Creationism in confusion?

SIR — It was, perhaps, too much to expect the founders of the "Association for the Protection of Evolution" (APE) to give an objective report on the recent Biblical Creation Society (BCS) conference at High Leigh (News and Views, 25 October, p.703). What is surprising, however, is that you should give such extensive and uncritical exposure to views which were self-evidently biased.

The very heading to your report, "Creationism in confusion", betrays a tendentious purpose, namely to present BCS in the worst possible light. Evey difference of opinion or continuing debate among creationists is represented as evidence of "confusion" rather than the product of honest enquiry and developing ideas. By the same token, would the APE-men agree that evolutionary theory is "in confusion" because neo-darwinians, punctuated equilibraists and reformed cladists disagree? Debate and disagreement is the stuff of scientific and intellectual progress and the BCS open day demonstrated that (contrary to the impression given) creationists are capable of constructive self-criticism at the highest scientific and theological level.

The conference report contains several serious errors of understanding. Howgate and Lewis fail to grasp the purpose of David Tyler's lecture which was not to reinterpret geology in terms of catastrophism but to illustrate from field observations (1) that the straitjacket of Lyellian uniformitarianism is a hindrance to the science of geology and (2) that there is a need to test the appropriateness of modern analogues, whether catastrophic or non-catastrophic.

Dr Darnborough, described as "BCS's top geneticist" is, in fact, a molecular biologist. He does not "believe in evolution". His paper argued, rather, that the operation of accepted evolutionary processes at the molecular level upon genetically perfect *created* organisms would lead to a living world with genetic characteristics essentially similar to those observed in modern organisms. This paradigm is fully consistent with both the scientifically observed facts and the biblical doctrines of creation and the fall. It further avoids the need to invoke the vast improbabilities of chemical evolution.

My own lecture "Christ and the Cosmos" is represented as a "keynote theological policy statement" and a condemnation of "American creationists". It was nothing of the kind. It was a positive exposition of an important New Testament passage which sets out the relationship between Christ and the created, divorcing "creationism" from the Creator, and illustrated this by reference to certain trends in American creationism. To suggest that I "condemned" or "attacked" the whole US creationist movement is so far from the truth that I am tempted to attribute to your reporters the unworthy motive of using your journal to sow international discord among creationists.

The report continues with the statement that "a stalwart of the rival creationist organization the Creation Science Movement attcked the backsliding into theism of the BCS". First, there is no rivalry between BCS and CSM. The two societies have somewhat different aims but remain in close and amicable consultation. Second, your correspondents should learn a few basic theological terms before venturing into print on such subjects. Both BCS and CSM are proud to be "theists". It is "deism" that we, equally, disown.

Finally, we are astonished that you should include, as part of the conference report, a private conversation over tea between one of the APE representatives and Dr David Gower. The ethical lapse is the more serious since Dr Gower is seriously misreported as admitting "unenthusiastically" that he ascribed genetic defects to the fall and that sexual communication by pheromones has to do with "lustful temptations". These serious misrepresentations of a senior university academic are, to say the least, deplorable.

What your correspondents fail to grasp is that creationism is an holistic philosophy which seeks to understand the scientific enterprise within a biblical and theological framework. In pursuing this concept, and rejecting the arid materialism which underlies so much modern thinking, we are simply returning to the paradigm espoused by such as Newton, Boyle, Kelvin, Faraday and Maxwell, who among others laid the foundations of science as we know it.

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Riposte on CERN

SIR — Victor F. Weisskopf and J. H. Mulvey (*Nature* 8 October, pp.599-600) make various criticisms of our study of CERN, the European laboratory for particle physics. The criticisms are unfortunately misplaced since they relate to a brief *Nature* article (6 September, p.4) rather than to the detailed findings recently published in two parts in *Research Policy*.

First, we do not base our "main conclusions on a selection of so-called 'crucial' experiments" — we actually devote as much attention to evaluating "incremental" contributions to science. Indeed, the very first conclusion listed in the second of our papers is that since 1970, "the overall record of the CERN machines taken together has been better than that of the accelerators at any other laboratory in the world when judged in terms of experiments producing precise measurements". Nowhere do we describe such work as "dull physics".

