

should not be limited to one country. We have more powerful science and technology than ever before, and this does not allow any margin for errors. The Tokai accident and other scandals sound a warning that Japan, which should have high levels of control of science and technology, has made light of safety regulation.

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Challenge for global e-journal project

Sir— The proposed repository for research reports, PubMed Central¹, is rapidly decomposing itself. As I cautioned in *Nature*², the US National Institutes of Health (NIH), which developed the proposal, has failed to confront three key issues: funding, lack of expertise, and consensus building. The latest silliness involves an alliance between PubMed Central and the Community of Science, to fund the peer-review function of the repository. This is yet another bleak development in the brief history of this initiative.

NIH director Harold Varmus proposed this project in a particular setting. Workers from many disciplines, including library and information sciences, computer science, clinical medicine, and the biological sciences, had been struggling for several years to develop the tools and procedures needed to produce an online archive of bioscience research reports. When Varmus and the NIH were initially confronted with an avalanche of negative comments, they quickly attempted to revise the proposal. But each succeeding incarnation of the PubMed Central scheme was ever more insipid. Let us remember the philosophy and purpose that have driven this idea in the larger communities of research, information and science: free, unfettered, global access to a permanent, online archive of research reports in the biological and medical sciences.

For-profit publishers have already created many commercial models that are attempting to mimic such a repository, with generally poor results. The typical electronic model is worse than the traditional paper journal. It is more difficult to navigate, resides behind cost barriers that exclude vast numbers of researchers, and conforms to no archival standards. Varmus and the NIH have done nothing to improve this. In fact, the PubMed Central initiative has been a distraction from the concrete steps that are required to ensure funding, access and continuity for such a repository. Canada has put thought, time and funding behind a

brilliant national initiative to create what PubMed Central might become.

Last month, a meeting was held in Santa Fe, New Mexico, to discuss and promote the development of standards for what is being called a universal preprint service. This is an important step in the right direction, and draws on the necessary interdisciplinary expertise. The meeting brought together representatives of the American Physical Society, the Council on Library and Information Resources, the Library of Congress, Los Alamos National Laboratory, and various US and overseas universities, among others. The group plans to include as many perspectives as possible, but it needs support (see <http://vole.lanl.gov/ups/ups.htm>). This is an opportunity for the NIH to get serious or get out.

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1. MacIwain, C. *Nature* **401**, 516 (1999).

2. Sultzbaugh, L. *Nature* **400**, 207 (1999).

How the Church moves with the times

Sir— I have only one quibble with Hugh Montefiore's excellent review of A. N. Wilson's book, *God's Funeral* (*Nature* **401**, 211–212; 1999). Montefiore mentions that, in the Roman Catholic Church, "attempts to fit the ancient doctrines of the Church into modern dress were savagely suppressed as late as 1907". This description of the anti-Modernist party that held sway in the turn-of-the-century Church is oversimplified. Unfortunately, it reinforces the misconception that the Church is a monolithic entity, which unilaterally changed its thinking about scripture and science at a particular time, rather late in the game.

Church officials in the past may have looked with great suspicion on the writings of, say, Teilhard de Chardin; but this same Church did, after all, produce a Teilhard. Even earlier, John Henry Newman was made a cardinal notwithstanding his liberal views. Prominent theologians in every era, going back to the most ancient Church fathers, argued cogently and consistently against a literalist interpretation of scripture. On the other hand, I'm sure you could find closet creationists in the Catholic Church today.

To take any one 'official' theological position in isolation can give an erroneous picture of the more general outlook and culture within the Church. The Church, like science, has always been a community of lively debate and evolving understanding.

Just as religion in the nineteenth century was forced to "come to terms with scientific realities", so science and technology in the twenty-first century will proceed at its own peril if it does not come to terms with the

ethical and cultural realities of world religions. To do so, an accurate understanding of what religion believes, and how it reaches those beliefs, is essential.

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Unfair exchange

Sir— I was delighted to see that there is at last a new edition¹ of Silvanus P. Thompson's beautiful classic *Calculus Made Easy*, first published in 1910. I bought this book as an undergraduate and have been recommending it ever since. But now it has been thoroughly modernized.

In the section "On different degrees of smallness", for example, Thompson wrote "Again, think of a farthing compared with a sovereign", but the revised edition reads "Again, think of a hundred dollars compared with a penny". And later, "Now if Mr Millionaire received during next week £1,000, the secretary would receive £10 and the boy two shillings" has been clarified by transmutation to "Now if Mr Millionaire received during next week \$1,000, the secretary would receive \$10 and the boy 1 dime".

Some of my carping colleagues have suggested that such changes amount to cultural imperialism. What nonsense! Although it is true that most of the British students for whom the book was originally written are unlikely to know what a dime is worth, this is easily remedied by adding an extra lecture to the course, followed by a test to make sure they know the values of nickels, dimes and quarters. This fine modernization has been properly acknowledged by the fact that the biographical notes of Thompson's editor, Martin Gardner, are longer than those of Thompson.

I hope that we may look forward soon to a properly modernized edition of Charles Dickens' works from Macmillan, in which Mr Micawber will say "Annual income \$32, annual expenditure \$31.96, result happiness. Annual income \$32, annual expenditure \$32.04, result misery". And Oliver Goldsmith's *Deserted Village* could be brought up to date as "A man who was to all the country dear, And passing rich on sixty-four dollars a year".

Computers should allow easy modernization of graphics. The price of the Mad Hatter's hat could be changed from an anachronistic 10/6d to an up to date 84 cents. Sadly, though, the modernization of *The Merchant of Venice* could pose insuperable problems, given the difficulty of determining the exchange rate of the ducat.

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1. Thompson, S. P. & Gardner, M. *Calculus Made Easy*
(Macmillan, Basingstoke, 1998).