppose the theory of evolution in order to maintain the biblical doctrine of creation?" May a 'creationist' offer a reply?

As one with theological rather than scientific training, I am deeply concerned that there are fundamental theological issues at stake in this debate that are rarely given the prominence that is their due. Scholars with a radical bent such as John Hick have been prepared to think through these questions, while conservatives have not. It seems simple enough to suggest evolution as the mechanism, or method, of creation, and believe that the matter may be left there. But surely it cannot.

Clearly there is no reason why a god should not decide to employ an evolutionary method to bring about his creation. That is not the matter in debate. If a god employed such a method there could be no objection to its being termed 'creation'. But this is not an abstract religious discussion about what a god could and could not do. It is a discussion anchored in our conviction that *the* God is *our* God, revealed in Scripture and in Christ. That means that Scripture must be seen as relevant to the debate, and that whether or not science has a place in guiding our interpretations of Scripture, Scripture must have a place in our interpretation of the rest of reality.

It is when we turn to Scripture that problems arise for 'theistic evolution', and they are problems that refuse to be swept aside by accusations of 'literalism'. Whether Genesis 1-3 is 'literal', symbolic, poetic or whatever; these chapters and the Bible as a whole teach things that are incompatible with the evolutionary understanding of origins. For example, *the problem of evil*. Genesis 1-3 is a theodicy demonstrating the goodness of God, the goodness of His original creation, and the responsibility of man for all that is wrong with it. If what these chapters say is *true* in any but a quite vacuous sense then this is their teaching. Scripture elsewhere interprets them thus, and when we consider, for instance, Romans 8: 19-22 in comparison (see Cranfield in the new *International Critical Commentary*) it is no surprise that

It was until recent years almost universally held that all the evils, both moral and physical, which afflict this earth, are in some way or other derived from the first act by which a bodily creature endowed with reason deliberately set itself against what it knew to be the will of God.
(E.L. Mascall, *Christian Theology and Natural Science*, p.32)

The evident evil in the natural order envisaged by the evolutionists millenia before any possible 'fall' is simply incompatible with this Biblical teaching. (See also, *e.g.*, Isaiah 11.)

Secondly, as a special case of the problem of evil, we have *the problem of human death*. It is extraordinary that 'theistic evolutionists' have not faced up to this problem. The consistent teaching of Scripture, in places too numerous to mention, is that human death is not natural: it is the consequence of human sin. So Cranfield writes: "That the Genesis narrative is intended as an account of the origin of human sinfulness and death can hardly be denied." (*Romans*, under 5: 12). There is an "affirmation of a causal connexion between Adam's sin and human liability to death." (N.P. Williams, *The Ideas of the Fall and of Original Sin*, p.53). Now this flatly contradicts the evolutionary explanation, which is that man inherited his liability to death from his ancestors. Any attempt to forge a harmony of these two approaches is logically incoherent.

It may seem to the Editor that 'creationism' is composed of 'strange ideas'. Let it be understood that this argument does not originate in California, neither is it eccentric or 'literalist' in its interpretation of Scripture. As a reading of Genesis 1-3 and the related texts, Williams describes it as 'the interpretation' of 'historical Christianity'. (p.viii) My contention is that here Christian theology is fundamentally in conflict with evolution and 'creationists' can hardly be blamed for pointing this out. Surely it is the 'theistic evolutionists' who must justify their position.

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Editorial comment may not be out of place.

Dr. Laycock's comments are appreciated and no doubt express the views of many readers. To imagine the sudden creation of lions and men strains the imagination. But is this because our eyes can behold only those objects which contain vast numbers of atoms? Suppose we could observe events at the molecular level, would not evolutionary steps look equally surprising?

I have previously suggested (this JOURNAL, 1943, 75, 49-71) that evolution, as commonly understood, is contrary to a universal law of which the second law of thermodynamics is a special case. The classical argument, here, is that of Clerk Maxwell whose sorting "demon" (see this JOURNAL 1967, 96(2), 3-11) opens a trap door when extra fast thermally moving molecules are coming, but otherwise keeps it shut. In this way the air on one side of a partition (say a piston in a cylinder) is heated and compressed, while that in the other is cooled and rarefied. Allowing the piston to move external work can be done. Thus the second law of thermodynamics is violated and repetition of the demon's activities ensures perpetual motion.

Now imagine molecules of different kinds in a confined space arranging themselves in such a way that chemical bonds will form, always according to plan, the resulting structure being a machine of huge complexity and in working order. For this is what we must imagine if a living cell (i.e. a cell of sufficient complexity to metabolise food and to reproduce its kind) arose by chance. And evolution (as popularly understood) involves a continuation of the process as elaborate new mechanisms (a heart to pump blood around; eyes with suitable nerve connections, muscles all properly connected with a brain, and so on) are added to the old. Events of this kind would have to be repeated millions of times over to account for the enormous complexity of nature. It would seem clear that every one of them is near infinitely less probable than a mere aggregation of hot molecules, in any positions and orientations, in one half of a container. In short, the concept of

'evolution' would seem to violate a principle underlying all science, to violate it so radically that it would be easier by far to believe in perpetual motion machines.

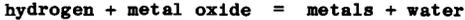
Two considerations might be argued against so radical a conclusion. (1) What about natural selection? This could not be applied to the first formation of a living organism. For later stages it would greatly reduce the improbabilities involved, yet these would remain so prodigiously small (for some attempts at calculation see H. Quastler, *The Emergence of Biological Organization*, Yale, 1964) as still to be indistinguishable from zero. (2) The Creative Evolutionist might (or would?) suggest that God has so made nature that a law of evolution emerges when matter passes a certain level of complexity. It is difficult to see in what sense the word 'law' is used here, for there is no uniformity about what will happen in evolution. Even materialistic evolutionists speak of man as unique (cf. J.S. Huxley, *The Uniqueness of Man*, 1941). How can a law which leads to unique results be thought of as a *law* at all?

It is more helpful, perhaps, to appeal to known facts, than to resort to semantic discussion. We have noted that it is much easier to envisage a perpetual motion machine operating against chance, than an equivalent machine bringing machine-like complexity into existence. If, then, God (or some hitherto undiscovered law) operates to do the more difficult task, should we not expect Him (or it) to perform the easier? Now all living organisms are in need of energy and an anti-chance (Maxwellian demon or otherwise) factor would be of incalculable value to life. Perpetual motion engines would enable creatures to escape from their enemies and to maintain life when food is scarce, etc. and would be favoured by natural selection. What then are the facts? The answer is that all creatures are capable of starving to death and that every experiment so far conducted shows that energy expended is balanced by food metabolised, or stored in reserve, in complete conformity with thermodynamics.

The conclusion, it seems to me, is that acts of creation are easier to envisage than creative evolution, but the size level of creation need not necessarily be that of the fully grown lion or man!

To some it may seem strange that if the case is as simple as this argument suggests, scientists would ever have proposed 'evolution'. But as Mr. Harman reminds us, evolutionary thinking arose in a highly prejudiced philosophical atmosphere. Indeed, perpetual motion thinking was once reckoned quite reputable, despite all Lord Kelvin's efforts! One has only to remember that Sir Charles Lyell, the geologist, whose work was universally acclaimed, seriously suggested that the energy needed for his volcanos etc. was supplied by a chemical perpetual motion 'machine'. The passage describing it in his *Principles of Geology* remained unaltered in edition after edition, even decades after the laws of

thermodynamics had been formulated (about 1850). Metals (like sodium) in the earth's crust reacted to give metal oxides and hydrogen with vast output of energy. The hydrogen was stored in (as yet undiscovered) subterranean vaults and then:-



and so the merry-go-round continued. Darwin we may be sure, like most of his contemporaries, took all this quite seriously.

Mr. Cameron has also published his views in expanded form in the March 1980 issue of *Third Way*. Discussion followed in the May issue. David J.A. Clines of Sheffield University points out that Gen. 2-3 nowhere says that Adam was created immortal. Indeed "the tree of life is a meaningless symbol in the Garden of Eden if man was inherently immortal. Further the expulsion from the garden was precisely in order to deny him continued access to this source of life, Gen. 3: 22-23". Furthermore there are no grounds for thinking that the garden represented the whole earth: had that been so how could Adam and Eve have been expelled from the Garden? And "What does the command to Adam to till the ground and keep it imply? Keep it from what? Wild destructive animals? Weeds? If the garden needs protection what is it that lies outside the garden?" In short Genesis hardly supports the Miltonic picture of Paradise, concludes Clines.

We may add that Genesis clearly implies that man was not the first to sin -- Satan, represented by the snake more subtle than any beast of the field, had sinned before. It is no doubt true that Christians in the past have held views which are difficult to reconcile with what many Christians believe today, but they derived their views in part only from the Bible. The rest came from what are, likely enough, corruptions of the story of Adam and Eve in the Garden. These have been the heritage of mankind far far back into ancient history. A Sumerian text of the third millenium BC describes the ancient land of Dilman (or Dilmun) where there was no pain. (See U.M. Kaufmann, *Paradise in the Age of Milton*, Victoria, BC 1978.)

In Dilman the raven uttered no cries,
The kite uttered not the cry of the kite,
The lion killed not,
The wolf snatched not the lamb.

The ancient Greeks adapted the story in the legend of the Golden Age when, according to Ovid "The birds in safety winged their way through the air and the hare fearlessly wandered through the fields, nor was the fish caught through its witlessness" - a state of affairs brought to an end (says Ovid) when man first started to eat meat.

In Christian tradition the Golden Age became the Garden of Eden. "How much and yet how little of Milton's *Paradise* is based on Genesis!" remarks J.E. Duncan (*Milton's Earthly Paradise*, Minnesota Press 1972). For Luther "Adam, before the Fall, never wanted to eat a partridge." For St. Basil even the rose in Eden had no thorns, a statement duly repeated by Milton:

Flow'rs of all hue, and without Thorn the Rose

Post Renaissance commentators merged biblical and classical images indiscriminately, picturing the plants in Eden as ever green, blooming and fruitful with every animal in harmony with man: no snake, insect or worm violated the peaceful scene. Commentators seriously debated whether Eve could have had corns on her toes. The notion that Eden was not a definite place but stood for the entire world was widespread - an idea obviously derived from ancient legends (see A.O. Lovejoy and George Boas, *Primitivism and Related Ideas in Antiquity*, Baltimore 1935; G. Boas, *Essays on Primitivism in the Middle Ages*, Baltimore, 1948).

Not unexpectedly Paul's teaching in Romans 5 and 8 was interpreted in the same non-biblical way, but can we believe that Paul is saying what Genesis does *not* say, that animals did not suffer or die before Adam sinned? Even in Genesis (3: 21) we read that the Lord clothed Adam and Eve with animal skins immediately after the Fall - there is no suggestion that animals were killed for the purpose. Presumably, the animals had died in the garden. Paul's teaching makes excellent sense if Babylonian and Greek mythology is forgotten. Man was appointed as guardian, custodian and worker in God's world (Gen. 1: 25; 2: 15; 3: 23 Ps. 8: 6-8) but because he sinned and was under sentence of death he could not exercise these functions as he should have. Today nature (as it were) looks forward to the revealing of the sons of God who, in God's Kingdom and with Christ as ruler will act as benign guardians of the lower creation. (Cf. Ps. 8: 6-8; Is. 11). This teaching might be reconciled either with an evolutionary or a creationist view of man's origin. The Genesis story of the origin of Eve (taken literally) seems difficult to reconcile with evolution (unless there is a hint that women existed before Eve in the words, "I will greatly *increase* your pain in child bearing" Gen. 3: 16). But it is plain that the story cannot be taken too literally in all points. The messianic hint that the seed of the woman will crush the serpent's head and that the serpent will strike his heel is far from literal. And what of the snake's punishment - "You will crawl on your belly and eat dust" (3: 14)? The passage is a strange mixture of what seems to be literal and what is certainly symbolic. To separate the two with certainty is not always easy.

With regard to Gen. 1: 31 (God looked upon what He had made and behold it was very good") it is possible that the devil may have had a hand in frustrating some of what God had done. The "very good" refers only to what *God* had made: need this include disease causing organisms?

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Copies of this discussion were forwarded to Mr Barnes and to Mr Radcliffe-Smith for comment, should they feel so inclined. No reply was received from Mr Barnes but Mr Radcliffe-Smith wrote to say that he concurs wholeheartedly with Mr Cameron. On the last paragraph he comments: "This implies that the devil too can create. But this is manifestly not so - the devil is the destroyer and despoiler. Disease-causing organisms originated with the thorns and thistles which followed the entry of sin into the world. Without God was not anything made that was made (Jn 1:3), therefore everything that was made in the beginning was very good, for God made everything." [If Jn 1:3 can be reconciled with sinful inventions by man, can it not also be reconciled by with sinful inventions by the devil? Ed.]

Galileo. The Pope is reported to have "rehabilitated" Galileo who was excommunicated 337 years ago. *Times* 26 Jan 1980. Even so, according to newspaper reports many Frenchmen have not caught up with him. According to a recent opinion poll, conducted among people over 15 years old, to the question, "Does the sun go round the earth?" only 53% said this was quite false, but 30% thought that it does! (*Times*, 21 July 1980)

RONALD DIPROSE

THE SHROUD OF TURIN

The author of this informative article is a missionary working in Italy. He surveys the present state of the evidence concerning the famous Shroud of Turin.

Considering Dr. John A.T. Robinson's reputation for scepticism over basic Christian doctrines, his readiness to give credibility to the tradition of the Turin burial shroud is remarkable¹. But Dr. Robinson is not alone. An increasing number of Protestants, as well as Roman Catholics, are taking the shroud tradition seriously. It is time to ask whether the tradition is well founded and why it is attracting so much interest.

Can the shroud tradition be trusted?

The *Gospel of John* gives enough details about Jesus' burial clothes to make it clear that the Lord was buried according to Jewish custom. His body was bound in linen cloths (Greek *othonia*, plural, indicating 'linen bandages') with the spices (*John 19: 40*). We are further informed that on the morning of the resurrection Peter saw the linen bandages lying and the napkin which had been on Christ's head rolled up near by (*20: 5-7*). No suggestion is made by John of there having been a shroud held close to Christ's body by the linen bandages and the napkin. As against this, the word used by the three Synoptists (except in the perhaps spurious *Luke 24: 12*) is *sindōn*, which could denote a garment or shroud (*Mat. 27: 59; Mk. 15: 46; Luke 23: 53* - and see *Mk. 14: 51, 52*).

Perhaps the tradition of the shroud is linked with a legendary story which appears in the so-called *Gospel according to the Hebrews*, an apocryphal work known to Origen (c.200 AD) and later writers. According to this book, which contains much obviously spurious material, Jesus, as He rose from the dead, took a *sindon* with Him and gave it to the servant of the High Priest.

Emperor Constantine's decision to show deference to the Christians' God, following his victory over Maxentius at the battle of the Milvian Bridge in 312 AD, led to the beginning of a new era for Christianity. After centuries of living as a persecuted minority, Christians now enjoyed full citizen rights and religious liberty. Within less than a century Christianity would

be the only legal religion in the Roman Empire. This sudden change in Christianity's fortunes bore all kinds of fruit. For example more secure times made it possible for the church to devote time to less important matters like collecting relics and mapping out the so-called 'holy places' of the faith. An increasing importance attributed to such things in subsequent centuries witnessed to the fact that the 'christianizing' of the Empire had in reality only produced a facade of Christian belief and a redirection of popular pagan ideas and practices.

About 333 AD a visitor to Palestine listed a number of objects considered to be Christian relics². If we accept the tradition that the Turin shroud was located in Palestine for the first thousand years of the Christian era, the complete lack of mention of it in this list is to say the least surprising, especially if one considers that the anonymous compiler of the relics list claimed to have even identified such things as a palm tree from which children took leafy branches to spread before Christ as He entered Jerusalem at the beginning of Passion week.

In the fifth century pilgrims claimed to have found the Cross of Calvary near the Basilica of Golgotha built in the time of Constantine. Some wood, said to be of the Cross, was carefully preserved in a silver casket and venerated by pilgrims. Many other objects and places associated with Christ's ministry, especially concerning the events of Passion week, began to be mysteriously located and marked off by church buildings. Such places became the 'mecca' of pilgrims. However the records still do not make any mention of the shroud.

