

## CORRESPONDENCE

## Original life

SIR — David Dickson has quoted (*Nature* 14 January, p.87) from Judge Overton's ruling against the creationists in Arkansas. Among these we find "Although the subject of origins of life is within the province of biology, the scientific community does not consider origins of life a part of evolutionary theory". . . "The theory of evolution assumes the existence of life and is directed to an explanation of *how* life evolved. Evolution does not presuppose the absence of a creator or God. . ." Now, these statements show that much of the creationist attack on the synthetic theory of evolution is irrelevant. It would be a pity if that short-term goal contributed towards a long-term predisposition in the minds of the scientific community to continue excluding the origin of life from evolutionary theory. That would not be in line with the views of some important evolutionists who contributed to both disciplines. Nevertheless, a bias against considering origins exists in the minds of many evolutionary biologists — I discovered for example that my textbook *Evolutionary Biology* (Holt, Rinehart & Winston, New York, 1972) was not favoured by some teachers because it has a prominent chapter on the origin of life.

The evolutionary process is represented at the molecular level on the one hand and encompasses cosmogony on the other. At some point a theoretical framework covering the entire range of that process will become necessary. Presumably the evolution of molecular systems leads to the origin of life just as the evolution of living systems leads to the origin of ecological systems. Individuals need not become proficient students of all these subjects, but it is quite another argument for an important legal document to declare that part of this subject matter is not considered proper by important exponents of the study of evolution, when that is only the provincial bias of some. Such statements are potentially stultifying and to be regretted by those who otherwise rejoice in Judge Overton's document.

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## All in the Book

SIR — That anyone writing from the evolutionists' standpoint is willing to expose such crass ignorance of the creationists' case as does Jon Marks<sup>1</sup> is almost beyond belief. It is much to be hoped that the tone, let alone the substance, from any creationist writing about evolution would not expose such hostility.

May I answer only the three biblical points raised? *Leviticus* 11 v. 19 is not taxonomic but gastronomic; (and very prudent at that) it does not attempt a classification of mammalia. *Luke* 23 v. 43 has the comma incorrectly placed, a point of punctuation well understood over the past four hundred years. *Genesis*, in respect of the fourth day, as taken up by Origen and later by Voltaire, is explained by Wiseman<sup>2</sup>. It is, I regret, open to both sides of this argument to accuse the other of fraud and obscurantism, but nothing useful is served thereby.

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1. Marks, J. *Nature* 295, 276 (1982).

2. Wiseman, P.J. *Creation Revealed in Six Days. The Evidence of Scripture Confirmed by Archaeology*, p.128 (London, 1948).

## Workers' union

SIR — The letter from ten Russian scientists (*Nature* 24/31 December, p.688) is in part an approach to the WFSW. The federation is indeed concerned with the difficulties that can afflict scientific workers in any country. We have been able, in various circumstances, to resolve or prevent serious problems.

We have been aware for several months that certain requests for exit visas from the Soviet Union have remained unanswered. On 3 November 1981 I wrote to the president of the "Educational and Scientific Workers' Union of the USSR" in Moscow, in conformance with the policy of the federation first to contact our affiliated organization in the country concerned. I asked to be informed of the nature of the difficulties relating to these scientists. I feel certain that Mme Yanoushkovskaya is making the necessary investigation and that she will soon be able to furnish an explanation.

The list of signatories in the letter published by *Nature* is not identical to that in a letter I had earlier received; two names have been dropped and four added. I infer that the situation has evolved since last year.

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J.M. LEGAY

## Reagan's right

SIR — The editorial "Reagan's mistake on Soviet sanctions" (*Nature* 7 January, p.1) is disturbing. Science is not now (as it may have been in Davy's time) merely a pastime for scientists. It has powerful consequences for humanity in both peaceful and war-like activities. If all humankind were one big happy family, then free interchange of science would be both desirable and inevitable. But humanity is divided into groups whose objective is not to have cheery little wars with "sweetness and light" in view down the road, but to destroy each other. Therefore, free exchange of science cannot be allowed. *Nature's* reasoning resembles that of "pacifists" in the last two Great Wars who helped the enemy and hindered our own war effort because they hated war. We all hate war, and we're all for scientific freedom and exchange. But that is no reason to give science that we've worked or paid for — our science — to people who will use it directly (in weapons) or indirectly, by improving their efficiency, to destroy other people: Poles, Afghanistanis, or us.

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## An SOS from a Polish scientist

from a correspondent in Poland

SIR — It was not an eruption of anger as in Hungary, nor was it the movement of a rather narrow group of politically mature intelligentsia as in the Czechoslovakian spring. It was a vast popular movement, in which men of the arts, literature and science found their usual role as articulators of popular demands.

