

Still shrouded in mystery

SIR—Like most observers keen to know the historical provenance of the Shroud of Turin, I welcome the decision to subject the relic to radiocarbon dating. However, clouds loom on the horizon, in the form of confusions about the protocols for the tests. The procedures as so far understood involve a number of samples of the shroud which are to be divided among as many as seven laboratories. These laboratories will be asked to date dummy samples along with the shroud, and none will even know which of their samples are from the Turin relic. This blind procedure will avoid any possible taint of prejudice on the part of the testing laboratories.

However, such a protocol leaves serious unanswered questions about the possibility of tampering with the samples themselves. How are independent observers to know whether any of the samples which testing laboratories receive are in fact actual linen fragments from the shroud? Are we simply to take the Vatican's word for it? Repeated enquiries in this matter made by me and by the US Committee for the Scientific Investigation of Claims of the Paranormal have so far elicited no satisfactory answers. One prominent shroud authority, Father Peter Rinaldi, has given assurances that the British Museum is acting as "guarantor" of the tests. But the relevant person in the British Museum, who was in fact present at the meeting in Turin last autumn which recommended the testing procedure, has declined to divulge any information about testing protocols because of "confidentiality". He has referred correspondents to Cardinal Ballestrero in the Vatican and to the Pontifical Academy of Sciences. Inquiries there have so far gone unanswered.

The situation as it now stands is most disturbing. After years of discussion, there is agreement to go forward with ^{14}C tests on the Shroud of Turin, but apparently so far without due regard for an open disclosure of procedures for taking the samples. Evidence for or against the authenticity of a relic of such widespread veneration involves deep religious passions: for some people there is a great deal potentially to be lost. So there must be no hint that, for example, fibres of mummy linen might have been supplied to the laboratories, rather than actual shroud samples. If those conducting the tests wish the results to be taken seriously, they must offer their procedures to open inspection by independent observers. "Confidentiality" is out of the question.

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UK research funding

SIR—Selectivity of research funding is clearly here to stay but that does not mean that we have to accept the current mechanisms for the distribution of research funds. Is the University Grants Committee (UGC) the correct body to implement the policy? There are three reasons for believing that it is not. The first is the widely held perception that its criteria for selection are invalid. In a recent analysis of UGC rankings in my own discipline, psychology, for example, it was found that the only good predictor of ranking was department size (R. Gillet, *Bull. Br. Psychol. Soc.* **40**, 42; 1987). The second is the concentration of decision-making in a few hands, which means that judgements are inevitably taken by people of limited expertise. The third is that because the UGC deals with institutions rather than individuals, it is excessively inflexible. If the present exercise continues, it will mean that, in a few years, people with good ideas in 'second-class' institutions will have little chance of putting them into effect while those with mediocre ideas in 'first-class' institutions will find them financed.

The only way round these problems is to abandon the now outdated notion of dual funding for research and change to the US system of full funding of research expenses and overheads via project grants.

The presumption would be that all state-financed university and polytechnic employees are hired to teach. They would gain time for research by using research funds to buy out parts of their salaries. This would give great flexibility, provide individual scientists with some control over their own careers and place decision-making in the hands of the expert panels of the research councils, charities and other funding bodies. It would also mean that institutions seeking industrial sponsorship in preference to research council funds would not be penalized.

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Chinese dissent

SIR—Expelled in January from his position as vice-president of the University of Science and Technology of China (USTC, see *Nature* **325**, 290; 1987), Professor Fang Li-Zhi, criticized as a "Chinese Sakharov" by a senior official of the Communist Party of China (CPC), now has to leave USTC in Hefei to work in Beijing. And the president of USTC, Professor Guan Wei-yan, was replaced by the ex-deputy-minister of propaganda of the Central Committee of CPC, Professor Teng Teng. This may be a result of the "anti-bourgeois democratization struggle" espoused by the CPC leadership.

Mr Deng-Xiao-Ping said on 13 January 1987, when he received a Japanese delegation, that Fang is a "bad man" who has "polluted the young students with the ideology of capitalism," resulting in student demonstrations in more than 170 Chinese universities in support of more democracy and the liberty of the press.

Fang, who is 50 years old, is an eminent theoretical astronomer and member of the consultation committee of the International Centre for Theoretical Physics and the International Centre for Relative Astronomy. He won the ICRA prize in 1985 for his work in this field.

Fang thought it his duty as a scientist to express his opinion when faced with injustice. As a former student of USTC, I consider Deng's decision to remove Fang was a step backwards in the move towards reform in China that he himself initiated. It will be regretted by Chinese intellectuals and the Party.

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Theoretical threat

SIR—Those of us who have been engaged in the struggle against creationism in Queensland can take some small measure of comfort from the letter from the Minister for Education, Mr Lin Powell (*Nature* **324**, 204; 1986). We have been trying to get a clear statement about what is meant by "balance". It now appears that it is sufficient for teachers to acknowledge that there are "beliefs deeply held by a significant proportion of the community", which are not scientific in nature, and hence should have no part in any science class. This is likely to be unpalatable to the local creationists, as it would only take a minute or two of the 10 hours on evolution.

But we still have confusion and misunderstanding about the nature of a scientific theory. In browsing through an old volume of *Nature*, I came across an article, by Julian Huxley (**163**, 941; 1949) that said: "Throughout the discussion, Lysenko and his followers treat neo-Mendelism (or Morgeno-Mendelism or whatever other title they apply to modern genetics) as a mere theory, in the sense of a hypothesis, not in the usual sense in which it is used in science, of a set of conceptions tying together a vast body of experimental results and established laws...".

Creationists (and Powell) seem to use the word "theory" as it was used in Stalinist Russia. Let us hope there is a change of mind, before agriculture in Queensland suffers in the way that agriculture in the Soviet Union did in the 1950s.

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