The number of 'holy places' in Palestine continued to increase and became the basis of highly developed forms of 'christian' superstition. One of these superstitious customs appears to bear on the subsequent development of the shroud tradition. On the night of the Greek feast of Theophany (6th January) many people, among whom were Alexandrian seafarers, would gather on the banks of the Jordan river and wait for the Bishop to consecrate the water in memory of the baptism of Jesus. Before the baptismal re-enactment ceremony, the seamen collected quantities of the water which had been blessed by the Bishop to sprinkle it on their ships before they commenced voyages. After the baptismal liturgy was over all present would descend into the river to receive a blessing, wearing (and this is the point which particularly interests us) *sindones* or shrouds and other garments which they intended using at their burial³. The reason for this practice is not clear; however it is most significant that the event of this superstitious interest in burial cloths (c. 600 AD) was followed shortly after by the first recorded popular interest in Christ's burial garments.

Could the shroud have been purposely hidden?

Those who believe the Turin shroud enwrapped Christ's body during His burial sometimes suppose that it remained hidden at Edessa, a city which figures highly in Egeria's famous pilgrimage to the holy places during 414-416 AD. Needless to say, Egeria made no mention of any such relic. It is true that there is a tradition linked with this city which has sometimes been linked with the shroud. However this tradition, which incidentally appears in very different forms in a number of ancient documents⁴, does not concern a shroud at all but rather an icon which it is said Jesus had brought to king Abgar in answer to his request for healing, about 31 AD. Furthermore there is no recorded mention even of this icon before 540 AD. What does appear to be certain from a number of chronicles is that the walls of Edessa were broken down repeatedly by severe floods (in the 3rd, 4th, 5th and 6th centuries). It would appear then a most unlikely choice of a place in which to hide relics of any sort, not to mention stained linen cloth.

Evidence and a possible explanation of the shroud's origin

Photographic reversal of the lights and shadows of the stains on the Turin burial shroud reveals a lifesize front and back figure of a man who was crucified, scourged, lanced and bloodily crowned. Most Roman Catholics and an increasing number of Protestants believe that the person who left this stain was none other than Jesus Christ. Such people are usually unaware of the serious gap in the records concerning the shroud, neither have they seriously considered the possibility that the man who was wrapped in the shroud may have been someone else crucified in a less remote period of history. It is to this second possibility that we now turn our attention.

Nestorian History records that Persian astrologers had many Christian bishops crucified during the reign of Cosroe I (479-531 AD)⁵. This form of punishment was not generally used under this Persian king; therefore it would seem that the crucifixion of the bishops was a conscious attempt to teach Christ's followers they could expect to be treated as He was. Similar treatment of Christian leaders and of converts to the Christian faith occurred also during the seventh century.⁶

There is also evidence for Jews having been crucified in this period (540-640 AD), sometimes at the hands of Persians and at other times at the hands of 'Christians'. The latter dubbed the Jews 'the children of the crucifiers'. In this case as well there was a conscious effort to model this form of punishment on the treatment which Christ suffered. The crucifixion of Christians

was intended as mockery, while that of the Jews as revenge. Palestine was the centre of these terrible happenings, partly because the mutual hatred of Jews and Christians was particularly pronounced there, and partly as a result of the sack of Jerusalem, a Christian cultic centre, by the Persians in 614 AD.

The period just described is the same as that already referred to in which such interest was being shown in burial garments.

We have already noted that the Turin burial shroud appears to have contained a man whose experience of crucifixion shows strong resemblances to the crucifixion of Christ as it is described in the Gospels. It would also seem highly probable that the traces of pollen contained in the shroud originate from a plant which grows in Palestine. But that does not mean necessarily that the man who figures on the shroud is to be identified with Jesus Christ. Pier Angelo Gramaglia, after assessing the kind of evidence which we have adduced in this article and much more besides, suggests that the crucifixion witnessed to by the shroud could be one of the many which occurred in Palestine between 540 and 640 AD, in conscious imitation of the crucifixion of Christ.

Rival Shrouds

All this time we have been speaking of the Turin burial shroud as though it were unique. There have in fact been a number of rival shrouds. Knowledge of most of them is now largely suppressed so as to avoid confusion and scandal. However during the sixteenth century things were very different. Writing in his tract on relics, John Calvin observed: "He who believes that the Chambery sheet (now at Turin) is the true shroud, condemns as false those kept at Besancon, Aix, Cadoin, Treviri and Rome, which must then be considered to wickedly seduce people, making them commit idolatry"⁸.

Why is so much interest being shown in the shroud?

When I saw the Turin burial shroud in 1970, this relic which had lain encased in the Cathedral since 1578 did not draw great crowds. When the same relic was exhibited in September 1978, the crowds wishing to see it and in many cases venerate it filled the square in front of the Cathedral day after day. What accounts for this sudden interest in a relic which even the Roman Catholic hierarchy has not definitely declared authentic? What has happened in Christendom to make even Protestants change their attitude towards such things?

Here within Italy there has been a noticeable recovery of popular religious practices. Prof. Alfonso di Nola of the Oriental Institute at Naples has documented this phenomenon. He

quotes one Roman Catholic feast held at Valle Pietra in the Lazio region in which only 80,000-100,000 pilgrims participated in 1960, as currently attracting 1,200,000 people. He notes a similar return to purely pagan religious practices.⁹

During the same period Protestants have begun to attribute more importance to Church tradition than formerly. The entrance of the Orthodox churches into the World Council of Churches in 1961 is no doubt partly responsible for this. At the same time seeds of doubt concerning the final authority of God's written Word have continued to undermine the doctrinal foundations of many Protestants. If our faith is not in the living God who continues to act through the risen Christ and who makes known His will through the inspired Scriptures, then we will inevitably seek some alternative security. We may even find comfort in such weak and uncertain evidence of Christian foundations as the shroud is thought to provide.

While the recent veneration of the Turin shroud was at its height, I preached the Gospel of God's grace to a group of men at Calamonaci in Sicily. After I had spoken a medical Doctor made reference to the shroud. He believed it could make an important contribution to bolstering the faith of many in an epoch widely characterized by atheism. However when I asked him whether he felt the shroud would lead those who viewed it to a personal faith in the living Christ, he was doubtful.

If, as the Bible teaches, there is continuity and identity between the Jesus of the Gospels and the risen, exalted Christ witnessed to in *Acts* and the New Testament Epistles, the foundations of our faith will not be influenced for good or ill by the identification of objects or places which call to mind significant moments in Christ's earthly ministry. Those who believe, on the other hand, that Christ continues to live only in the memory of his followers or who believe that divine grace is made available through sacred objects and sacramental actions, are bound to attach great importance to the Turin burial shroud.

NOTES

- 1 Dr. J.A.T. Robinson has been quoted as saying "Whereas I began by thinking that it (the Turin shroud) was bogus until proved otherwise, I now think it must be considered genuine until it is proved otherwise."
- 2 This list is known as the *Itinerarium Burdigalense*.

- 3 I am indebted for this and for some other information relative to the shroud, to Pier Angelo Gramaglia, Professor of Patristic studies at the Inter-regional Theological Faculty, Turin. His series of scholarly articles on the shroud, first published in the magazine *Il Foglio* (n. 61-66) during 1978, was later published by *Claudiana*, Turin (Nov. 1978) under the title: *L'uomo della Sindone non è Gesù Cristo* (The man of the shroud is not Jesus Christ). P.A. Gramaglia's assessment is based on thorough research and a number of largely neglected historical documents.
- 4 For an attempted harmonization of the tradition, see *Narratio de imagine edessena*, 950 AD.
- 5 In *Patologia Orientalis*, Paris, 7.2, p.160.
- 6 op.cit. pp. 539, 556.
- 7 In *L'uomo della Sindone non è Gesù Cristo*, pp. 75, 76.
- 8 J. Calvin, *Traité des reliques*, Geneva, 1563, p.39.
- 9 *Credere e Comprendere* Spinetta, n.18 July 79, p.24.

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W. E. FILMER

THE HISTORY OF PROPHETIC INTERPRETATION

Christians interested in prophecy must often have wondered how and when the interpretations now widely accepted originated. Mr. Filmer traces the subject from early times to the beginning of the present century.

It was early agreed by post-apostolic Christians, that the four empires foretold in Daniel chapters 2 and 7 were those of Babylon, Medo-Persia, Greece and Rome, for thus far prophecy had been fulfilled. But as to the future, Irenaeus, about A.D. 180, quoted Daniel as saying that "The end of the fourth kingdom consists in the toes of the image seen by Nebuchadnezzar, upon which came the stone cut out without hands" (*Against Heresies*, V,xxvi,1). He also said that "the ten toes are these ten kings among whom the kingdom shall be partitioned" (*op.cit.* V,xxx,4). Thus he identified the toes of the image in chapter 2 with the horns in chapter 7, an assumption unsupported by the interpretation given to Daniel.

In the fifth century Jerome taught that the feet and toes represented the Roman empire in his own day; "For just as there was at first nothing stronger or hardier than the Roman realm, so also in these last days there is nothing more feeble, since we require the assistance of barbarian tribes both in our own civil wars, and against foreign nations."¹ This served only to perpetuate the view that the legs and feet of the image represented two successive stages in the history of the Roman empire.

Regarding these prophecies the post-apostolic church was much influenced by Paul's teaching in 2 Thessalonians 2 on "The Man of Sin" (AV), or "Man of Lawlessness" (RSV) which they identified with the little horn in Daniel 7. The Thessalonians evidently expected the return of Christ at any moment, but Paul corrected them by pointing out that other prophecies, such as Daniel 7, must first be fulfilled. So he wrote, "That day will not come, unless the rebellion comes first, and the man of lawlessness is revealed, the son of perdition, who opposes and exalts himself against every so-called god or object of worship, so that he takes his seat in the temple of God, proclaiming himself to be God" (2 Thess. 2: 3-4). Most of the early fathers

understood the temple of God to be the church, for the Greek word here is not *hieron*, but *naos*, which Paul habitually used when speaking of the church (e.g. 1 Cor. 3: 16f. etc.).

Now concerning the appearance of the Man of Sin, Paul goes on, "Do you remember that when I was still with you, I told you this? and you know what is restraining him now so that he may be revealed in his time. For the mystery of lawlessness is already at work; only he who now restrains it will do so until he is out of the way" (v.5-7). Thus Paul taught that there was a restraining power which must first be set aside before the Man of Sin was revealed. The Thessalonians knew what this was, for Paul had told them, and exhorted them in this same chapter to "Stand firm, and hold to the traditions which you were taught by us, either by word of mouth, or by letter" (v.15). Whatever errors the church may have made on other matters, here we may expect tradition to throw light on what Paul meant; in fact we have no other means of finding out.

Tertullian had no doubt on the matter: "What obstacle is there" he wrote, "but the Roman state, the falling away of which, by being scattered into ten kingdoms, shall introduce Antichrist upon its own ruins" (*On the Resurrection*, ch.24). Jerome held the same view, and John Chrysostom explained that Paul could not speak more plainly, "For if he had said that after a while the Roman empire would be dissolved, they would immediately have overwhelmed him as a pestilent person, and all the faithful, as living and warring to this end" (*Homily on Thessalonians*). Augustine confirmed that this explanation was widely held in the church. (*City of God*, XX, 19).

Thus there are good grounds for believing that Paul taught orally that the Restraining Power was the Roman empire. But to this the church added the notion that this empire would first disintegrate into ten kingdoms, that the Antichrist would arise from its ruins, and reign for three years and a half, when the Second Advent would follow. Although the Roman empire has long ago passed away, these expectations were never fulfilled. One can only conclude that they were based on false assumptions.

The basic error was that the church took Paul's words to mean that the Man of Sin would appear only after the Roman empire had been *destroyed*. He did not say that - he said taken "out of the way" (v.7). This cannot refer to the final destruction of the empire by the Turks in 1453, for that would contradict Daniel 7: 11, which says "I looked because of the sound of the great words which the horn was speaking. As I looked, the beast was slain, and its body destroyed." This shows that the little horn was first to arise and speak its great words before the Roman beast was destroyed. It follows also from this that the little horn cannot be a single individual, but a succession of persons,

or an institution such as the papacy, because it must have been revealed before the Roman empire passed away in 1453, but, according to Paul in 2 Thess. 2: 8, is not to be destroyed until the Second Advent.

The Reformers

The corrupt practices of the Papacy, such as the sale of Indulgencies, led to the Reformation, which divided Christendom into two camps. The Protestants found encouragement in their interpretation of prophecy, namely that the little horn of Daniel 7 was a symbol not of a personal Antichrist, but of the Papacy. It followed that the time period in verse 25 could no longer be three and a half years, but had to be interpreted on the scale of a year for a day, making it 1260 years. There was, however, no agreement on when it began or would end, and opinions differed on many other details. What concerns us is when and how the theory first arose that the little horn denoted the Papacy.

In the year 1071 the Byzantine emperor Romanus was defeated and taken prisoner by the Turks at the battle of Manzikert. In 1072 the Turks invaded and conquered most of Asia Minor, and established there the Sultanate of Rum. This marked the end of the Roman empire as a major power. At that time the popes were the puppets of the Holy Roman emperors, but in 1073 Hildebrand became pope under the name Gregory VII. He soon threw off the yoke of the emperor Henry IV, and established the general principles on which the super-power of the Papacy was later built.

During the next hundred years a fierce struggle for power ensued between the popes and the German emperors, until in the pontificate of Innocent III (1198-1216) the Papacy claimed supreme authority over all the world. "What power or potentate in all the world is comparable to me?" said one pope, "who have authority to bind and loose both in heaven and earth."^{3a} "If those things that I do be said to be done not of man, but of God, what can you make me but God?"^{3b} asked another. John Fox published many pages of such boasting in the 13th century canon law in his *Acts and Monuments* under the heading "The Image of Antichrist exalting himself in the Temple of God above all that is called God."

Also in the thirteenth century the foundations of the Inquisition, as an instrument for persecuting dissenters, had been laid. It was in this sequence of events that Eberhardt, arch-bishop of Salzburg, saw the fulfilment of the prophecies. About the year 1240, in the course of a hostile exchange of epithets between the pope and the German emperor, the latter had called Gregory IX the Antichrist, and Eberhardt, at a meeting of bishops, expressed the opinion that "Hildebrand, one hundred and seventy years ago, first laid the foundations of the empire of Antichrist

under the appearance of religion."^{2a}

Concerning the popes he said, "Those priests of Babylon alone desire to reign...He who is servant of servants desires to be lord of lords, just as if he were God...He changes laws, he ordains his own laws, he corrupts, he plunders, he pillages, he defrauds, he kills - that incorrigible man whom they are accustomed to call Antichrist, on whose forehead an inscription of insult is written: 'I am God, I cannot err.' He sits in the temple of God, and has dominion far and wide."^{2b} For this he was excommunicated, so little was heard of his views until the time of John Wycliffe more than a century later.

Between 1378 and 1417, there were two rival popes, one elected by the French in Avignon, the other in Rome. With these two publically calling each other Antichrist, John Wycliffe had little to fear when he declared they were fulfilling Paul's prophecy, or Daniel's vision of the little horn. But he was vague about the time period, regarding a prophetic "time" as indefinite, and symbolic of a long period.^{2c} Walter Brute later adopted the year-day interpretation for all other prophetic periods, but failed to show how the period in Daniel 7: 25 could be applied to the Papacy. In his opinion, "A time, times and half a time signify twelve hundred and ninety years."^{3c}

Military campaigns against the Albigenses in the fourteenth century, followed by similar attacks on the Waldenses and Huguenots from 1488 onwards, were seen by the Protestants as the fulfilment of the little horn making war with the saints (Dan. 7: 21). They were, nevertheless, faced with a problem when it came to applying the time prophecy.