This cleansing process began a few years ago. In 1978 the group *Doswiadczenie i Przyszłość* (DiP, Experience and Future) was formed. This small group of scientists and journalists published a number of important reports, their main message being that the country was on the edge of catastrophe and that the very last opportunity of avoiding it by the introduction of essential social reforms had arrived. The authors expected that if their voice was not heard the economy of the country would collapse, leading to social turmoil and possibly bloodshed.

The wave of strikes before August 1980 proved the accuracy of these predictions, but the decline was halted — or, as we see it now, postponed — by the "social contract" signed in the Gdansk shipyard.

Some of those involved in DiP formed an openly acting *Komitet Porozumiewawczy Stowarzyszeń Twórczych i Naukowych* (Coordination Committee of Cultural and Scientific Associations) headed by the philosopher Klemens Szaniawski. This committee played a leading role in the cultural life of the country, especially in preparing and promoting the new law concerning publications, the law aimed at moderating the omnipotent power of censors.

The most spectacular event organized by the committee was the Congress of Culture chaired by the art historian Jan Białostocki. The congress was planned for three days

starting 11 December 1981. Martial law was introduced at midnight December 12 and the last session could not be held.

Among many important speeches delivered during this meeting the most prophetic was the opening address by the president of the Association of Polish Writers, Jan Józef Szczepański. He compared the congress to the orchestra on board the *Titanic*. This prophecy was soon verified — several of the participants of the congress met during the night in the corridors of Warsaw prisons, and many are there still.

At the end of 1980 the process of revival of all scientific establishments began with a few fundamental demands: freedom of scientific inquiry, promotion of scientists according to merit, the right of a university to decide on its curricula and a significant role for scientists in formulating the scientific and educational policies of the country. The autonomy of universities and of the academy, including election of their officers, was seen as a necessary institutional guarantee of the promotion of these demands and the improvement of scientific activities. Autonomy became the keynote of the whole process of change.

Of course none of these demands is very clever. But it is also not very innovative for citizens to demand to be able to influence the fate of their own country, or to require history, records and information to be truthful and not selected according to the needs of authorities. However, these demands coming after many years of the opposite policy sounded heretical. And behind this policy there were people still possessing considerable power and by no means ready to resign from it.

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During a relatively short period, many of the above demands were introduced practically although not by law. In particular the presidium of the academy and the chancellors and deans in almost all universities were chosen in a truly democratic way.

It is significant that most of those elected were politically inactive before 1980 and of moderate views, and gained their authority solely on the basis of their scientific achievements. Thus the elected people can be seen as truly representative of a scientific community which is not heroic but truthful, which follows directives but recognizes that the political direction of science has damaging effects.

It can be argued that a similar attitude is typical of "normal" scientific communities. But the Polish one is not "normal". Its older members endured the Nazi holocaust or harsh life in remote Soviet provinces; their students started their careers during the period of the Stalin cult with its brainwashing machinery. This community suffered the wave of repressions and purges in 1968 followed by the liquidation of the remnants of academic freedoms. It was corrupted during the past ten years of mild but effective "sovietization". Thus it was encouraging to see that the old ideals of scientific freedom, so often declared to be outdated, are so deeply rooted in the bulk of this community and that it is ready to support democratic changes.

Surely the power of the reformers of the scientific establishment rested not only, and not even mainly, on the social forces in their own home but on the forces of an awakening society.

Perhaps much more could have been achieved. There were too many useless meetings, endless and inconclusive discussions about the new structure of science or about formulations of new constitutions. We were drunk after taking too large a draught of democracy and were not yet ready to use it effectively.

Most of the staff of the academy and universities joined Solidarity. But surprisingly, during 1980-81, students were less eager to follow this movement, although a large number of new student organizations appeared. Even the most influential of these, *Niezależne Zrzeszenie Studentów* (NZS, Independent Student Association) was joined by fewer than 20 per cent of the students.

The main action of NZS was the proclamation in October 1981 of a general strike in protest at the halting of legislative procedures concerned with the new progressive law of higher education and in support of the protest of the Radom branch of NZS and Solidarity against the way the rector of Radom Polytechnic had been elected. This strike was joined by a most of the schools of higher education in the country. In spite of the efforts of Solidarity, the Church and the Council of Chancellors of the Polish Schools of Higher Education, this strike was continued after the strikers' first demand was conceded. A few days before martial law was declared the strike broke down. In January 1982 NZS was dissolved by the authorities.

The era of Solidarity — understood here not as a name of this particular organization with its achievements and follies but as synonymous with the greatest all-national movement in our

history — is over. Solidarity is for the time being defeated. But it should be underlined that to the same or an even larger extent the communists who ruled the country for more than 35 years have also been defeated. The political regime proved itself to be not only ineffective and acting against the will of the people, but irreparable and wholly dependent on external powers. In a sense only the Russians won the battle, by finding a way of solving the problem without needing to use their own troops.

