

US textbooks

Californian setback for evolutionists

Washington

THE California State Board of Education is about to take what could be a decisive stand against bowdlerized US biology textbooks that give only a passing mention to evolution. The board's curriculum commission has decided that none of the life science books submitted for approval for the \$25 million Californian school textbook market are worthy of adoption, and has told their publishers to go away and try harder.

California is only one of several states that have statewide approval of junior-school textbooks, but although it is the largest market, publishers have tended to slant their books for the more conservative states, especially Texas, which until recently forbade any mention of evolution in biology books used in state schools. California, on the other hand, has adopted a model curriculum that includes dating of fossils and the principle of natural selection for the 11–14 age group. Although all the books submitted for approval in California for this age range mention evolution, in many it is confined to a few pages, according to reviewers.

The most plausible explanation for the reluctance to discuss evolution is that publishers hope to escape the attentions of the creationist lobby, which is enjoying a nationwide revival, buoyed up by a growing tide of religious fundamentalism. Publishers naturally wish to avoid having to produce different editions for different states. But, in the words of one Californian legislative analyst, the commission is now "sending a signal that they might be able to sell those kinds of books in Texas or Alabama, but California will not accept less" than the model curriculum dictates.

The efforts made in the books to avoid anything that could be taken as a clear statement about evolution have given rise to some memorable nonsenses, some of which have been collated by William Benetta, an independent editor who gave evidence to the commission. Characteristically, the word "evolution" is not used except when prefaced by "theory of"; thus Charles Merrill's *Focus on Life Sciences*, which omits evolution from its glossary, declares that "the theory of evolution can be explained by mutations and natural selection", while Scott Foresman and Company's *Life Science* avers that "scientists call such changes in groups of organisms over time the theory of evolution". Addison-Wesley's *Life Science* is even more obscure; a passage that attempts to link mutation and natural selection without mentioning the forbidden word at all concludes with the tantalizing assertion

that "under some conditions mutation may cause a change in an entire population of living things". The Addison-Wesley book was not recommended for adoption by the State Board; others that were recommended with the proviso that their coverage of evolution be improved were published by, in addition to Scott Foresman and Merrill, Prentice-Hall, Macmillan, D.C. Heath and Holt, Rinehart and Winston. Some publishers were also told to improve coverage of human reproduction and environmental and ethical issues.

Books for younger children were also criticized by the commission. Many of these discussed reproduction in animals but neglected to depict or discuss the relevant basic anatomy in humans, so again falling foul of the State Board's model

curriculum. The publishers have the option of preparing "supplemental materials" to make good these omissions.

The State Board meets to consider the curriculum commission's recommendations on 12 September but some members have already let it be known they are impressed by the commission's diligence. If, as expected, the recommendations are accepted, publishers will have until 1 February to produce revisions of their texts. But, in doing so, they will have to avoid going too far in the opposite direction, since a Californian state law forbids dogmatism in teaching of theories about human origins. Some education board specialists think that creationists, having lost the battle to have "creation science" taught as such, will try to sue the state under the antidogmatism law if evolution is presented credibly. Publishers have every incentive to get this balancing act right, however. Californian school textbooks are approved on a multi-year cycle that rotates by subject, and science books approved in the current school year will be the only ones used in state schools for the next six years.

Tim Beardsley

NSF

Change of direction afoot

Washington

THE US National Science Foundation (NSF) has embarked upon what may turn out to be an important shift in the way it funds research. The foundation has started supporting a series of small materials research groups on university campuses, in which typically fewer than 10 investigators will collaborate on a single shared project. The new groups provide an alternative to the existing much larger Materials Research Laboratories, in which several different areas of research are pursued at one time.

Initial funding of the materials research groups is for three years. The institutions supported and the research areas are as follows: Rensselaer Polytechnic Institute — stability of glasses; Polytechnic Institute of New York — ageing in polymer blends; Pennsylvania State University — chemically bonded ceramics; University of Texas, Austin — photochemical process at interfaces; California Institute of Technology — motions of atoms and molecules at interfaces.

Although the amount of money committed to the new scheme so far is small (\$8 million), this will increase rapidly as new groups are set up. Furthermore, other subjects may follow the example set in materials research; the NSF chemistry division, for one, is expecting shortly to increase support for small collaborative groups, and engineering may not be far behind.

At present, NSF spends something close to 40 per cent of its \$107 million materials research budget in the Materials

Research Laboratories, which were originally established in the 1960s by the Department of Defense. Most of the rest goes to individual investigators. But the laboratories, each with a budget of several million dollars, have been criticized for failing to fulfil their intended role of fostering interdisciplinary research. Rustum Roy of Pennsylvania State University, a prominent champion of materials science research, believes that rigid university departmental boundaries continue to be a "major impediment to national needs" and says that Materials Research Laboratories have failed to assimilate many of the most important recent developments in the field, such as advanced polymers, high performance ceramics (where "the British are clearly ahead") and gallium arsenide. Roy dismisses some of the existing Materials Research Laboratories as little more than bureaucratic fictions and characterizes the new materials research groups as a praiseworthy if belated attempt to "seduce universities into accepting interdisciplinary research".

NSF officials do not see things in quite that way. Two of the fourteen existing Materials Research Laboratories (at Ohio State University and Purdue University) are now being phased out, with no immediate plans to replace them, but there is no plan to supplant the big laboratories with the new research groups, according to Lance Haworth of NSF's division of materials science. Rather, he says, the groups will be a halfway house for building up to or down from full laboratory status.

Tim Beardsley