Later, however, it was realised that the period began when the saints were "given into his hand" (v.24), which meant when the whole church was first officially placed under the jurisdiction of the bishop of Rome. Two Roman emperors had decreed that the Roman bishop was head of the church, namely Justinian in 533, and Phocas in 606. Although Thomas Brightman (about 1600) and Dr. Cressner (in 1689) favoured Justinian, most preferred the later date, and it was not until 1813 that W. Cunningham published evidence to show that Phocas in 606 did no more than confirm Justinian's earlier decree.⁴ With each of these different views on when the 1260 years began, there were corresponding lists of the ten kingdoms supposed to exist when the little horn arose. By the beginning of the nineteenth century, however, it was generally agreed by Protestants that the Papacy was the little horn of Daniel 7, and that it had appeared among ten kingdoms after the fall of the western empire in 476.

Following Cuninghame's demonstration that the declaration of Phocas in 606 was of secondary importance, most leading exponents of prophecy came to agree with the earlier view of Brightman and Cressner. Meeting at a series of annual conferences at Albury Park in Surrey from 1826 to 1830, they expressed the opinion that the present Christian dispensation would be terminated by a series of judgments during which the Jews would be restored to their own land, and that these judgments would culminate in the Second Advent which would be followed by the Millennium. Regarding the 1260 years, they agreed that this commenced in the reign of Justinian, and ended at the French Revolution.^{2d}

The Jesuits

In order to check the progress of the Reformation, and refute the Protestant interpretation of prophecy, the Society of Jesus, or the Jesuits, was formed by the Romanists in 1540. Thus Ribera published a commentary on the Apocalypse about 1590, giving the Roman Catholic viewpoint, while at the same time Cardinal Bellarmine was producing his lectures against the so-called heretics. These expositors insisted on accepting "the common opinion of the ancients" that there was going to be a personal Antichrist who would reign for a literal three and a half years. Since there had been popes for far longer than that, it was argued that the Pope could not be Antichrist. Furthermore, because the Roman empire had never been divided up into ten kingdoms according to the demands of prophecy, the Antichrist had not yet come.

Bellarmino pointed out that when the city of Rome fell in 476, the succession of Roman emperors continued in Constantinople, but he contended that when the Turks took that city in 1453, there still remained the Holy Roman Empire in the west. He declared that "by the marvellous providence of God, when the western empire fell, which was one of the legs of the statue of Daniel, there remained the whole empire in the east, which was the other leg. But since the eastern empire was to be destroyed by the Turks, as now we see done, again God raised up in the west the former leg, that is the western empire through Charlemagne, which empire endured up to now."^{2e} Following the extinction of the Holy Roman Empire during the Napoleonic wars, this theory has now become obsolete.

The Historicists Discredited

In the second quarter of the nineteenth century, the Reformers' interpretation of prophecy was subjected to a series of attacks which ultimately led to its rejection by the greater part of the Protestant church.

1. S.R. Maitland

In 1826 the Rev. S.R. Maitland published "*An Enquiry into the Grounds on which the Prophetic Period of Daniel and of St. John has been supposed to consist of 1260 Years.*" He followed this in 1829 with a *Second Enquiry* of the same kind in which he answered his critics.

He first attacked the year-day interpretation by questioning the meaning of the Hebrew word *shabua*, translated week in the Seventy Weeks prophecy. While agreeing that the predicted period was one of 490 years, he made it appear that the word translated weeks was the plural of seven, and therefore could mean seven of anything, just as the word dozen means twelve of anything. Since in Daniel 9 it evidently meant seven years, there was no need for a year-day interpretation, and if not here, there were no grounds for it anywhere else.

Concerning *shabua*, he said it was the "invariable practice" of sacred writers to express time only in days, months, or years, except when they used *shabua*. The inspired writers, he said, never used *shabua* or any other word to signify a week, except in certain cases (p.7-9). Upon examination, his list of exceptions included every occurrence of that word in the Bible. And since it is a basic principle that the meaning of a word is to be determined solely from its usage, and since elsewhere in the Bible *shabua* invariably means a week of seven days, it must mean that, and not seven years in Daniel 9, and so requires interpretation.

Maitland's next argument was based on the "seven times" period of Nebuchadnezzar's madness in Daniel 4. "Here it is admitted" he says, "that Time means a *year*, and therefore we might naturally expect that three times and a half in chapter 7 should mean three years and a half." (p.13) It is true that most of the earlier Reformers had taken a "time" in Daniel 4 to mean a year. But already in 1823 John A. Brown had suggested that the story was an allegory in which the king stands for the whole series of Gentile rulers, and that the period was one of seven times 360 years. He gave this as 604 B.C. to A.D. 1917, when it would end in a "period of blessedness."⁵

Later historicists followed a similar interpretation. Thus Dr. Grattan Guinness predicted in 1886 that 1917 would be a momentous year for the restoration of Israel. Today, following the publication in 1956 of the Babylonian account of the subjugation of Palestine by Nebuchadnezzar in December 604 B.C., we can now confirm the precise fulfilment of this time prophecy on the basis that a "time" of 360 days signifies 360 years. Thus history itself has refuted Maitland's second argument.

In his *Second Enquiry*, Maitland asserted that the year-day principle was altogether unknown during at least the first twelve centuries of the Christian era. He said that some Reformers, with more zeal than knowledge, had determined that "as the Pope did not suit the terms of the prophecy, they resolved that the terms of the prophecy should be so interpreted as to suit the Pope" (p.77). In a footnote he added "I have not seen the mystical interpretation of the days in the works of any writer before the time Walter Brute...about 1390" (p.78).

This only shows how little Maitland knew of his subject. Two centuries before Walter Brute, the year-day interpretation had already been given much publicity within the Roman Church itself, as Dr. James Todd confessed: "A strange thing it is" he said, "But no less strange than true, that the modern doctrine of the prophetic days for years ...which has been employed for the purpose of adapting the prophecies of the Apocalypse to the Church of Rome, should be found to have originated in the bosom of that Church...I allude to the celebrated Joachim, founder of the Florensian order at the close of the twelfth century." (p.453) He then quoted some recent essays which said that Joachim had taught that the period of three times and a half, or twelve hundred and sixty days, signified no less than 1260 years." (p.458)

Even Joachim was not the first, for E.B. Elliott has shown that "from Cyprian's time, near the middle of the third century, even to the time of the Waldenses in the 12th and 13th centuries, there was kept up by a succession of expositors in the Church, a recognition of the precise year-day principle of interpretation."⁷

Joachim had been dead nearly forty years when Archbishop Eberhardt first enunciated the idea that the Papacy was the little horn of Daniel 7. That was two centuries before John Wycliffe, called the morning star of the Reformation. So it is abundantly clear that this interpretation was not invented by the Reformers to help them pin the name of Antichrist on the pope. They were unable to agree on how it applied, until the time had run out in the last decade of the eighteenth century.

Maitland made much of the disagreements among historicist writers who differed not only about the time when the 1260 years began, but also in their lists of the ten kingdoms. He failed to see that by listing writers who disagreed on when the 1260 years began, he exposed the error of his own contention that the year-day theory was invented to make the prophecy suit the pope. Furthermore, if they disagreed about the date when the period began, they must also disagree about which kingdoms existed at that time. When commentators disagree, it may well be because their knowledge of history is deficient. Not all historicists knew when or how the Papacy was established, and not one was aware that two separate kingdoms of Franks, the Ripuarians and the Salians, existed in A.D. 476.

After listing the writers who disagreed on when the saints were given into the hands of the little horn, Maitland ridiculed the Protestant position with a stream of rhetorical questions: "Are the saints of the Most High so ignorant, not only of their own destiny, but of their history, as that they know not when, how, or by whom this tremendous prediction was executed? The delivery of the saints into the hand of their persecutor was surely a solemn act. "We may" says Faber, "naturally conclude that they were given into his hands both by some formal deed, and some specific person." (Vol. I, p.189). And might we not expect that this solemn act of her delivery would be known in her assemblies - registered in her calendar - never, never lost sight of by her members? But instead of this, the saints who were thus delivered up knew nothing of the matter. One generation after another passed away, and the secret was not disclosed." (p.57)

Any ill-informed or unwary reader might well be carried away by these supposedly unanswerable questions. But in 1826, the same year when this was published, all the leading writers on prophecy, with the exception of Faber, met at Albury Park, and agreed on when, how, and by whom the saints had been delivered into the hands of the bishop of Rome, namely in A.D. 533 by decree of the emperor Justinian.

2. Dr. James H. Todd

Under the title *Discourses on the Prophecies relating to Antichrist*, Dr. James H. Todd published, in 1840, a series of lectures delivered in Dublin. In these he sought to uphold the view of the primitive church, that the Bible prophecies speak of a personal Antichrist who is to reign for three years and a half immediately prior to the second coming of Christ. He held that "the opinions entertained by ancient Christian expositors must always be regarded as of great importance." (p.15) He disagreed with Joseph Mede who, in the seventeenth century, thought that the opinions of the early church were bound to be misleading: "We are told in the text," Mede said, "that the words are shut up and the book sealed, even to the time of the end; we cannot therefore expect in ancient writers any satisfactory explanation of these prophecies; we should rather look for the discovery of the true interpretation in modern times." (p.17)

In Mede's opinion, the time prophecies showed that "the time of the end" began about the year 1120, and from about that time the Papacy began to be revealed as the real Antichrist. Todd sought to demolish this position by applying Maitland's condemnation of the year-day interpretation: "The calculation from which Mede has derived his main position, that 'the time of the end', or the coming of Antichrist, began in the twelfth century, depends altogether on the untenable assumption that *days* in prophetic language denote years; an assumption which an eminent living

writer has so completely refuted, that no theory built upon it can now be considered as requiring any further confutation. I shall not detain you by repeating the arguments employed by the writer to whom I allude...The opinion that a day in prophetic language means a year, and a year, three hundred and sixty years, is an arbitrary assumption destitute of any Scriptural evidence." (p.19f)

Now Mede's contention that "the time of the end, or the coming of Antichrist, began in the twelfth century" does not, in fact, depend on the questionable calculations he had put forward to support it. It depends on the teaching of St. Paul that the Man of Sin would appear when the Restraining Power, the Roman empire, was "out of the way", and this was brought about by the Turks in 1072. Mede's faulty calculations, however, provided Todd with an opportunity to make a sweeping condemnation of the year-day principle, without so much as stating any arguments against it - "I shall not detain you" he said, "by repeating the arguments employed by the writer to whom I allude," adding a reference to Maitland's work in a footnote.

In his second lecture Dr. Todd disputed the view that "the fourth kingdom of the prophecy, symbolized by the feet and toes of the image is identical with the Roman empire." He alleged first that "the Romans were remarkable for moderation, for tolerance, and for gentle government of the nations that submitted to their way," which was the reverse of the fourth kingdom as described in the prophecy. (p.83f) He appears to have forgotten their ruthless destruction of Greek civilization, and their treatment of the Jews in A.D. 70 and 135, not to mention others who did not meekly submit to their rule.

He pointed out also that "nothing is more clear than that the fourth kingdom of the prophecy is to fall beneath the stroke of the stone," and asked "In what sense can it be said that the Roman empire owes its fall to Christianity?" (p.55) It had been argued by Mede that the Roman empire is still in existence awaiting the fall of the stone. "The supposition that the Roman empire still exists, and will continue to the coming of the Lord, is necessary to the common interpretation of the fourth kingdom," said Todd. "But to the reader of history no fact seems better attested or more certain, than the Roman monarchy is extinct." (p.69)

That is quite true, but it proves only that the feet and toes of the image upon which alone the stone fell, stand for a phase of history after Rome, the "time of the end", described in Daniel 2: 41-43, separately from the legs in verse 40.

In his third and fourth lectures Dr. Todd sought to show that the prophecy of the little horn in Daniel 8, as well as that of the Wilful King in Daniel 11: 36, describe the same person and events as in Daniel 7, by drawing up a list of similarities. This

line of argument is fallacious, for even if the descriptions of two persons agree exactly in a score of particulars, it requires only one difference to prove conclusively that two different people are involved.

In the early church the little horn of Daniel 8 was usually applied to the career of Antiochus Epiphanes. Since the little horn in Daniel 7 arose from the fourth empire, Rome, while that in chapter 8 appeared in the territory of the third empire, Greece, they could scarcely be regarded as identical.

In his fifth lecture Dr. Todd discussed the Man of Sin sitting in the temple of God. "It is difficult" he said, "to believe that they to whom the Apostle wrote, could have understood the words otherwise than of the literal temple in Jerusalem." (p.217) On the contrary, since Paul invariably used the Greek word *naos* in his letters when speaking of the church as the temple of God, it is unlikely that the Thessalonians would have taken the word to mean anything else. Literally the word means "dwelling-place" of God, and it is significant that after the veil of the temple was rent from top to bottom at the time of Christ's death, the word *naos* was never again applied to the temple.

Coming to the Restraining Power, Dr. Todd declared that "What this impediment is, or was, although it seems to have been known to the Thessalonians, has not been preserved in the traditions of the Church." This is not true, as he immediately admits, saying, "The most common opinion was that 'what withholdeth' was the Roman empire, that Antichrist was to arise on the ruins of that empire after its division among ten kings, and that therefore, until the Roman power was at an end, the man of sin could not be revealed." He then concluded that since the Roman empire is now extinct, and no potentate possessing the character and marks of Antichrist has so far been manifested, the Restraining Power could not be the Roman empire, and the matter remains a mystery. (p.238f) But the grotesque picture of Antichrist, which he had conjured up from three quite unrelated prophecies, is nowhere described in Scripture.

3. *John Henry Newman*

It had been Maitland's main contention in his *Attempt to Elucidate the Prophecies concerning Antichrist* (1830), and of Dr. Todd in his *Discourses*, that certain prophecies in chapters 7, 8, and 11 of Daniel, and of St. Paul in 2 Thessalonians 2, and elsewhere, all referred to the same person and events. They appeared to argue that the early church had applied all these prophecies to a future personal Antichrist who was to arise shortly before the second advent, and that the Protestant Reformers were in error in applying any of them to the Papacy. This was the impression made on John Henry Newman, who later went over

to the Roman Church and finally became a cardinal.

Reviewing Dr. Todd's book in the *British Critic* in 1840, he declared it undeniable "that Scripture contains intimations of the coming of a special enemy of Christ and His Church, of great power, craft, and wickedness." He went on to say that "He is described by St. Paul and Daniel in the prophecies which Mr. Todd undertakes to elucidate, as 'the man of sin', 'the lawless one', 'the son of perdition', 'a king of fierce countenance, and of a look more stout than his fellows'." Continuing with a long series of further quotations taken indiscriminately from various chapters of Daniel and Paul's epistles, he concluded "Such is the prophecy as Dr. Todd delineates it; the question is, whether, as he maintains, its fulfilment is yet to come, or whether it has taken place in the person of the Bishop of Rome, as Protestants have very commonly supposed."^{8a}

Now this portrait of the enemy of Christ was largely the creation of Maitland and Todd, for not even the early church had included the little horn of Daniel 8 in its description of Antichrist. But to imply that "Protestants have very commonly supposed" that all these prophecies had been fulfilled in the person of the Bishop of Rome, was utterly misleading. With regard to Daniel 8, some had held the traditional view that the little horn applied to Antiochus Epiphanes, many thought that it was either the Roman empire, or its later Byzantine residue, while increasing numbers took the view that the Mohammedan powers were intended. No one had ever applied it to the Papacy, in fact G.S. Faber had argued that it could not be confused with the papal horn in Daniel 7, because "it would be a monstrous zoological anomaly to describe the same horn as growing upon the heads of two different beasts."^{9a}

As for the Wilful King in Daniel 11: 36, it is true that some had identified this figure with the Man of Sin, but for many years most leading Reformers had applied this part of the prophecy to the eastern, rather than to the western part of the Roman empire. Here again Faber argued forcefully against identifying the Wilful King with Paul's Man of Sin.^{9b} Other Protestant exponents of prophecy, meeting at Albury Park, had expressed the opinion that no explanation of the prophecy had yet received the general consent of the church.

