



**Whether fossils found in India are organic and a billion years old is explored. A reader discusses California's new education standards and advocates "attracting top science specialists into the teaching profession," saying "we have physical education teachers, math teachers, and just about any teacher teaching science." Anthropologists are described as vigorously pursuing human rights around the world. A program that trains life science Ph.D.s for emerging fields is praised. The Internet is said to foster friendships. A copyright agreement with a "publisher's honeymoon" is proposed. And mechanisms of Alzheimer's disease and alcoholism are debated.**

### Fossil Discoveries in India: Continued

The announcement of small shelly fossils from the Vindhyan Supergroup of India (R. A. Kerr, *News of the Week*, 23 Oct., p. 601; *Letters*, 23 Oct., p. 627) would indeed throw rather severe doubt on the proposed billion-year-old trace fossils described in the report by Adolf Seilacher *et al.* (2 Oct., p. 80), as has already been noted by Brasier (1). There is, however, little reason to accept identification of the Vindhyan material as organic, let alone being any sort of small shelly fossil. R. J. Azmi, who described these fossils (2), visited us in Cambridge a couple of weeks ago. Our examination of the material he generously made available convinces us that the supposed fossils are principally mineral growths, with their regularity resulting from a "cone-in-cone"-like arrangement. Electron micrographs of other material are conceivably algal, but none of the specimens or images is consistent with a Cambrian age. We urge any interested paleontologist to examine the original material; in our opinion, relying on photographic evidence is not sufficient.

It might be expected that those of us who argue against a very deep divergence of the Metazoa would welcome the findings of Azmi, inasmuch as he implied an Ediacaran age for the supposed billion-year-old fossils. The structures identified by Seilacher *et al.* may, in fact, be correctly dated. Even so, there is a wide consensus that the pre-Ediacaran metazoans must have been minute, although there is much less agreement as to the organization and ecology of this as-yet-cryptic fauna (3). The large size of the Vindhyan "trace fossils" is, therefore, rather unexpected. It may be that the refutation of the biogenicity of the supposed small shelly fossils will be extended in due course to these purported burrows.

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#### References

1. M. Brasier, *Nature* **395**, 547 (1998).
2. R. J. Azmi, *J. Geol. Soc. India* **52**, 381 (1998).
3. S. Conway Morris, *Am. Zool.*, in press.

### California Standards

Gretchen Vogel's article "California adopts controversial standards" (*News of the Week*, 16 Oct., p. 387) is exceptionally well balanced. It focuses on a key issue: Is there too much content in the new California Standards, and will this quantity of content preclude exciting, hands-on science activities in



**Who is teaching him science?**

California's classrooms? It will be up to the curriculum committees to translate the new standards into classroom activities. Everyone wants to see plenty of discovery exercises in science classes, and I am confident that the curriculum committees will work hard to develop exciting activities that teach the new standards.

But there is a far more important issue facing California's schools and, for that matter, all schools in this nation. One can have all the rigorous standards one wants on paper, but unless one has exquisitely trained teachers, then elementary science, middle school science, and high school science instruction will never substantially improve. In other countries, science teachers must have a major and sometimes a Master's degree in their subject of instruction. Here, we have physical education teachers, math teachers, and just about any teacher teaching science in some circumstances. It's about time that the nation faces up to the real problem, and that is attracting top science specialists into the teaching profession.

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### Human Rights: An Issue Among Anthropologists

James Glanz's article "Human rights fades as a cause for scientists" (*News of the Week*, 9 Oct., p. 216) is helpful insofar as it focuses attention on changes in the ways scientists connect human rights to their work. But both the headline and parts of the article suggest a readiness to generalize beyond what the core information of the article supports.

Among anthropologists, I do not see signs of fading interest. Although not all anthropologists have become conscious of links between human rights and the practice of anthropology, the American Anthropological Association's (AAA's) human rights effort is vigorous and undiminished.

For example, in 1999, the membership will vote on a "Declaration on Anthropology and Human Rights" that identifies specific areas in which the connections between anthropology and human rights are strong. Meanwhile, the AAA's Committee for Human Rights continues an active program of intervening in selected cases around the world and building awareness among the association's membership. Among this group of scientists, at least, human rights continues to be a powerful and important issue.

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### New Niches for Life Scientists

We write in response to the National Research Council (NRC) report (1), which outlines the difficulties that many new recipients of life-science doctorates have in securing research positions in the traditional arenas of academia, government, and industry. This report has stimulated considerable discussion in *Science* (C. Holden, "Report paints grim outlook for young Ph.D.s," *News of the Week*, 11 Sept., p. 1584) and other international journals (2). Asserting that traditional Ph.D.s must retool their skill sets for a changing job market, the NRC report recommends that new programs should train researchers for emerging fields. At least one such program currently exists.

In 1996, the National Science Foundation (NSF) established Post-doctoral Fellowships in Science, Mathematics, Engineering, and Technology Education (PFS-METE) to provide recently graduated Ph.D.s with "the opportunities to develop expertise in facets of science education research that would qualify them for the new range of educational positions that will come with the 21st century."

With this innovative allocation of funds,