Second, Mulvey's assertion that there is no evidence to support our conclusion that the multinational nature of CERN has previously led to problems in research management is wholly inaccurate. Even the most cursory reading of our papers would reveal that our evidence comes from interviews with more than 180 high-energy physicists, many of whom cited this particular problem as important.

Third, it is gross oversimplification by Mulvey to suggest that the greater success of the United States in terms of important discoveries was due to a single machine. The Brookhaven Alternating Gradient Synchrotron had a far better record than the very similar CERN Proton Synchrotron, as did Fermilab compared with the CERN Super Proton Synchrotron (SPS), while the CERN Intersecting Storage Rings "missed" several major discoveries in their energy range.

Fourth, the successes of Stanford with the SPEAR collider were not entirely unpredictable. Among other factors, they can be attributed partly to the fact that the machine opened up a new energy range (unlike the CERN SPS which began operating four years after an identical energy US machine), and partly to its users, who already boasted an impressive track record in exploiting the earlier Stanford linear accelerator.

Lastly, one of our papers devotes considerable attention to identifying the factors that have structured the performance of CERN accelerators. It is therefore incorrect to say that we offer no explanation for the improvement over recent years.

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Irish students

SIR — We were surprised by your statement (18 October p.592) under the heading "Irish disunity" to the effect that "Roman Catholic students from Ulster tend to seek higher education south of the border when (*sic*) they are welcomed as if Irish".

This statement is patently false and could be unwittingly damaging. Although the Queen's University of Belfast, being completely non-sectarian, does not keep statistics of students' religions, it is common knowledge that the proportion of Catholic students at Queen's easily exceeds the proportion of Catholics in the population of Northern Ireland as a whole. The several thousands of Catholic students at Queen's alone, apart altogether from those in the non-sectarian University of Ulster, constitute a group at least four times larger than the total number of all Northern Ireland students who attend universities in the Irish Republic.

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The major ecological cycle recorded is the alternation of rain forest elements with those from the paramo, the grass-dominated vegetation above the tree line. It is these alternations which provide the evidence for temperature fluctuation. Careful inspection of the pollen curves shows that no two cycles are precisely the same. *Alnus*, after its arrival, usually dominates the forest pollen, but the proportions of other forest trees such as *Podocarpus, Weinmannia, Hedyosmum, Rapanea* and *Miconia* vary rather widely and are constantly fluctuating. Some of these variations may indicate hydrological differences between the forest periods, but others could relate to the population biology of individual taxa or to complex ecological interactions. Two points emerge: there is no set pattern of succession in each forest period and there is no stable 'climax'. In fact the diagram is more an exhibition of continuous change than of any kind of stability; any idea of the rain forest as a stable museum-piece does not apply to these montane forests.

Is the Bogota record unique or can we hope to find similarly long undisturbed records elsewhere? In glaciated parts of the world it is clearly unlikely and in subtropical arid regions deposition may often have been interrupted by aridity and by deflation of sediments. It is therefore no accident that this valuable record is from the tropics. The Bogota lake happens to be dry, but there are other tropical lakes which are wet and almost certainly contain long records. The most likely examples are the East African Rift Valley lakes, although the tectonic lakes of the Sumatran Rift Valley also hold out much promise. What is needed now is an international coring project for tropical deep lakes. A start has been made by Dan Livingstone of Duke University, who plans to core the meteorite crater of Lake Bosumtwi in Ghana, and it would be tragic if the expertise to be gained so expensively in money and time at Bosumtwi were not to be more widely used.

The amount of laboratory work involved in analysing the Bogota core was enormous but that being generated by analysis of a 1,000 m core from Lake Biwa in Japan is positively daunting. How incongruous that the pollen analysis of cores obtained with such sophisticated technology is carried out with 'steam-age' manual preparation and optical microscopy. This is true not only for pure research, but also in the field of oil search where palynology is increasingly important. It seems odd that so few palynology laboratories put any effort into modernizing their techniques, and that research-funding bodies have not yet supported attempts to apply information technology in this challenging and commercially significant area. □

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Evolution

Creationism in confusion

from Michael E. Howgate and Alan J. Lewis

THIS Saturday (27 October, 2.30pm, Conway Hall, Red Lion Square, London WC1) there is to be a debate between the Association for the Protection of Evolution (APE) and the Biblical Creation Society (BCS) whose talents were on display at an open day during the society's biennial conference*.