Newman's review was later reproduced under the title *The Protestant Idea of Antichrist* among his *Essays Critical and Historical*. This book was frequently reprinted throughout the rest of the nineteenth century, thus creating the false impression that Protestants generally had long been guilty of twisting every defamatory prophecy they could find in the Bible to make it apply to the pope. In fact, Newman made scathing allegations that historicist writers had been fabricating their evidences, and mis-

leading their readers. "There is no department of theology in which ordinary men are more at the mercy of an author than that of prophetic interpretation," he declared, and claimed that "Mr. Maitland, who is one of the few persons who have undertaken to sift the facts on which the Ultra-Protestant interpreters of the prophecies rely, has at once brought to light so many strange mistakes in their statements as to make a candid reader very suspicious, or rather, utterly incredulous, of all allegations made on the mere authority of these writers."^{8b}

To illustrate how unworthy Protestant authors were to expound Bible prophecy, Newman quoted at length from Thomas Newton's autobiography to show that the Bishop had a liking for home comforts, thoroughly enjoyed his food, and was irritated when domestic worries, such as butchers' and bakers' bills, interfered with his study of the sacred and classic authors. "Who will say that this is the man" asked Newman, "not merely to unchurch, but to smite, to ban, to wither the whole of Christendom for many centuries, and the greater part of it even in his own day?"^{8c} It is difficult to see what Bishop Newton's human weaknesses have to do with his qualifications as an exponent of prophecy. But it is altogether ridiculous to suggest that Protestant views about the Papacy not merely unchurch, but smite, ban and wither the whole of Christendom, or even individual Roman Catholics, many of whom may be good, but sadly misguided Christians. But such was the type of propaganda employed in the nineteenth century to discredit the Reformers' interpretation of prophecy.

4. *False Predictions*

The attacks of Maitland, Todd and Newman were not alone responsible for the rejection of the historicist interpretation. There were other causes, not least being the irresponsible forecasting of events and dates by historicists themselves. When these predictions failed, it brought not only their perpetrators, but the whole year-day principle into disrepute. For example, in 1815 J.H. Frere predicted that "Bonaparte will become emperor of Rome."^{10a} He also forecast that the "destruction of the Roman Empire will terminate in the year 1822, when the Papal and Infidel powers will be destroyed, and the Jews restored to their own land."^{10b} When this failed, it was amended in 1831 so that what had been expected to happen in 1822 was really to happen in 1847. Not unnaturally Maitland took the opportunity to expose and ridicule these forecasts when his *Attempt to Elucidate the Prophecies* was reprinted in 1853.

A more serious case was that of William Miller, father of the American Seventh Day Adventist Movement, who declared in 1818 that "the 2300 year-days, extending from 457 B.C. to about A.D. 1843, will bring the climax of prophecy and of human history; and that Jesus will come 'on or before' the Jewish year '1843'."^{2f} This

was later revised to 1844 when it was realised that a year ought to have been added to allow for there being no zero year. But the fallacy in this theory was Miller's original assumption that the 2300 days began with the Seventy Weeks; there is no Scriptural reason for thinking this. But his manipulations and subsequent attempts to uphold false dates served to bring discredit not only on his own movement, but on the whole historicist application of the year-day principle.

Modern Futurists

In the second quarter of the nineteenth century there arose the Tractarian Movement led by such men as J.H. Newman and E.B. Pusey, who adopted the current Roman Catholic idea, shared by many Protestants, of a future personal Antichrist. In Tract No.83 it was conceded that "He that withholdeth or letteth (2 Thess. 2: 7) means the power of Rome, for all the ancient writers so speak of it." But since it was held that the Man of Sin had not yet appeared, Rome must still exist: "I do not grant that the Roman empire is gone. Far from it; the Roman empire remains even to this day." (p.5)

Pusey held that the two legs of the image denoted the divisions of the empire into East and West, but later Keil dropped this idea. The ten kingdoms, at first regarded as future, are thought by more recent writers, such as E.J. Young, to symbolize the nations of modern Europe. Some, contrary to Dr. Todd, still think the Roman empire exists in some form, or will be revived, and will continue to exist until the personal Antichrist appears.

1. *Dispensationalism*

A system of interpretation referred to as dispensationalism was developed by J.N. Darby at a series of annual conferences in the home of Lady Powerscourt in Ireland. The characteristic features of this system are a gap between the sixty-ninth and seventieth weeks of Daniel, and a secret rapture of the church. In the absence of the historicist exponents who had earlier met at Albury, the Rev. R. Daly, rector of Powerscourt, put forward the view, which at that time few believed, that the 1260 prophetic days should be taken literally, and that there was going to be a personal Antichrist. But owing to "great differences of opinion upon what appeared to be fundamental points of doctrine" Daly subsequently refused to take part in any further conferences^{11a} which became more and more dominated by J.N. Darby and members of the Brethren Movement.

According to the dispensational theory, the present Christian dispensation, extending from the Crucifixion to the "rapture of the church", falls as a gap between the sixty-ninth and seventieth

of Daniel's weeks. "During this long interval" wrote B.W. Newton, "all *detailed* history respecting both Israel and the nations is suspended, not only in Daniel but in all Scriptures."^{12a}

This theory had been put forward by William Burgh of Dublin in a series of *Lectures on the Second Advent* published as a book in 1832. It is significant that G.V. Wigram, who had been associated with Burgh at that time,^{11b} attended the Powerscourt conferences, and became closely connected with J.N. Darby. The greater part of Burgh's book was devoted to advancing the idea of a personal Antichrist, and we may suppose that it had been this newly published book that was discussed at the second Powerscourt conference in September 1832.

As most of the special features of modern dispensational teaching are to be found in Burgh's *Lectures on the Second Advent*, it is interesting to notice that he claims to have originated them. In his Preface he says, "The interpretation given in these pages is so materially different from that which generally obtains, and which has the sanction of so many eminent and learned men, that an apology for presenting it is, I feel, almost called for" (p.iii). He agrees, however, with Maitland that these ideas about Antichrist "were held, in substance, by all Christian writers for the first twelve centuries, which is at least an answer to any objection that may be raised on the ground of novelty" (p.vi).

It was claimed not only by Burgh, but later by other dispensationists, that their teaching was derived from that of the early church. But he had introduced a number of novel features, and others were added at the Powerscourt conferences, which were either wholly unknown to the early fathers, or were held by only a minority of them. In particular they would have rejected the notion that a gap of indeterminate length was to intervene between the sixty-ninth and seventieth of Daniel's weeks. Burgh declared this "to have been the opinion of the ancient fathers as, for instance, Irenaeus, Julius Africanus, Hippolytus the martyr, and Apollinarius" (p.153).

This is not true, for Julius Africanus reckoned the whole seventy weeks to run consecutively as lunar years, equivalent to 475 solar years, from the twentieth year of Artaxerxes to A.D. 31, which he took to be the date of the Crucifixion.^{2g} Eusebius placed the Crucifixion in the middle of the last week with the latter half extending three-and-a-half years beyond it.^{2h} As for Apollinarius, cited by Burgh, Jerome actually quotes him as saying that "it is impossible that periods so linked together be wrenched apart, but rather the time-segments must all be joined together in conformity with Daniel's prophecy."^{1b} Irenaeus, did, in fact, equate the last half week with the three-and-a-half reign of Antichrist, and Hippolytus referred the whole of the week to the time of Antichrist,^{2j} but these were exceptions.

Quite contrary to the teaching of the early church was Burgh's opinion (p.148) that the Six Items of the Atonement in Daniel 9: 24, "in their application to the Jewish nations, must be referred to another time than the First Advent." It was the unanimous opinion of the early fathers that these basic Items had been fully accomplished by our Lord in His life and death on the cross. Tertullian, in his *Answer to the Jews*, (xxvi), plainly declared that all six were fulfilled by Christ, and Hippolytus, in his Commentary on Daniel (15-17), does the same. Eusebius, in his *Proof of the Gospel* (VIII,ii) devotes several pages to demonstrating each point, and concludes "All these things were fulfilled when the seventy weeks were completed at the date of our Saviour's Coming," and he quotes Julius Africanus to the same effect. Yet many futurists continue to assert that the prophecy was not fulfilled at the First Advent, but remains to be fulfilled at the end of a suspended seventieth week.

By accepting the theory of the early fathers, that the Anti-christ would arise out of a ten-fold division of the Roman empire, the futurists inherited a prediction that failed to materialise. In order to patch it up, B.W. Newton adopted the Jesuit explanation devised by Cardinal Bellarmine that the two legs of the image denoted the eastern and western sectors of the empire.^{12b} But since that theory was discredited when the Holy Roman Empire came to an end, the Brethren were obliged to assume, contrary to historical fact, that the Roman empire is still in existence, or that there is a gap between the legs and feet of the image, after which the Roman empire is to be revived in its ten-toed condition.

2. *The Secret Rapture*

The other outstanding feature of dispensationalism is the pre-tribulation rapture of the church. The theory developed at the Powerscourt Conferences, and accepted today by a large number of evangelical Christians, is that the Christian church is to escape the tribulation of the last days, by being "caught up... in the clouds to meet the Lord in the air" (1 Thess. 4: 17), and will remain there until all the trouble is over, when they will return with the Lord to establish the kingdom of God.

Many Scripture passages are quoted both for and against such a theory, but we cannot go into them here. They have been discussed by S.P. Tregelles in *The Hope of Christ's Second Coming*, and by O.T. Allis in *Prophecy and the Church* (1945). (Also by A.A. Hoekema, *The Bible and the Future* (1979)).

Robert Govett, in a sizeable work, *The Saints' Rapture to the Presence of the Lord Jesus* (Norwich, 1852), argued that not all the church will be taken, but only Christians counted worthy. He suggested that the "Restraining Power" (2 Thess. 2: 7) which prevents the manifestation of the "Man of Sin" is not the Roman.

Empire, but this company of the faithful which will "be taken out of the way." Our concern, however, is with the origin and development of the doctrine of the pre-tribulation rapture (i.e. of all the church) which, according to Tregelles, was first given as a prophetic 'utterance' in Edward Irving's notoriously be-devilled Pentecostal Church.

This may well be true, for the earliest known statement of it is in an article signed T.W.C. in Irving's journal *The Morning Watch* (Vol.2, 1830, p.587-593). There it was suggested that the Sign of the Son of Man in Matthew 24: 30 is the taking up of the saints to meet the Lord in the air (1 Thess. 4: 17), and that this is to occur some time before His advent with His saints. (see also Vol.5, p.306 ff, and Vol.6, p.18 ff, both 1832).

Robert Baxter, at one time a member of Irving's church, records in his *Narrative of Facts* (1833) how this theme was developed by giving to various Scriptures a new meaning never before suggested by anyone. He confesses how he himself had, in January 1832, under the influence of a spirit power, expounded Revelation 11 in such a way as to imply that "at the end of three years and a half from the beginning of the prophecy of the witnesses, God would take away His Spirit and His church altogether from the earth, by causing His faithful spiritual church to be caught up to heaven like Elijah," after which Satan would appear as the Man of Sin, and rule the earth in hideous power (p.31).

In his *Origin of the Brethren* (1967), H.H. Rowdon draws attention to Irvingite influence on J.N. Darby and the Powers-court Conference on prophecy in 1832 (p.79). Darby may have imagined his ideas on the secret rapture were his own, but it is evident they were already circulating in Irving's church. In fact Capt. P.F. Hall, an Irvingite, had tried to foist the idea on the Plymouth Brethren at the end of 1831, when it was rejected by B.W. Newton.^{11c}

In view of this background, it may seem strange that such an interpretation of prophecy should now be accepted by so many evangelical churches on both sides of the Atlantic. Its propagation has been briefly explained by O.T. Allis (1945, p.13f.), and more recently by E.R. Sandeen in *Roots of Fundamentalism* (1970). In 1859 Darby visited Canada and the United States. Three years later a monthly journal, *Waymarks in the Wilderness*, began disseminating his teaching among the American Brethren, and this was followed, about 1870, by the publication of *Maranatha* by James H. Brookes, who held similar views, and attended a series of Prophetic Conferences from 1878 onwards in New York. In that year also, W.E. Blackstone's *Jesus is Coming* was first published. Little notice was taken of it until 1908, when the futurist theory was given world-wide publicity by the distribution, gratis, of several hundred thousand copies of *Jesus is Coming* to Christian

workers throughout the world. Then in 1909 the *Scofield Reference Bible* was published, followed by revised editions in 1917 and 1967. In this Bible marginal notes appear alongside the inspired text, thus giving them an air of authenticity, but in fact they expound the views of the Brethren Movement.

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GORDON E. BARNES

TELEOLOGY IN MODERN BIOLOGY

The use of teleological explanation in biology is examined and shown to be compatible with causal explanation. Teleological relations are just as objectively and empirically discernible as causal relations.

Introduction

Etymologically 'teleology' implies 'the study of ends'; and the word is used to designate the attempt to explain objects and events in terms of their aims or the purposes they serve. Teleological explanation, like causal explanation, can be offered only with respect to orderly systems, and orderly systems occupy both time and space. Although both temporal and spatial relations are always present, it is sometimes the former and sometimes the latter which are more significant in determining the aim or purpose of a part of a system. Thus when an important building, intended to last for a long time, is erected it may have a few contemporary artefacts (e.g., coins, documents) buried in the foundations. A teleological explanation of the presence of the artefacts will chiefly involve the temporal relations (with future generations of historians or archaeologists) whereas a teleological explanation of the presence of the foundations will be mainly concerned with spatial relations (with the direction of gravitational force, the substrate, and the superstructure). A teleological explanation of an object or event may therefore relate either to some future outcome of its occurrence or to its relation at the particular time to the whole system of which it forms a part, or to both. In contrast, a causal explanation either relates to some antecedent condition or else explains the whole in terms of its parts, or does both.

Teleological explanations differ therefore from causal explanations in two important respects: to put them crudely, teleology explains the present in terms of the future, whereas causality explains the present in terms of the past; teleology explains the part in terms of the whole, while causality explains the whole in terms of its parts.

The use of teleology has traditionally stemmed from two sources:

(a) man's awareness of aims and purposes in human activities (this has often uncritically been extended by analogy to animal behaviour), and

(b) the Biblical teaching that the universe has been created, and is continuously maintained, by a divine Creator who works purposefully, so that the parts of the universe were seen as designed to fulfil God's purposes.

It was this concept of design that explained the beautiful adaptations of organisms to their environments, that figured so prominently in former Christian apologetic works.

With the widespread acceptance of the Darwinian theory of natural selection it became possible, at least in principle, to explain the same adaptations causally. Furthermore, the growing awareness of the importance of objectivity and empiricism in scientific description led to the abandonment by biologists of the use of subjective experience of animals in explaining directive behaviour. Thus the two foundations of teleology in biology were undermined; and by the 1920s and 1930s it had become fashionable for biologists not just to ignore but rather to denounce, at times passionately, teleological description in their science. Since then teleology has been professedly taboo.

Despite this, biologists, when chatting informally, still frequently use blatantly teleological language; and, even when on their best behaviour (e.g. when writing research papers or textbooks), they use expressions such as 'adaptive significance' and 'function' which, although not traditional teleological expressions, frequently seem to amount to the same thing.

It is the purpose of this paper to discuss (a) the validity and (b) the value of such teleological description in modern biology.

Is Teleological Description Objective

All branches of biology afford numerous examples of structures and processes that *appear to be* purposive.

To quote just a few:

(a) Most, if not all, animals, if they are to remain healthy, require that a number of internal physiological variables (e.g., concentration of glucose, osmotic pressure, etc., of blood) shall remain within narrow limits. Any departure from the norm brings into operation negative feedback mechanisms (often highly complicated and 'multichannel') which restore normal conditions.

(b) Many aquatic animals, freshwater and marine, leave their normal feeding grounds and migrate upstream during the breeding season to new areas where they shed their eggs. The eggs and probably, later, the newly-hatched larvae are then carried back in the opposite direction until, by the time they are ready to settle down in life, they are in the general area formerly occupied by their parents. But for this parental migration, the young would find themselves in areas far removed from the ancestral home and probably quite unsuitable for them.