The battle is lost, the war is not. It is still the common belief that something very important happened which will influence our future, and perhaps not only ours. I have in mind not only economic and social changes but the changes of spirit of those who rule and those who are ruled — these changes are not as abstract as the word spirit suggests.

Just after the declaration of martial law there was a wave of protests. This wave did not bypass scientific institutions. As yet we do not have a full account of what happened, but we know about the strikes of a few institutes of the academy in the Staszic Palace in the centre of Warsaw which were terminated by force; about a letter of protest signed by more than 300 scientists in the Institute of Chemical Physics; about the strike in the Institute of Nuclear Research in Swierk near Warsaw followed by arrests and trials of several scientists.

The work of all schools of higher education was immediately suspended, but there was a protest of teachers and students in Wrocław Technical University where several people including the vice-chancellor were badly beaten. We know about strikes in the Warsaw Agricultural Academy, the Mining Academy in Krakow, and the University of Lublin. The senate of the oldest Polish University, the Jagiellonian University in Kraków, sent a letter of protest with a demand for the release of the arrested people.

The number of students and staff arrested is not known. In the University of Warsaw more than 40 people were either interned or arrested. An overall estimate based on this figure might be misleading because the University of Warsaw has been under the special care of the authorities for many years.

Young people, those between 18 and 25, seem likely to be the main losers: they will lose if they decide to fight, because there is no chance of winning; they will lose if they decide to give up, because of the devastating effects of conformity. The generation gap between them and us, already felt during their strike, seems to be widening. The students prefer to follow the heroic pattern of the young generation during World War II and do not want to give up the only experience they have gained by their own efforts, the experience of the past year.

As yet almost nothing of importance has been changed in scientific institutions by martial law. True, in all universities, as well as in all schools and in most institutes, there are military commissars who are acting not directly but through the existing administration.

But we are only at the beginning of the new road. It seems almost certain that many teachers at all levels will lose their jobs. In secondary schools and in all institutions of public administration the authorities have

already demanded written declarations of loyalty, and those who refuse to sign are fired. A similar type of verification of staff and students is expected in the universities, and it will lead to the replacement of all elected bodies by nominees. Many scientists will probably lose the opportunity to continue their scientific work, as happened in Czechoslovakia.

The outlook is not optimistic. We may expect the worst members of the scientific community to move to the front of the scene. It is a well established tradition to ignore such people; but in the present situation this should not be followed. Scientists who try to abolish what has been achieved should be named and ostracized by the scientific community all over the world. And those who suffer for the defence of scientific freedom should feel the moral, and perhaps also material, support of all their friends and colleagues, first of all here in Poland, but also abroad. If we fail to condemn the former and to provide effective support for the latter our defeat may become a catastrophe.

## Not the baron

SIR — Sir Peter Medawar asks in a book review (*Nature* 28 January, p.351) "was it not Cuvier who named a fossil ichthyosaurus *Homo diluvii testis* . . .?". It was not: the fossil (now on display in the Teyler Museum, Haarlem) was so called by J.J. Scheuchzer (1726)<sup>1</sup>. Scheuchzer also describes the fossil in a letter published in *Philosophical Transactions of the Royal Society of London*<sup>2</sup>. Baron Cuvier, visiting the Netherlands as a member of a commission sent by Napoleon, confirmed his own identification of the fossil as a giant salamander by carefully removing some of the matrix to reveal the forelimbs (illustrated in Cuvier, 1824)<sup>3</sup>.

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1. Scheuchzer, J.J. *Homo Diluvii Testis et theoskopos*. (Tiguri 1726).
2. Scheuchzer, J.J. *Phil. Trans. R. Soc.* **24**, 38-39 (1726-27).
3. Cuvier, G. *Recherches sur les Ossements Fossiles* 1st Edn, Vol. V, 431-434 and Plate XXVI (Paris, 1824).

## US spoken

SIR — The editor's leftist leanings have been quite evident of late, but isn't the sentence (*Nature* 14 January, p.86), "*United States users of the telephone will most immediately discover that it costs them more to use the local telephone service as if it were unmetered water*" (italics mine), not only lacking in lucidity but also bending a bit too far left when it employs "United States" as a general adjective? We are Americans, by God!, not "United Statesers" — and the adjective is *American!* I and others proud of America deplore your emasculating of our rightful name, especially when it is to indulge the arrogance of leftists in Nicaragua, Mexico, or wherever, who never refer to themselves as "Americans", but at the same time, with a malevolent dog-in-the-manger attitude, wish to deny us that distinctive title.

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What about the Canadians? *Editor*