Evidently, BCS members range from 'young earthers' who are strict literalists and believe that the Earth was created in six days about 6,000 years ago, to 'mature earthers', who believe it was created about 6,000 years ago but looking much older. It even includes some who put forward the 'gap' theory, which proposes that geology happened sometime between the Fall of Adam and the Flood.

The open day was introduced by David Tyler, who set the tone by being very non-committal about whether Hutton's classic unconformity at Siccar Point was due to the Flood. However, he was convinced that the presence of a basal breccia and a smoothly planed-off contact was due to some unnamed catastrophic event. Tyler is unusual for a creationist in that he does go into the field to look at the evidence, although he freely admits that his observations are interpreted in the light of 'the biblical constraints on (his) geological thinking'. Tyler, a young-earth theorist (and an organizer of the Open University Geology Club), disparages Uniformitarian geologists for relying on present-day observable analogies when interpreting past processes, but seems not to be averse to doing the same when using the Mount St Helens eruption as a convenient catastrophist analogy. As he is faced with a multiplicity of non-correlatable unconformities throughout the geological column, Tyler seems destined to arrive at the position of Baron Cuvier who, nearly two centuries ago, saw the necessity to interpose as many catastrophes as required in order to match up his catastrophism with the record of the rocks.

A surprising fillip for evolutionists was the discovery that BCS's top geneticist, Chris Darnbrough (Glasgow University) believes in evolution. However, his lecture *Genes, created but evolving* gave the game away. Far from his belief in the genetic mechanisms of evolution affecting his literalist faith in creation, Darnbrough believes that the 'Biblical kinds' of organisms have evolved, but only since the Flood.

In his keynote theological policy statement, Edgar Andrews, professor of materials at Queen Mary College, London, wisely distanced the BCS from US creationism, which he described as being ascriptural and anti-scriptural, as well as suffering from inconsistency. Andrews condemned the opportunist tactics of 'scientific creationism' for leaving the revealed word of God — the Bible — out of their arguments. More specifically, Andrews did not criticize the pseudo-science of the American creationists but concentrated his attack on their failure to appreciate fully the role of Christ Himself as the agency of Creation.

David Gower, reader in biochemistry at University College, London, gave a biblically uninterpreted account of recent advances in the study of olfaction. But in the finale to his lecture he opined that nasal biochemistry was firm evidence for creative design as opposed to natural selection. When tackled on the subject of inherent and genetic defects in olfaction and gustation as well as the lustful temptations presented by pheromones, Gower unenthusiastically admitted that his theological position impelled him to ascribe these faults to the Fall of Adam or to the agency of the Devil.

When a stalwart of the rival creationist organization, the Creation Science Movement, attacked the backsliding into theism of the BCS and asked for a show of hands in support of young-earth, six day, literalism, only one member of the panel of lecturers committed herself to this position. (Perhaps the presence of your Neodarwinist correspondents had an inhibiting effect on their forthrightness). It is to be hoped that at Saturday's debate with APE, the BCS protagonists will not hide the flame of their empirical predictions behind a bushel of theological diversions. □

*'Creation and Origins Study Conference', High Leigh, Hoddesdon, Herts, 23-26 July 1984.

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100 years ago

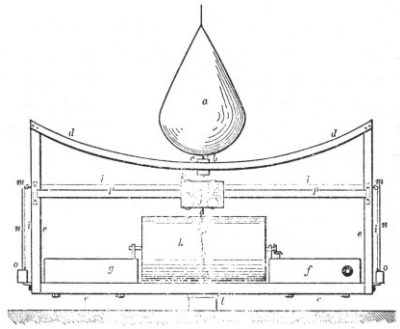

Fig.4 Horizontal component of wave-path register for strong and destructive earthquakes.

From *Nature* **30**, 610, 23 October 1884.