(c) When the fertilized egg of a newt begins its development it divides into two daughter cells, which then divide and redivide to produce the millions of specialized cells that constitute the adult body. In the normal course of events each of the two original daughter cells gives rise to one side of the adult body. If, however, they are experimentally separated it is found that each can give rise to a whole adult. Manipulation of the early developmental stages of other forms has shown that very many species of animals exhibit adjustments in their development such that, despite the experimental interference, a normal adult body is produced.

(d) The heart of a vertebrate undergoes continuous pulsating contractions, coordinated with movements of its valves, in such a way that blood is pumped out of the heart, along the arteries to all parts of the body, and back again via the veins to the heart.

In outlining these examples I tried to be completely objective and to avoid teleological language; but I found this difficult. In fact, in my first draft, I wrote that some aquatic animals 'migrate upstream to lay their eggs' without realizing what I had said. It would similarly have been very easy to say that the dividing egg cells can adjust their activities *in order to* ensure, as far as possible, the development of a normal adult; or that homeostatic mechanisms are stimulated by abnormal physiological conditions *in order to* control them; or that the parental migration is *for the purpose of* facilitating the offspring's finding of a suitable niche; or that the heart beats *in order to* maintain a transport current to all parts of the body. It is this sort of teleological language which is conventionally frowned upon; although I find it difficult to identify any difference in principle between it and such generally acceptable expressions as 'the adaptive significance', 'the survival value', and 'the biological function' of a structure or process. If we talk about the adaptive significance, for example, of something we are discussing, we mean the way in which that thing meets some need which an organism has if it is to survive in its normal environment. In other words, we are talking about the purpose it serves in the life of the individual or the species — and what is that if not teleology?

Is this teleological explanation objective, i.e., based upon empirical evidence? Let us consider first the type of teleology in which the temporal relations are the significant factor, as in examples (a) - (c) above. That there is a correlation between a process and its suspected goal can be determined in the same way as a causal correlation can be recognized - by observation of the regular succession of one by the other. That the relation is a purposive one can be recognized by such consistent features as the persistence of the process until the goal is achieved, its cessation thereafter, the adaptability of the routes by which the goal is reached, and the presence of feedback mechanisms brought into operation by deviations from the end-state. These are all objective features which do not depend for their recognition upon the concept of design or of subjective awareness. (It is for this reason that some writers prefer the word 'directive' to the word 'purposive' which may have psychological overtones.)

The second type of teleological explanation is that which relates the function of a part to the functioning of the whole system, as in example (d) above. To discuss this, let us consider an analogy - the workings of a watch (in true Paleyan tradition). It would be possible for an imaginary engineer, who knew nothing about the purpose of a watch, having examined it and performed a few simple experiments (e.g., turning the winding button), to give, not only a causal explanation of the functioning of the whole watch in terms of its parts, but also a teleological explanation of the parts in relation to the whole watch. Thus the mainspring could be described as the energy store for the watch, the balance wheel/escapement complex as the device for regulating its rate of activity, and the case as a protective structure. On the other hand, unless the engineer knew something about the purpose of the watch, or about the conventional division of time into hour and minute units, he could not give a teleological explanation of the dial and the hands. Now his ability to give a teleological explanation of, at least, some of the parts depends upon the fact that the watch is recognized as an orderly system. If all the same parts were dropped separately into a pudding basin, our observer, having examined the collection, would be quite unable to offer a teleological explanation of them, because the whole would not constitute an orderly system.

Orderly systems can be recognized by the use of objective criteria, such as regular relations between their parts, regular relations between the parts and the whole, regular relations between input and output, and similarity between these relations and corresponding relations in other systems of the same kind. If tested against these criteria living organisms and societies are undoubtedly found to be orderly systems; and it is this fact which permits the possibility of this type of teleological explanation in talking about the functional significance of, say, chromosomes, liver cells, hearts, nervous systems or queen bees.

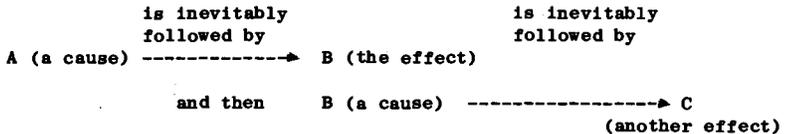
The Relation Between Causal and Teleological Explanation

Objections have sometimes been raised to teleological explanations on the grounds that an event does not always achieve its purpose (as in the sad tale of Old Mother Hubbard), so that one has the anomaly that the same explicandum that normally has a teleological explanation may on occasions completely lack one. This objection appears to rest on the assumption that a teleological explanation is a sort of causal explanation in which the cause follows the effect instead of preceding it. It is actually nothing of the sort.

Even if Old Mother Hubbard had been successful in finding a bone for her dog, in no way could her finding of the bone be regarded as a cause of her locomotion to the cupboard. On the other hand, the possibility of finding a bone does give *significance* to the locomotion, whether the possibility is actually realized or not. Obviously if a bone has to be found, the lady's going to the cupboard will greatly enhance the probability of its discovery, although as we have seen it cannot guarantee it. A teleological explanation of an event, then, depends upon the correlation of that event with some other event (normally beneficial) which it will facilitate, although not guarantee. Now this facilitation may or may not involve a direct causal relation. In the case of the newt egg it does: the separation of the two daughter cells itself induces the modified development of each. In the case of the spawning migration it does not: the migration itself does not induce the spawning, nor, of course, does the parents' behaviour 'cause' the downstream carriage and settlement of the larvae. In fact, the migration and spawning are, more often than not, both consequences of some other factor or factors, e.g., increasing day-length in the spring, internal endocrine changes.

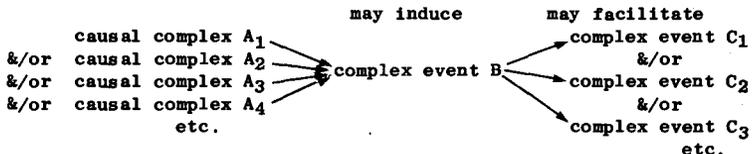
Now I have tried, not completely successfully, to avoid the use of the word 'cause', because if one accepts the usual philosopher's definition of it — a necessary and sufficient condition — the word is virtually of no use to the biologist. He is dealing with such complex systems that it is usually impossible to identify the cause thus defined. The nearest that the biologist gets to identifying cause and effect is to be able to specify complex events that are usually followed by other complex events. The concept of causality is, of course, valid; but the biologist (if he ever thinks about it at all) soon realizes that it is *practically* impossible to identify in the causal complex the one necessary and sufficient condition of the one effect in the effect complex.

In the philosopher's ideal situation where



B would have a causal explanation (the presence of A) and, if C were in some way biologically valuable, possibly a teleological explanation (it produces the useful C) in addition; and the causal and the teleological explanations would be logically related, because both the cause A and the biological significance (the causation, not just the facilitation, of C) could be inferred from the event B.

But, as has been said, this ideal state of affairs does not exist in biology. Instead the biologist has to contend with something like the following:



In these circumstances, the biologist observing complex event B could not logically infer which of the many possible causal complexes (A) had occurred, nor could he specify which of the possible complex events (C) facilitated actually achieved its goal. To this extent causal and teleological explanations are, in practice, logically independent (although not in different logical categories, and therefore not complementary).

Let me illustrate this abstract rignarole with a concrete example. Seals and sea lions are born on land where for some time they are suckled by the mother. Sooner or later, depending on the species, they move into the sea where (and only where) they can feed themselves, learn to swim, and prepare themselves by play for the responsibilities of adulthood. This movement into the water can be explained causally and teleologically in several possible ways: causally - the animal may have been pushed into the water by its mother, it may have fallen into the water off a rock, its exploratory behaviour may have taken it into the sea, it may have fled there from a hunter, and so on; teleologically - the movement is of biological significance in that it facilitates such useful arts as swimming, feeding, and playing. It will be seen that the causal and the teleological explanations are logically independent in that the particular causal explanation is irrelevant to the

consequences facilitated. It will be noted too that both explanations are within the framework of the concept of causality: even the teleological explanation depends upon causal facilitation of consequences that are recognized as biologically valuable on a causal basis (e.g., feeding provides energy necessary for life). Nothing has been said about the animal's volition or intentions or of God's plan of creation: we have crossed the boundaries of no logical categories.

The Implications of Biological Teleology

So far I have argued that teleological explanation depends upon the recognition of a regular relation between the explicandum and some biologically valuable consequence which it facilitates.* But how is this correlation to be understood? It could mean no more than the explicandum *normally leads to* the goal; or it could mean that the explicandum is *in order to lead to*, or is *for the purpose of leading to*, its goal.

Consider an analogy. If a tennis ball were accidentally to fall into a water tank it would bob up and down at the water surface until it came to rest at a particular level: if it were momentarily pushed down it would repeat the process. In an analogous fashion a thermostatically controlled heater in the tank would have its heating current switched on and off thus tending to maintain a particular temperature level. Both of these would be goal-directed systems; but of the first we should say only that its behaviour *normally leads to* the goal, while of the second we could say quite correctly that its behaviour is *in order to lead to* the goal. Why the difference? In the first case the relation of ball to water is purely fortuitous; but in the second the thermostatically controlled heater had been selected and installed because it was capable of achieving a valuable goal.

Is there then anything in nature equivalent to this selection and installation of a goal-directed system? The Darwinian theory of evolution suggests that there is. Random mutations in the past have produced in organisms all sorts of novel structures and processes, most of which, no doubt, were, like the tennis ball, of no value or positively harmful. Their possessors would stand less chance of surviving and reproducing, and the novelty would be eliminated. Occasionally, however, a biologically valuable mutation has occurred, giving the mutated form better chances of survival and reproduction, and this novelty has therefore been

* Perhaps it should be pointed out that to recognize something as having biological value is not to make a traditional value judgement: a thing is of biological value if it facilitates survival of an individual or a species. Nothing is implied about whether it *should* survive or not.

selected and 'installed' in the species. In this way natural selection is similar to the role of the heating engineer who installed the heater in the tank - and would probably also remove the tennis ball if he found it there. If this theory is right, structures and processes are present today in an organism only because they serve useful ends; which comes very near to saying that they are present *in order to* serve those ends. In fact, it is as near as one can get to the in-order-to statement about the heater, without bringing in the divine or animal equivalent of the heating engineer's volition.

And so we arrive at what appears to be a traditional teleological statement, that a structure or process is *in order to* or *for the purpose of* something or other. But of course it is not traditional teleology because it does not depend upon concepts of intention or design. It is merely causality (the effect of natural selection) masquerading as teleology. The terms 'pseudoteleology' and 'teleonomy' have been proposed to distinguish this teleology from traditional teleology; but they do not seem to be widely used.

The Value of Teleology in Biology

Is there any value in teleological explanation in biology, or ought we to be content with causal explanation?

Firstly, even when a causal explanation of some biological feature can be given, it usually contributes significantly to our understanding of that feature if we can give also a teleological explanation. Thus animal migration can often be explained causally in terms of external stimuli or internal endocrine changes, but it is intellectually much more satisfying if we can explain also that it enhances the migrant's food supply or facilitates the survival of its offspring.

Secondly, it is often much easier to find a teleological explanation than a causal one. The biological significance of the mammalian heartbeat has been very clearly understood since Harvey published his famous work in 1628, but the causal mechanisms involved are only now coming to light. And any valid explanation is better than none.

Thirdly, teleological questions both stimulate and guide research. I suspect that more often than not the first question a biologist asks about a newly discovered character is 'What is its function?'. In seeking the answer to this he frequently obtains clues to causal mechanisms.

Conclusions

1. Teleology is valid in biology.
2. Teleological explanation relates the explicandum either to some future biologically valuable consequence or to the whole orderly system of which it forms a part.
3. Teleological relations are just as objectively and empirically discernible as are causal relations.
4. Biological teleology differs from traditional teleology in that it does not invoke the concepts of divine plan or animal intention, but is rather an implication of causality.
5. Acceptance of the theory of natural selection is not a necessary basis of teleology (one can recognize biological significance without invoking it), but it does explain causally the existence of adaptive features.
6. Teleology is valuable in biology in that it gives a broader view of biological features than does causal explanation alone. It also stimulates and facilitates research.

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MARTYN BAKER

PERSONALITY DEVELOPMENT AND EXPERIENCING GOD

As we grow older we put away childish things, yet bygone feelings and expectations still influence our lives for good or ill. Recent descriptions, by psychologists, of the life of the young child throw a flood of light on such experiences as intimacy and the ability to experience God.

Empirical research has led to an enormously enhanced understanding of our world, but still we do not understand how it is that we experience that world. Indeed, the study of this subject seems to lie altogether beyond objective testing - nearer to the field of semantics than of scientific theorizing (Rycroft, 1966).

In recent years the earliest experiences of babes and infants have received much attention. The ways in which they gradually learn to experience the world around them have been described in some new and helpful ways. Though they do not even begin to explain the nature of experience, they do throw light on the forms that experiences may take.

The Development of a Sense of Self

The paediatrician and psychoanalyst Donald Winnicott has suggested various hypotheses concerning normal emotional development at the stage in life when no words or word thoughts are available, a stage at which conceptualisation is at its most primitive.

He claims (1971a) that the experience of the infant is derived fundamentally from interaction with its mother. At birth, a child begins to live through cycles of increasing duration in which sleep and wakefulness alternate. In the waking phases it desires and is supplied with milk at the breast or feeding bottle. During these periods of maximum outer-world awareness it is physical parts of the mother and its own bodily activity which impress themselves most markedly on the infant's newly-commenced bank of experience (represented, let us imagine, in the quality of tension in the gastrointestinal and cardiovascular systems).

The metaphor Winnicott uses to describe the experiential effect of this repeated cycle of desire-satisfaction is 'illusion of omnipotence'. Because the resources of the good-enough mother dovetail almost perfectly with the infant's stomach contractions, crying and other signals of hunger, the child comes to expect prompt and devoted service whenever it is distressed. The assurance of future satisfaction guaranteed by this valuable illusion is the *sine qua non* of a subsequent process of gradual disillusionment, occasioned by an ever-increasing time-gap between the signal of need and desire, and its satisfaction. If the sense of omnipotence has been well established the infant will not panic when there is a time lag before satisfaction, but will begin to learn activities like playing with fingers and thumb around the mouth, cooing mixed with crying, and so on. Such activities fill the desire-satisfaction gap and serve to keep 'alive' the idea of mother and her attributes at a time when she is not physically present. As such they also start to play a part at the other end of the awareness period of the waking/sleeping cycle. Sucking the thumb, fingering the silk ribbon of a soft toy, incorporating the edge of a sheet into the mouth, and the like, enable the child to remain quiescent and aware of the environment in the mother's absence. In such episodes, the child is hypothesised to be developing the capacity to exist comfortably for a short while on its own, and growing alongside this is the realisation that mother too exists as a separate person in her own right. Thus a confident sense of self is presumed to be indelibly linked with an optimism (that need will be met) which is 'stretched' progressively over time-periods terminating invariably with actual satisfaction of need.

At later stages of crawling, toddling and walking, playing with toys will replace these primitive activities - although threats like strangeness, mild reproof or going to sleep will almost always evoke them. Still later, the child's play will extend to the accomplishment of play shared with another, where both participants enter this area, the in-between of desire and fulfilment, together. Finally, this will make way for adult culture - art and hobbies - and, claims Winnicott, for that sharing between oneself and another which is the experience of direct intimacy.

It is as if between the private inner world of the adult and his conventional, outer world of interpersonal behaviour, there exists a middle area, composed of the vital remnants of the teddy-bear's ribbon, the thumb-sucking and the joint play - a sort of daydream world which is never subjected to experimental validation, since it has an intrinsic validity of its own enabling the owner to tolerate its irrationality.

Experience, then, can be regarded as a synthesis of three areas:-

An inner, chaotic 'dreamworld'	+	A transitional area of 'daydream'	+	An outer world of conventional inter-personal relationships
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Winnicott sees the inner area as the shut-off remains of the infant's most primitive sense of self-and-mother-combined; the daydream area as the adult counterpart to the self-comforting activity of the child who is getting used to being an individual; and the outer area as a sophisticated version of the young child's attempts to deport himself at school, when visiting relations, when mixing with friends, and so forth.

