

LETTERS

"Reactor Captains"

I wish to comment from my background as a member and chairman of the General Advisory Committee to the U.S. Atomic Energy Commission in the early 1960's. At that time the committee considered the human organizational aspect for safe operation of nuclear reactors and recommended the concept of "reactor captains," somewhat analogous in role to the captain of a ship. We were concerned lest reactor operations be left in the hands of operators with insufficient depth of knowledge and sense of responsibility and that unnecessary mistakes or carelessness might then occur, as apparently did at Three Mile Island.

The essential elements of the "reactor captain" concept include an appropriate professional education providing real understanding of the complexities of a nuclear reactor with government examinations and licensing, and clearly recognized responsibility with the corresponding full authority for the safe operation of the reactor. This concept also implies subordinate but comparably trained and licensed reactor officers, an accurate "log" of the condition and operation of the reactor, and so forth.

I still believe that this concept is appropriate, indeed necessary, and urge its renewed consideration.

KENNETH S. PITZER
Department of Chemistry,
University of California,
Berkeley 94720

Oceanographic Research:

Sailing Vessels

In his review (18 May, p. 753) of Susan Schlee's book *On Almost Any Wind* (1), Dale C. Krause says that the notable sailing vessel *Atlantis*, built in 1931 for the Woods Hole Oceanographic Institution, was "the first American ship specially designed for oceanographic research." (Schlee did not say that.)

In 1907 *Alexander Agassiz* was designed and built in San Diego "especially for the purposes of" the West Coast marine station that was the forerunner of Scripps Institution of Oceanography. The 85-foot *Agassiz* was also a sailing vessel, with twin gasoline engines. She was built for use in the 12,000-square-mile area from Point Conception to the Mexican border and seaward to about 120 miles, which region included depths

to 1100 fathoms. She was outfitted with "apparatus" designed in some cases by the hardy researchers of the oceanic areas of northern Europe: dredges, trawls, closing nets, current meters, and so forth (1). *Alexander Agassiz* served the institution for 10 years.

Identifying the first American ship designed for oceanographic research is complicated by the matter of defining such early research. Considerable effort went into designing two U.S. Navy "exploring vessels" for the U.S. Exploring Expedition of 1838-1842, but the ships were found to be too slow and so did not take part. In 1838 the Coast Survey schooner *Nautilus* was built specifically for surveying. So was the steamer *Blake* in 1874. Surveying was one of the oceanographic arts in those days, and a great deal of significant oceanography was carried out from *Blake*—some of it by *Alexander Agassiz*. In 1879 the coal-burning steamer *Fish Hawk*, complete with a floating fish hatchery, was built for the U.S. Fish Commission, headed by Spencer F. Baird. She was found quite suitable for dredging and trawling, at least in coastal waters (2).

A qualified claim can be made that *Alexander Agassiz* was the first American ship designed for oceanographic research by a nongovernmental institution. However, *Atlantis* certainly left a greater legacy to American oceanography.

ELIZABETH N. SHOR
Scripps Institution of Oceanography,
La Jolla, California 92093

References and Notes

1. W. E. Ritter, *Univ. California Publ. Zool.* 9, 175 (1912).
2. S. B. Nelson, *Oceanographic Ships Fore and Aft* (Government Printing Office, Washington, D.C., 1971), pp. 10-19.

College Entrance Standards

City College has been defamed, this time in the editorial (p. 1199) in the 23 March issue of *Science* entitled "Can meritocracy in academe be saved?," written by John D. Palmer of the Department of Zoology of the University of Massachusetts in Amherst. In the interest of City College, and of truth, I would like to put the facts in perspective.

Palmer states that "the once great City College of New York, which for 54 years produced more graduates who went on to earn doctorates than all but one other American college, dropped all entrance standards in 1969." The first part of this sentence is correct. The second part is false.

A policy of open access, long the norm

WANTED: New Products and Technologies

HEALTH CARE:

- ☐ Pharmaceuticals
- ☐ Diagnostics
- ☐ Devices
- ☐ Other Rx and non-Rx products

TOILETRIES:

- ☐ Oral hygiene
- ☐ Skin care
- ☐ Hair care
- ☐ Other toiletries, grooming aids

Do you own a product or innovation that you'd like to sell, license or otherwise make money on?

Then you should know about this search we are conducting on behalf of major marketers in the U.S., Europe and Japan.

These marketers want new products in the above categories—plus ways to improve existing brands. When they get our search report, entitled the New Product Source Book, they will note which products interest them. Then they will contact you directly to discuss license or acquisition.

You pay us nothing, now or ever. Participation by you is entirely free. Write now for official submission procedure, plus a statement of our credentials. Send nothing confidential, please. Wait and read the procedure. (You may send issued patents, if you wish.) Don't miss out—write us now.

PRODUCT RESOURCES INTERNATIONAL, INC.

Attention: C.B. Stone
90 Park Ave., N.Y., N.Y. 10016
Circle No. 109 on Readers' Service Card