The Sense of Self in Adulthood

If this view is right, so that the adult sense of self may usefully be regarded as a potted biography of the achievement of separation from the sense of mother, then several points may be made about what constitutes a healthy personality (Winnicott 1971b).

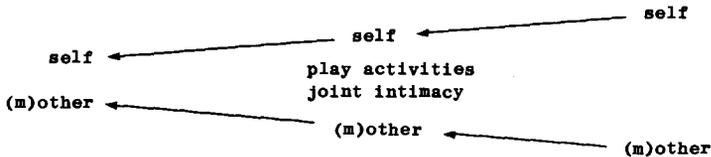
The journey through thumbsucking to the ability to function with others while retaining individuality, will not, if successful, have been made as a panic escape from one awfulness to a lesser. As John Bowlby (1979) puts it, the self-reliant person is paradoxically able to rely totally on someone else (think for example of the manoeuvres required of an astronaut and his control team) - he is not scared to revert to the more primitive areas of experience. The non-objective nature of cultural experience will be welcomed without shame or coyness. Rather than an addiction to regressed and over-intimate relationships, there will be an appropriate occupancy of any of the worlds of experience, as situations demand.

But what of the person who did not experience good-enough caring in early life, who had no sense of 'omnipotence', who separated only with tears and protests from mother and entered into adult life with the anticipation of having to steel him (or her) self against the rigours of hard loneliness? Here one might expect several opposite features. There might be an inability to tolerate a gap between desire and fulfilment. More privately, there might be a precipitate speed with which nigh-on total union is attempted after getting briefly to know another person (going 'overboard' in personal revelations; sexual intercourse after minimal courtship). There could be an over-prizing of the structured world of conventionality due to a horror of showing up one's inability not to precipitate immediate union with another. All of which would point to a lack of capacity to remain with another individual in the middle daydream world of intimacy.

An Extension of these Ideas

Suppose the development of adult interpersonal intimacy were to be summed up as a reversal of the child's journey into the experience of self as a person separate from other people?

merged sense of self	transitional semi-separated sense of self	sense of independent self
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On such a view sexual intercourse, for example, would not be regarded so much as a gratification of some imagined 'sex drive', but rather as a merging of the boundary of the sense of self with another, expressed in deep physical metaphor (Rogers 1978). However, the relationships envisaged are not just those ending up in erotic sexual behaviour. What is being emphasised is that experience by touch (whether erotic or affectionate, like hugging) utilises a gross vocabulary subjecting the recipient to far more vicissitudes of interpretation than the more verbally-mediated transitional area of the day-dream world. A headlong rush into the 'inner' world without spending time developing a biography of experience in the daydream area runs the high risk of misinterpretations of the gross language of physical touch which cannot be tolerated or financed by a prior reserve of transitional intimacy.

The suggestion, therefore, is that personality development does not cease at the age of six or seven, or even at eighteen or twenty-one; but that adulthood is the time of testing the resilience of a seemingly independent self, and if necessary correcting lacks in flexibility of operation in the three 'worlds' of experience. This testing and correction is accomplished within the network of friendship and acquaintanceship created by interpersonal relationships throughout life.

Deep Human Relationships Compared to the Personal Experience of God

Becoming a Christian is seen in the Bible as a bringing together of two estranged parties *via* the legal reconciliation wrought by Jesus Christ on the cross, and operationalised by exercising the gift of faith to the individual. But into what kind of relationship is the person reconciled?

The words used in Scripture to describe interpersonal relationships are somewhat cut-and-dried: love, obedience, repentance, forgiveness, and so on. These words are perhaps similar to the 'perchings' of William James' (1890) famous description of thought processes *via* the analogy of birdflight; what is required, he says, is something more like the 'flights'. So here, let us say, it is not so much the 'love' that the Scriptures refer to but something more like the 'dwelling in' love. This *experience* of the relationship seems frequently to defy appropriate verbalisation. But suppose the various aspects of private Christian devotion - activities like reading and meditating on the Bible, communion in prayer, the experience of breaking of bread, the realisation that God is 'speaking' to one through a sermon - suppose these were to be construed as the transitional area of intimacy, a preparation for that unspeakable final union with God, a merging but not submerging of self with His self. While some may find this merging periodically to occur in earthly life, the clear message of the New Testament is that with resurrected bodies we shall be totally one with Him in heaven.

The Bible gives several broad hints that we should view our here-and-now personal experience of God as a transitional area of intimacy. We think of such passages as "My son, give me thy heart" (Prov 23: 26); "My Beloved is mine and I am His" (Song of Sol 2: 16); "As Thou, Father, art in Me and I in Thee, that they also may be one in Us...I in them and Thou in Me" (from Jn 17: 21-23); "This is a great mystery: ...I speak concerning Christ and the church" (from the passage on the marriage relationship, Eph 5: 22-23).

That this is a mystery for which our best metaphors end up sounding sadly wooden, is hardly surprising. Even in the realm of merely human relationships the area being dealt with has only a rudimentary vocabulary, and no public grammar whatsoever. Perhaps, though, an interpretation of deep human relationships adds to our feeble yet assured grasp on a glorious future, and makes the enterprise of knowing God slightly less unknown. And on the other side of the same coin, the growing personal experience of God may allow the Christian to gain various interpersonal flexibilities from which his own upbringing precluded him.

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ESSAY REVIEW

4 BC or 2 BC?

In what year was Jesus born? For some time now most scholars have agreed on 4 BC. But Dr. E.L. Martin argues that 2 BC is a more likely date.¹ In this review Dr. Colin Hemer considers his arguments.

The problem of the date of the Nativity is perhaps the most complex and persistently elusive puzzle of New Testament history. In most such questions there is not really much scope for novelty: the answers probably hinge on a refinement of judgment somewhere among the evidences available and the alternatives long canvassed. But here the difficulty may go deeper. There is the limited information in Matthew and Luke, and the account of the political background in Josephus which poses its own problems and still leaves the history of the relevant decade peculiarly obscure. The special difficulty may be that the crucial keys lie hidden in the missing pieces of the jig-saw. Or perhaps the answer depends on the right choice of ground in manipulating the existing pieces.

Dr. Martin finds his key in challenging the generally received dating of the death of Herod the Great in March 4 BC. This has usually been considered a firm datum, and has set a firm terminus for the Nativity. Those who have sought an astronomical identification for the star of Bethlehem have then found it in the celestial phenomena of 7-6 BC. This reconstruction rests mainly on the evidence of Josephus, in particular where he recounts an eclipse of the moon among the events immediately preceding Herod's death. This is identified with the eclipse of 13 March 4 BC, and the king was dead and buried before the Passover, a month later.

Dr. Martin advances the claims of a later eclipse, that of 10 January 1 BC, there being none in the years intervening. He argues his case forcibly on two fronts, the astronomical and the historical. The astronomical part, which was the subject of a previous article (*Christianity Today* 3 December 1976, pp. 280-284), interprets the star of Bethlehem in terms of a remarkable series of significant planetary conjunctions and massings in 3/2 BC. The case for seeing how ancient astrology found detailed symbolism here reads most interestingly and impressively, though it is

inevitably difficult for the layman to assess rigorously. But the focus of the present book and its Supplements is the historical problem. The varied arguments contribute to a consistent reconstruction which places the birth of Christ in 2 BC.

While the book contains a number of suggestions of independent value and interest, its central case ultimately stands or falls by its bold redating of the death of Herod. This actually has ancient and modern precedent, but its restatement here builds upon the recent work of W.E. Filmer (*Journal of Theological Studies*, 1966, n.s. 17, 283-298), an article which prompted a vigorous reply from T.D. Barnes (*J.T.S.* n.s. 1968 19, 204-209). Dr. Martin makes some use of Barnes's recognition of the difficulties of the common view (pp. 29,44), but we must emphasize that the central thrust of Barnes's contribution is to exclude absolutely Filmer's later dating: his consideration of the earlier eclipse of 15 September 5 BC is secondary to this. In fact the Filmer-Martin view of Herod's death faces formidable difficulties in the fact that his successors, as evidenced by their coins, all dated their reigns from 5/4 BC, and other synchronisms confirm this pattern. It is true that the area bristles with problems, and that Josephus is faulty, but the onus must lie upon an alternative view to explain differently the interlocking of ostensible evidence, such as it is. Dr. Martin does this by arguing that the three successors *antedated* their reigns to 4 BC, as being the year when Herod had killed his 'royal' Hasmonean sons Alexander and Aristobulus, thereby attempting to legitimise themselves in Jewish eyes while expunging memory of the hated joint-rule of the dying Herod with his 'non-royal' son Antipater (pp. 84-96, Supp. pp. 143-144). Examples are adduced to show that ancient rulers might thus reckon their years *de iure* from before their predecessors' deaths.

It is a nice question of the balance of evidence. For all the author's able advocacy the point rests upon supposition. To suggest what 'could have been' falls short of demonstration. Conversely, it cannot be easily refuted. The decision may sometimes depend on fuller context of knowledge than we have about a time so peculiarly obscure. Where for instance a different chronological hypothesis has sought similarly to antedate the reckoning of the principate of Tiberius, Dr. Martin rightly rejects this, for the regular and acknowledged dating is established beyond all reasonable doubt (pp. 51-52n.). And here too the reader may be disposed to prefer the ostensible reckoning of the contemporary coins to the elaborate explanation of a supposition, however plausible: the onus still lies upon the challenger. And the spectacularly attractive astronomical picture must not sway us to read the historical data too simply in the light of a formed conviction: the history must stand in its own right. Yet when these cautions are duly sounded interesting possibilities persist. If we have overall a naturally consistent and illuminating picture this may tell in favour of a hypothesis. Dr. Martin's case is no

mere tissue of special explanations; he seems to tie up a lot of ends and to cast incidental shafts of light in dark places. It is possible after all that relevant factors in a complexly obscure situation actually lie in some of the missing pieces he has tried to supply. I should hesitate to go further. The whole thesis merits the most thorough and dispassionate critical assessment at every level, and it is beyond the capacity and province of the reviewer to prejudge the outcome.

I shall be content here to offer some general comments on points of method and presentation. Dr. Martin writes as an eager advocate: this is refreshing in itself, but may tempt him to draw linear connections and inferences between fragments of evidence which seem to lend support. Original sources, especially the rather elusive epigraphical and numismatic materials, must be very carefully and critically used, with strict regard to their full context, their relevance and representativeness, and the force of alternative interpretations. We need to ask, for instance, whether the Paphlagonian oath of allegiance (Supp. pp. 131-132) really refers to an empire-wide event, or only to the incorporation of the territory in the province of Galatia. Again, there is need for fuller critical discussion and interaction with other viewpoints which currently occupy the field, the forcible (if largely *ex silentio*) arguments for a more sceptical view of Luke in the new Schürer/Millar/Vermes, or the more theological approaches (which in practice often bypass the real and substantive chronological problems). A further statement of the case would do well to take more specifically into account the range of differing opinions. Dr. Martin is ready to harmonise Matthew with Luke, where many scholars would be quick to dissent. And he often extends such harmonisation widely (and perhaps too neatly) among statements in non-Biblical sources (cf. e.g. p.148).

Perhaps a necessary way forward is through the tightening of detailed arguments and a fuller exploration of context and ramifications to meet radical objections on many fronts. We have already these Supplements, which focus increasingly upon the central sticking-point, the death of Herod and its surroundings. The question is whether the additional material corroborates a central solution or covers a central weakness. One may wonder whether the author has been tempted to try to establish too much too fast upon (often inevitably) circumstantial grounds, whether in committing himself early to so attractive an answer he has then allowed himself to be carried too quickly on the current of his conviction. The presence of the Supplements testifies to his further and deepening thoughts, but there is much to be said for the initial presentation of a cautious and rigorously controlled case for a less ambitious thesis.

In detail, many things of interest prompt comment and discussion. The case for identifying the governor mentioned in the problematic *lapis Tiburtinus* with Quintilius Varus (pp. 57-66) is persuasive (but which way do we construe *iterum*: 'twice Syria' or only 'twice *legatus*'?). The view that the census was the occasion of a universal oath of allegiance to Augustus is very interestingly linked with his reception of the title *Pater Patriae* as the apex of the Augustan Peace in 2 BC (pp. 69-73; Additional Supp. pp. 7-8). It is an integral piece of the reconstruction. But the added support is sometimes only a compounding of circumstantial uncertainties: again, the whole thing merits close investigation. It dovetails with an intricate reshaping of the sequence of governors in Syria: if Varus in a second term (cf. the *lapis Tiburtinus*) followed Saturninus in 2 BC, problematic statements in Josephus and Tertullian are instantly harmonised into the picture. Yet this leaves Luke's attribution of the census to Quirinius unclear until a further piece is drawn in from an inference from Justin Martyr (Supp. pp. 127-130).

The insistence of exact reckoning of round figures (pp. 52-53) is unnecessarily rigid: the chronological point is strong anyhow. There is some tendency to regard symbolically and theologically significant interpretations as intrinsically supporting the historicity of divinely ordained events: it is a refreshing reversal of the kind of scholarly temper which would explain away significant history as theological construct - but, again, let us be meticulous to avoid getting our grounds of authentication tangled. Some overplayed arguments are unconvincing. It were better not to offer speculative exact dates for the Nativity or the Magi, or to interpret Rev. 12 thus (pp. 104-109).

No doubt we have all lost faith in Dionysius Exiguus anyhow - but it would, I think be at best premature to rewrite our calendars. Yet we are in any case much indebted to Dr. Martin for his fresh and fruitful reopening of a very difficult area. His book has clearly had a considerable impact in America. It deserves thorough and sympathetic discussion here also.

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ESSAY REVIEW

THE ARROGANCE OF HUMANISM

David Ehrenfeld, a conservationist and Professor of Biology at Rutgers University has recently written an absorbingly interesting book on what he calls *The Arrogance of Humanism*¹. He covers much ground: only a few topics can be selected for mention here.

What is humanism? In the dictionary the word stands for any system of thought which puts "the mind of man paramount, rejecting the supernatural" (Chambers). Ehrenfeld uses it in a slightly different sense, the sense of the religion of humanism. Humanism is "a supreme faith in our ability to both rearrange the world of Nature and engineer our own future in any way we see fit." Secure in this misguided faith that with the aid of reason, science and money, men can do what they please, they are now, says the author, dismantling and discarding everything upon which human survival and happiness depend. At one time Ehrenfeld was himself a humanist but now he rejects humanism in the sense defined, utterly, though he realises of course that in a wider sense not everything for which the humanist stands is false: in fact he draws attention to the considerable overlap between its beliefs and those of the religious believer.

Ehrenfeld argues his case, convincingly, passionately, with no wastage of words. In one trenchant chapter, for instance, he cites scores of instances to show that, perhaps more often than not, when man succeeds in solving problems with the aid of science, he creates for himself new and unexpected problems which loom on his horizon more obviously than the former.

Why does he want to shatter mens' belief in humanism? Is he motivated by the sour grapes syndrome, he wonders? Here he becomes deeply introspective. Why do I reject humanism? he asks, Am I fooling myself? Am I picking out facts which support my thesis and rejecting all others? Science has been wonderfully successful in its medical and technological directions. Why press home its failures, or the cases where its very successes have led to new and unprecedented problems? Because, he tells us, the case for the other side has been made times without number and everyone knows about it: but what they do not know is the

darker side. They do not see the writing on the wall.

This book has obviously taken years to write, and it is beautifully written. But somehow it is not quite a success. I did not find it easy to read. It is too overwhelming and too uneven. Even the chapters are uneven in length: one of them goes on and on for some 70 pages without a real break. This is not meant unkindly. Easy flowing books owe much to what others have written before: their authors have had the chance to select what will appeal. The writer with something new to say can never achieve perfection at the start. And Ehrenfeld has attempted something new. Ehrenfeld produces this devastating critique of humanism, not in the name of religion, but in the name of what is highest and best in man himself. Man's hope for the future is not to be found in humanism, he says, but in the capacity to take pleasure in simple things, ("How many thousands of times have fond parents come home with an expensive, battery-operated, remote-controlled toy only to find it broken or discarded a few hours later while the child plays happily with the carton in which it was packed?"); in humour, in "adjuring power without feeling or being enslaved and so of gaining a sort of peace and fulfillment that is utterly foreign to humanism" (the point is illustrated with reference to the keeping of the Jewish Sabbath), with the capacity to acknowledge and cope with death, with love, and in the ability to stand alone. "There has been too much progress, there is not enough peace... In my century nothing is totally free of the taint of our arrogance. We have defiled everything, much of it forever, even the farthest jungles of the Amazon and the air above the mountains, even the everlasting sea".

We turn to a few of the instances which Ehrenfeld cites as examples of humanistic arrogance. Not unexpectedly he is strong on social science, where he out-Thurbers Thurber. He tells of the mathematical work which American social scientists conduct on the history of their country. One such paper, for instance, leads to the startling conclusions that in large plantations the efficiency was 34% greater in slave than in free farms in the South, but 35% more efficient than in the North. He refers to the studies on disturbances in prisons, treated mathematically by catastrophe theory. Here a typical conclusion is that when social scientists have learned how to measure the variables of prison life they will be able to put the numbers into the equations which the researchers have discovered, which will tell them when a riot will break out. The variables here are disorder, tension and alienation. Then there are the scientific papers published on the important "Sundstrom-Altman model" on which, at the time of writing, of this book, over a hundred had been published. This "model" is the theory that you like being near to people you like, but prefer to be a little farther away from people you dislike. (A wonderful discovery this: akin to Sir John Hill's satire of the Royal Society, an Institution which, he said, devoted much effort

to proving that fishes swim in water). And so on, almost endlessly, for humanists imagine that science can (or will) explain everything and predict everything. That there are limits to human knowledge, that man does not live by technology alone, that the most confident predictions are apt to go awry and that much of what goes by the name "research" is futile unproductive work, are facts that the over-confident humanist prefers to forget.

The passion for technological achievement, we learn, sometimes reaches the bizarre. Many children in USA are now seeking their parents' permission to have their limbs amputated so that they may be fitted with bionic substitutes!

In the now common use (or rather misuse) of the term "model" in scientific papers, Ehrenfeld finds a further instance of arrogance. This word has invaded the territory of behaviour, political science, ecology, biochemistry and medicine. With remarkable suddenness it has displaced the older terms 'hypothesis' and 'possible mechanism'. Why? Because to the humanistic mind "it suggests abstraction and control of a large complex subject by means of a smaller, easily manipulated, totally fabricated mechanism... It seems to dissociate the author from complicity in the model in the likely event of its failure; 'model' somehow does not carry with it the sense of human involvement and responsibility that is conferred by the partially synonymous 'hypothesis'". (p.148)

Arrogance lies at the heart of the notion of space colonies, one of the silliest of ideas abroad today. We are to escape the earthly consequences of our arrogance by leaving mother earth for little ersatz worlds of our own making. Crazy? Well, not quite so crazy as humanism goes. For "if one sees humanism for what it is, a religion without God, then the idea is not so strange: space with its space stations and space inhabitants is just a replacement for heaven with its angels. Even the idea of immortality is there, fuzzy like everything else in this imaginary humanistic domain - for if one looks closely at the writings of the futurologists and the would-be L-5 pioneers one finds hazy references to relativity and time warps, ways of making immense journeys of many light years' distance without ageing...Space is nothing more than a watered-down heaven for modern unbelievers. Only now we have located heaven more precisely in the solar system than in the days when Dante wrote about paradise" (p.120).

A minor criticism of space colonies is that they will never work. In 1977 the electricity supply of the City of New York failed producing chaos. Imagine such a technological failure in a space city. We are reminded often enough that on earth even with the best technology, things go wrong. They will go wrong up aloft too: but there failure will spell disaster. And sooner or later disaster will certainly come. And just imagine the sort

of life inhabitants will have to live. "What bothers me most about Space Colonies" writes George Wald, "is their betrayal of what I believe to be the deepest and most meaningful human values. I do not think one can live a full human life without living it among animals and plants... Space Colonies will lead to dehumanization and depersonalization that have already gone much too far on the earth". We have been reading the story of the expulsion from the Garden of Eden too carelessly of late, thinks Ehrenfeld, for the world outside was not as beautiful as the Garden which our ancestors left. It is folly for man to think of leaving for good his supremely beautiful home.

In the last analysis humanist approach to life must break down, for humanists will be unable to give up dreams of power. In this connection (p.248) the author mentions a conversation with a fellow scientist who was studying an endangered species of great whale. "He was deeply concerned about its survival, yet in his scientific papers he was publishing maps and exact descriptions of the locations of 'his' own thriving and hitherto little-known whale populations." It was obvious that whalers would be tempted to make use of this information. Then why did he not omit it, or at least make it less precise? "He replied that he couldn't withhold scientific truth, even if it meant that the whales would suffer for it." How obvious it was that for this man scientific truth was a euphemism for ego. Science represented his hope of promotion, his source of power: vagueness in a scientific paper might have affected his scientific reputation.

Here is another example. By 1939 it was well-known that, in theory, the fission of uranium might or would make possible the production of an atomic bomb. Leo Szilard wrote to his colleagues urging them to impose censorship and to curtail their own experiments with chain reactions in the interest of mankind. The French research team, headed by Frederic Joliot-Curie, at first ignored the request, then rejected it. Instead the team became the first to produce and describe a chain reaction. Why did they publish their work when the danger was so obvious? A member of the team later confessed to Robert Jungk: "We knew in advance that our discovery would be hailed in the press as a victory for French research and in those days we needed publicity at any cost, if we were to obtain more generous support for our work from the government" (p.146). Here it was humanistic arrogance which placed reason above emotion and feeling. "A clever person can use reason to support any course of action that he or she fancies - it takes decent *feelings* to pick the right one".

The worst feature of humanistic arrogance, thinks Ehrenfeld, is this tendency of the humanist to exalt reason over and above emotion. It is true that, often enough, emotion and feeling offer us a poor guide, but so also does reason when untem-

pered by emotion. Time after time the most rigorous reasoning has led men astray and even when men invent reasons for what they do, they often rationalize hypocritically, without knowing it.

In one sense this book might seem backward looking. Even if big science does bring unexpected problems to a head, can we do without it? Would there be enough food to go round? Would disease near exterminate us as in the middle ages? One feels that the author glosses over some of these questions. But he has written a book which in style and thoughtfulness is a thing of beauty. It deserves a wide circulation.

REFERENCE

- 1 David Ehrenfeld, *The Arrogance of Humanism*, OUP, 1978, 286pp., £4.50.

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REVIEWS

W. Edmund Filmer, *Daniel's Predictions*, 1979
Regency Press, 43 New Oxford Street, London WC1A 1BH
160 pp, £4.00.

John A. Greed, *End of the World?*, the author,
St Trillo House, 92 Hillside Road, Redcliffe Bay, Portishead,
Bristol, BS20 8LJ, 1977 212 pp, PB, £2.00 post free.

A. A. Hoekema, *The Bible and the Future*,
Exeter, Paternoster Press, 1979, 343 pp, £8.00.

It is a pleasure to welcome Mr Filmer's book on which he has been at work for many years. His style (as older readers of this JOURNAL will not need to be reminded; see Cumulative Index) is fresh and clear while all he says is to the point. In fact the book is a pleasure to read and I found much of it convincing. Although Mr Filmer takes the historicist view of prophecy there is a great deal here from which Christians who hold the futurist view will derive profit.

Filmer finds a broad sweep of history in Daniel 2. This is divided into five, not four, periods (Babylonian, Medo-Persian, Grecian, Roman and the divided period represented by iron and clay in which no one kingdom or nation dominates the world. It is with this period, the Christian era, that the more difficult later chapters are chiefly concerned.

In chapters 7 and following the great empires are represented by beasts, lesser powers or individuals (eg. Alexander) arising from them by the horns. The ten horns of the 4th beast are the ten kingdoms into which Europe was divided at the end of the fifth century AD. Until 476 AD the Bishop of Rome had no independent political power but from then on the political power of the church increased and, with the aid of the secular arm, it destroyed three of the ten kingdoms. The Little Horn is therefore the papacy which, weak at first, gradually assumed enormous power and persecuted the people of God (so-called the "heretics"). The Papacy, then, exists until the day of judgment at which time, also, the beasts Babylonia, Persia, Greece and Rome still exist though their power has gone for good (7:12).

Here as elsewhere Filmer accepts the year-day theory without question. Roughly, at least, it is true that the Papacy persecuted God's people for 1260 years (7:25) — the period ending around the time of the French Revolution.

Dan. 8 (also 11:2-5) deals with Alexander (the Greek goat) who destroys the ram with two horns (Medo-Persian empire), and with the fourfold division of his empire after his death. The little horn is taken to be the Moslem power. By this time the nominal Christian church had become corrupt and the way was open for the

coming of the "king of bold countenance who understands riddles" (8:23) i.e. Mohammed who periodically went into a trance (but why are riddles solved in trances?).

Daniel 9, pointing to Jesus as the Messiah, and chapter 11 vs. 1-30 are treated in more or less the traditional way. They tell of Jesus the Messiah and of the Seleucid and Ptolemaic dynasties down to the time of Antiochus Epiphanes who died in 164 BC. The verses that follow cannot refer to Antiochus since our Lord puts the abomination that maketh desolate future to His day. The author of 1 Maccabees altered the facts of history to make it appear that Antiochus fulfilled this prophecy but the fact that he did not do so is known from 2 Maccabees and other sources. The abomination of desolation prophecy was fulfilled in AD 70. The rest of the chapter is made to fit the story of the Christian church, the "king" of v.36 referring to the Byzantine emperors. Later, the focus of attention is transferred to the Papacy, which honours a new god - the ikons and images so characteristic of the catholic church. The last verses deal with the activities of the Turks. The whole of this chapter has been fulfilled.

Finally, there is the consummation. As in Revelation 5 the Throne of the Ancient of Days is set in heaven and many (not all) of the dead are judged, this being before the return of the Son of Man to earth. In one detail after another this fits the NT prophecies. Judgment begins first at the house of God, says Paul but, as Mr Filmer suggests, unfaithful Christians may be those mentioned in Dan. 12 who experience shame and everlasting contempt. (The rest of the dead do not rise till later, a point not mentioned in Daniel.)

Mr Filmer rejects both the idea of a personal antichrist and of a rapture before the Lord's return to earth. He refers to futurism as "a theory for relegating most of its [Daniel's] predictions to a future fulfilment which for this very reason cannot be proved wrong." However, many Christians will think that in establishing his very reasonable case Mr Filmer has not thereby destroyed futurism. Some at least of his identifications in history seem improbable, even if, like futurism, they cannot be proved wrong. Can we be sure that the worship of the god of fortresses refers to the worship of church ikons? Those who live to the 1335th day are said to be blessed and holy: does it make sense to say that this refers to the Six-day War of 1967? Broadly speaking the year day theory seems to work out (even though it cannot be established from Scripture) but the fact that it sometimes leads to queer conclusions may surely be because the primary meaning of them is days and not years. But these are details: the book is excellent and thought-provoking.

Mr Greed's book is of a very different kind. In every way it is unconventional. The format is strange: there are many amusing sketches, and much of it takes the form of the thought-adventures of John Smith who has heard that the end of the world is coming and tries to get information on the subject from his unhelpful vicar, amongst others, and of his bewilderment when he encounters historicists, futurists, and devotees of sects holding strange ideas. In the middle of a serious discussion we are suddenly regaled with the trivial story of how John entered a chapel and sat down and listened to a blonde and a drummer singing a duet followed by a testimony. And so on. The book is quite incredible, but refreshingly so.

The author is an evangelical Christian and a futurist. But he also plays around with the year-day theory and other historicist interpretations of prophecy in a most disarming way, showing how they can lead to strange conclusions even if they are partly right. He gives the impression that he has read every book on prophecy published over the past century or more: I found it delightful to be reminded of authors whom I read as a boy and have hardly heard of since. He brings in all kinds of topics (Uri Gellier, Ley Lines, Baha, the signs of the Zodiac, UFOs and a host of other subjects) and he works out from the prophecies what is likely to happen in years ahead. Occasionally he gets quite difficult, for example in discussing the war between the king of the North (Syria) and the king of the South (Egypt) which, unlike Mr Filmer, he puts in the future. He prophesies 28 major events which will take place in future years and invites you to enter the dates in his table as they happen.

From this description it might be supposed that this is a trivial book, unworthy of the attention of scholarly Christians. It is nothing of the kind. It is one of the most interesting books on prophecy I have read and much of what it says makes good sense in the present political climate. As for the presentation, one remembers that none other than the brilliant mathematician Oliver Heaviside likewise interspersed his serious thoughts with trivialities. They release the tension!

* * *

Hoekema's aim in his impressive and beautifully produced volume is to discuss methodically and in detail what the Bible teaches about the future and the end time. Although, inevitably, this involves a good deal of repetition and some sections (especially in early chapters) which are very elementary, the book contains some excellent as well as highly controversial material. On some of the controversial issues I found the author's approach too doctrinaire (Lutheran) to carry conviction. His reading also seems limited to well-known theologians and the sects about which he has effectively written: he makes no attempt to correlate his conclusions about the meaning of scripture with modern non-theological

thought, discovery or political trends only a few of the issues he raises can concern us here.

In Chapter 5 it is argued that the Bible connects sin with death — but death for man only. In Chapter 8 (Immortality) we are reminded that immortality is conferred on believers by God on the day of judgment (1 Cor. 15:53) and that the immortality of the soul is not a distinctively christian doctrine. Yet later (Chap. 19) in a very unconvincing chapter Hoekema argues for the everlasting punishment of the wicked. Here he gives the impression that only the sects hold conditional immortality: he seems quite unaware that many evangelical christians hold it too (B.F.C. Atkinson, Guilleband, John Wenham etc.) and he seems never to have heard of the idea that in the NT 'eternal' often has the meaning of 'once-for-all' (eg. "eternal sin" Mk.3:29; Jude 7 etc.).

By contrast Chapter 9 on the Intermediate State between death and resurrection is well argued — Hoekema shows that (despite criticism) it is biblically correct to speak of the separation of soul and body at death (Mt. 10:28) and of the soul existing apart from the body (Rev. 6:9 etc.) even though they are, in life, a unity. Again there is no attempt to relate this teaching to psychology or psychical research.

About 70 pages are devoted to criticism of the Schofield Bible's advocacy of dispensationalism and of the doctrine of the millenium. This is important: if we believe that God's creation is "very good" despite the evils that we encounter, then the millenium (never mind if the period is not precisely 1000 years) is God's vindication of the fact that nature is beautiful and that if righteously governed mankind will be happy. In Rom. 8 Paul says that all nature looks forward with anticipation to that day and science helps us to understand how one aspect of evil after another might be conquered.

But Hoekema will have none of this. Page after page of arguments, plausible and implausible, are mustered to prove that there will be no millenium, that when the Lord returns no earthly reign of Jesus will ensue and that the earth will almost at once be utterly destroyed by fire. Enough to make the very trees of the field clap their hands for joy! All the prophecies of peace on earth are then fulfilled on an entirely different planet. Of course this subject is controversial, as are Hoekema's denial of the 'rapture', 'dispensationalism' and of two resurrections.

On the last issue Hoekema is emphatic that nowhere in the Bible, other than in Rev. 20 is the teaching that there will be more than one resurrection to be found, so that Rev. 20 must be explained some other way which is what he attempts to do. But his premise is not true. Paul strives to attain to the "out-resurrection from among the dead" (Phil. 3:11 see Greek) and there are many hints elsewhere, eg. Daniel 12 says that many of

the dead arise at the advent, yet the NT teaches that all will ultimately rise.

In his anxiety to prove one resurrection only Hoekema equates, without discussion, the sheep and goats judgment with the final judgment of Rev. 20:11, though the former is apparently quite unconnected with resurrection.

However, the book is stimulating, its tone christian in spirit and it is pleasingly (though sometimes perhaps a little too discursively) written. Readers will find much that is helpful. A bibliography, an index and a useful text index are provided.

Hoekema starts approvingly with a quotation from Jürgen Moltmann: "From first to last, and not merely in the epilogue, Christianity is eschatology... [It] is not one element of Christianity, but is the medium of the Christian faith as such..." How sad it is, then, that differences between Christians on this issue often leave even the most devout John Smiths befuddled.

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Note added in proof

Mr Filmer who has seen the above review of his book thinks that perhaps it has not been made clear that he believes in a pre-millennial advent but not in the "Dispensational" theory with which it is usually associated. With regard to the Six Day war he comments "You will have seen that many of the time periods begin and end with a *series* of events, corresponding each to each at precisely the right time." The 2300 year period began with the rise of Alexander the Great. Other dates arise taking the date of his death and the beginning of the Seleucid Era in 312 BC as starting points.

Dan Wonderly, *God's Time-Records in Ancient Sediments*, Crystal Press Publishers, 1909 Proctor Street, Michigan 48504, 1977, 258pp., 28 x 21.5 cm., 5.50 dollars.

Criticism of the very convincing radioactive evidence for the age of the earth by his fellow evangelical Christians led the author of this work to set out some of the evidences for the earth's great age based upon purely geological considerations. The book is addressed to Bible loving Christians and has been vetted by ten experts in various fields. The style is simple and most readable, the illustrations showing *inter alia* sediments which could not possibly have been produced by the swirling waters of the biblical Flood, are superb, while the price is absurdly low. Documentation is good and there is an index. We strongly recommend the book for those interested in such matters. — REDC

David Knight, *The Transcendental Part of Chemistry*,
Dawson, 289 pp, 1978.

Today the basics of the science of chemistry are cut and dried. We know its laws and buy purified chemicals in bottles with formulæ printed on the labels. How rarely do we think of the arduous toils of those who made the great discoveries of yesterday. What were their motives? What kept the flames of their enthusiasm burning?

Auguste Comte was right in large measure: it was theology — either the desire to vindicate revealed truth or, sometimes to prove it wrong. In this scholarly book David Knight, of Durham University, tells us how theology entered the chemical field in the nineteenth century.

At the end of the 18th century the French revolution broke out with all its ferocity. This happened, or so it was believed in England, because materialism had spread in France. Confining attention to the chemical field, Lavoisier's materialism led him to imagine that atoms were of many different kinds. There were atoms of oxygen, potash, hydrogen, sulphur, caloric, light, etc. Each kind of atom conferred its properties on the substances which were formed when it combined with other atoms. There was no need, then, to invoke God or spiritual powers. Thus the presence of oxygen atoms conferred acidity; of phlogiston, inflammability. With this theory in mind, chemists began to look for atoms which made things alive, or endowed them with the metallic state, and so on.

Humphrey Davy was attracted by materialism when young but changed his mind in his late teens. Like many others he thought it most improbable that specific atoms could endow material substances with hardness, let alone the power to think! Easier by far, he thought, to suppose that atoms are inert, endowed only with Newtonian properties akin to (perhaps identical with) gravity. Boscovitch's atoms which were dimensionless points seemed all that were necessary. Spiritual powers could arrange them in diverse ways and so create the properties of things, but the properties were imposed on the atoms, they did not belong to the atoms themselves.

Inspired by this philosophy, Davy worked in his laboratory. Before long he had become the greatest chemist of his day. He soon showed convincingly that Lavoisier was often wrong! Hydrochloric acid was an acid but contained no oxygen. Potash did contain oxygen but it was not an element and it was a base. With the galvanic current he broke it up and discovered the element potassium — then sodium and other metals. When rich enough (as a result of marriage!) to burn a diamond he proved that diamond and charcoal both contain carbon only: a carbon atom alone, then, had no power to turn itself into charcoal or diamond. An external power was needed... And so, falteringly, the laws of chemistry were discovered. Of course Davy's conjectures, like Lavoisier's, were sometimes wrong.

But educated people in his day were convinced that he had given the materialistic philosophy of the French a beating from which recovery seemed impossible. Today we can look back gratefully, recognising the power of Christian theology to lead men into truth, even if they blunder on the way.

If all this seems like bygone history, let us remember that the controversy is still with us. Not, indeed, centred around oxygen and bases, but around life. Is the power which "evolves" life inherent in atoms and physical forces? or is it imposed upon matter by a non-material power - God? This is the essence of the creation - evolution controversy.

Much else of interest will be found in Dr Knight's book. It is amazing to reflect that from Dalton's time around the beginning of the 19th Century until its end atoms were accepted by faith - a faith about which controversy often raged. Only after two generations did faith - here called the transcendental part of chemistry (Lavoisier, Davy and others used the expression) - turn into sight.

Likewise the conjecture that at enormously high temperatures all matter would be the same had a long history. It was certainly one of Michael Faraday's pet ideas - Newton and Boyle had held it too. Today we realise how right they were.

Of especial interest are the discussions on evolution. The periodic law revealed affinities between the elements not unlike affinities between living forms. Crookes, who worked on the rare earths found them remarkably difficult to separate and thought this was because he had caught them in the act of evolving! The distribution of elements displayed parallels with what was observed among animals - the curious group of rare earth metals seem to be confined to Sweden just as the monotremes were found only in Australia. It was noted, however, that there were no known fossil records of extinct elements - an objection which does not apply today! Biologists at that time often supposed that living creatures made rare elements which they needed out of the common ones in their surroundings, an idea which long persisted. (I well remember the amazement shown by undergraduates, around 1930, in Cambridge when they were told by a well known lecturer in zoology that certain foraminifera in the sea build their shells out of strontium carbonate, but, said the lecturer, there is no strontium in sea water - it cannot even be detected with a spectroscope. "I put it to you, gentlemen, that they make it themselves"!)

Davy and Faraday thought that elements evolve in the rocks. "We have no right to say that ... the generation of gold in nature does not take place" said Davy (1811). Nature had had ages to do it, after all, whereas human experimenters had at best a lifetime at their disposal. Faraday spoke in similar vein, as do evolutionists today when they demand long ages to account for biological evolution.

Both Davy and Faraday thought that would-be alchemists were engaged in a forlorn endeavour — unphilosophic and inappreciative of the long ages required. It is interesting to remember that in the middle ages mines which had become exhausted were closed but reworked again after a century or so by which time the mineral veins were supposed to have sprouted again. These were but the foliage of a gigantic tree which grew in the centre of the earth.

Today, we recognize what might be called the evolution of elements when they are products of radioactive disintegration. But only the minutest proportion of the earth's crust is of this kind, and in any case no principle akin to natural selection is involved. The heavier elements were formed quite suddenly, we believe, in super-nova explosions. Will the years to come witness a similar change of outlook in biology?

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James Houston, *I Believe in the Creator*, Hodder and Stroughton, 1979, PB, 288pp., £3.95.

At the call of God, Dr Houston, author of this book, left security and comfort and, starting from virtually nothing, was able to found Regent College, Vancouver. A glance at his book creates a favourable impression. It is beautifully printed and bound, a credit to the publishers, and the references at the end of the chapters evince wide reading. The author sets out to show that Christianity, so often deemed old-fashioned, is compatible, after all, with sociological and scientific knowledge: it is the key to making sense of our world.

Dr Houston quotes extensively both from the Bible and from modern literature including poetry and drama. What he says is helpful and interesting. He stresses the point, for instance, that according to the Bible the material world, made by the Creator, is *good* and that in the creation story there is no suggestion that the spiritual world is somehow purer or better than the material. This is in strong contrast to ancient pagan teaching.

Dr Houston's criticism of Teilhard de Chardin — who makes Christ the "saviour of the idea and reality of evolution" is trenchant. His development of Pascal's question "Who is unhappy at not being a king, except a deposed king?", showing that man's very alienation is a strong point in favour of the biblical picture of sin and the Fall, provides a valuable arrow in the Christian's armoury. His criticism of Process Theology which, he argues, is not Christian at all because it has no place for sin, repentance, forgiveness and worship, is most valuable. Another striking thought is that "There is a time for everything, without nostalgia for its passing, for the Creator has made everything beautiful in its time" (p.159). And so one might go on, for there are so many good things to be found in this book.

After saying all this it seems churlish to criticise. Yet the would-be reader must be warned that it is a difficult book to read. For one thing it is too long and there is a good deal of needless repetition. At times the choice of words seems unfortunate. The chapter heading "Culture and Civilisation before the Creator" leaves one wondering for a moment how culture could possibly antedate the Deity. The use of long hyphenated words hardly makes for easy reading - "Creation-Redeemer-creation-man" is used repeatedly. Although the book is divided into short sections, text-book fashion, one is often conscious of a lack of crispness and clarity especially, perhaps, in the treatment of Providence.

Sometimes the author seems to follow slavishly all too common evangelical clichés. God is not a god of the gaps (the idea of such a description of God is attributed to Coulson but it was I think due to the philosopher Bradley) but is to be seen in all the workings of nature. Israel, we are told, saw all natural events in the same light as the historical miracles (p.102). Sometimes perhaps, but more often they certainly did not. The OT abounds with passages which show that Israelites bewailed the fact that God did not show Himself in their time as he had shown Himself to their fathers. The false idea that man cannot learn of God from nature until he first knows God, a doctrine which makes nonsense of Rom. 1 ("clearly perceived" "without excuse") is here repeated yet again (p.56).

Yet these are, perhaps, minor flaws in a book, the impact of which on contemporary Christian thinking is likely to be considerable.

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Don Cupitt, *The Nature of Man*, Sheldon Press, 1979,
PB 118 pp, £1.95. (Issues in Religious Studies.)

In a masterly survey the Dean of Emmanuel College, Cambridge, outlines ideas, often nebulous enough, as to the nature of man from pre-historic times to the present day. He includes interesting, potted, surveys of ideas held by Australian aborigines, African man and oriental religions, together with humanistic and atheistic ideas of the present era. He then discusses man's supposed origins, and such problems as consciousness and the brain. It is finally explained that books in this series do "not include constructive theology", the chief aim being "to understand the issues rather than to solve them." Though the book is scholarly and some of the lesser known material very interesting, one feels at the end that little has been said, save that a purely naturalistic outlook is inadequate. The inadequacy of the naturalistic account is illustrated by the attitude of a gardener towards insects v. the attitude of an entomologist. The former's interest is confined to how they affect his garden; the latter is concerned with their anatomy and life cycles. Marx explains the gardener's practical

interest well enough but it is difficult to see how the capacity to be concerned with knowledge for its own sake can have resulted from natural selection. Similarly "one must ask, is there something in morality which cannot be fully explained in terms of natural advantage to society?"

The tone of the book will be found somewhat disconcerting to some Christians, for the author's attitude is akin to that of the "modernist" of yesterday. He writes as if belief in witchcraft or evil spirits "by a few people who ought to know better" is to reject science and "return to irrationalism and pre-scientific ways of thinking." But this is not so. The extreme rarity of *psi* events leaves science untouched. For the Christian, at least, the fear which such things engendered is not to be dispelled by saying that there is no devil, but by the realisation that the God in whom we trust is vastly more powerful than the forces of evil even if there is a devil.

The chapters close with suggested topics for discussion.

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Bob Goudzwaard, *Capitalism and Progress: A Diagnosis of Western Society*, 1979, Wedge, Toronto, and Eerdmans, Grand Rapids, 1979, 270pp. \$9.95

One of the crying needs of our day is for a Christian voice in the socio-economic sphere. Not a voice which simply parrots the secular pundits and is supposedly sanctified by church-alliegiance or whatever, but a voice which authentically articulates biblical perspectives within economic and social life. Bob Goudzwaard's new book attempts just that.

It is an erudite (and thus no easy read) and probing critique of capitalist society from a Christian standpoint. Though clearly associated with the so-called 'Amsterdam school' of Christian philosophy, Goudzwaard has not succumbed either to the scholasticism or irrelevance of which some have accused writers from the Free University in Amsterdam. The perspective of this book is biblically-rooted, and sensitively applied to our contemporary western world.

Goudzwaard relates capitalism to the desire to achieve human progress, which in the west has become no less than an idolatrous faith. Marxism, far from being a *radical* alternative to capitalism, is merely another example of trust in human autonomy, rooted in the same post-enlightenment soil. Faith must be placed elsewhere — in the God-given norms of truth, justice, and love — if western society is to survive.

The historical sweep is wide, ranging from medieval times to the present day, and including illustrative material from ancient Israel. It is a work of social, cultural, and economic analysis and criticism, which discusses the work of more major theorists and analysts who have contributed, and are contributing, to these spheres. It exposes the inherent contradictions of capitalism-as-progress, and also makes a damaging critique of currently proffered alternatives still based on belief in womankind.

Goudzwaard believes he is not advocating utopian suggestions. Rather, underlying his writing is the "conviction that human societies can experience ever anew a liberating and healing power if men take norms seriously." Utopias, he argues, merely restrict. What he is after is "the inspiring openness of the biblical *eschaton*". This book will help us all pursue that aim with him.

DAVID LYON

Klaus Bockmuehl, *Evangelicals and Social Ethics*, Paternoster (IVP, USA) Exeter 1979, 47pp. £1.20.

R.E.O. White. *Biblical Ethics (The Changing Continuity of Christian Ethics vol.1)* Paternoster, Exeter 1979, 256pp. £4.80.

Both these books take a biblical exegetical and expository approach to ethics. Both are evangelical in the sense that they see ethics as an outworking of Christian discipleship to a living Lord Jesus Christ. Both are carefully argued attempts to come to terms with biblical data and the contemporary situation.

White attempts the ambitious task of providing a systematic account of the moral teaching of the whole Bible. It is in the form of a text-book (related to the London University BD examinations), and moves historically through from early Hebrew religion to the apostolic teachings on Christian conduct. His Christocentric approach is a refreshing alternative to 'straight-jacket' morality. But the limitations of the textbook approach are also clear. Some readers will be disappointed not to find further reference to issues currently concerning evangelicals, such as Anabaptist ethics and the challenge of Marxism for ethics.

Bockmuehl's range, and therefore the length of his contribution, is much shorter. His is a sympathetic critique of article 5 of the Lausanne Covenant. He notes in particular that certain words and phrases, added *during* the congress, simply do not withstand biblical scrutiny. In particular he questions the use of the words 'liberation' and 'domination' as they appear in the document. But he helpfully stresses the positive aspects of the article, especially insofar as the notion of *diakoina* should be at the forefront of Christian social-ethical thinking and action.

DAVID LYON

Aelred Squire, *Summer in the Seed*, SPCK, 1980, PB, 238pp., £3.95

In his earlier book *Asking the Fathers* (1973) Aelred Squire, who has taught patristic and ascetic theology since 1955, sought to make accessible to the ordinary reader an indivisible tradition of doctrine and life stretching continuously from the early fathers through St. Bernard of Clairvaux to the mystics of the later middle ages, St. Teresa of Avila, St. John of the Cross and our own Mother Julian of Norwich, and renewed in the seventeenth century teaching, both simple and profound, of St. Francois de Sales. The consistency of this tradition and its continuing relevance today were demonstrated with well-chosen references to contemporary writers and situations. It was thus much more than a simple anthology.

In his new book, the author ventures on less well-trodden ground. He begins with the contemporary scene, and searches it for signs of the same God at work in the human situation at large. His book sets out to be a monastic reflection on the cultural situation of the believing and praying Christian of today, calling on writers as diverse as Marx & Turgenev, Tennyson & Jung, and confidently envisaging a future that is compatible with Christian belief. The making of this future is a human task: if there is to be a flowering summer (he tells the reader), the ground must be prepared, and the seed planted.

The book turns from the present day to reflect at length on the life and teaching of the saints, on the incarnation, and on the central position of St. John's Gospel in the shaping of Christian belief. It becomes a meditation on the mysteries of the faith, illuminated with quotations which are the harvest of an exceptionally wide reading. In its sustained and careful argument, it is one man's thorough preparation of the ground, and the seeds that are planted are plentiful and good.

There is an interesting section dealing with the *I Ching*, which the author has long known and used, no indeed as a book of divination, but rather as fulfilling the sort of role which is proper to a spiritual direction in the classical Christian tradition.

D.C. MANDEVILLE

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