

SCIENCE NEWS®

A Science Service Publication
Vol. 107/May 17, 1975/No. 20
Incorporating Science News Letter

OF THE WEEK

Greenland and climate	316
Energy from the ocean	317
NAS information policy	317
Asteroids and astronomers	317
Getty award	317
Stegodon from Yunan	318
Looking for alien uv messages	318
X-ray source observatory	318
Stressed bacteria and food	319
Alcohol and longevity	319

RESEARCH NOTES

Biomedicine	320
Science & Society	320
Behavior	321
Chemistry	321

ARTICLES

Ozone: Yes, no, maybe	322
Saving anthropology's films	326

COVER: Scientists have theorized that propellants and refrigerants are destroying the ozone layer. Now, a year and reams of data later, some scientists are calling for a ban and some are calling for five more years of study. What are the odds on ozone? Can we wait for more proof? Can we afford not to? See p. 322. (Illustration: Mary Hartman)

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Advertising	Scherago Associates, Inc. 11 W. 42nd St. New York, N.Y. 10036 Fred W. Dieffenbach Sales Director

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Editorial and Business Offices
1719 N Street, N.W.
Washington, D.C. 20036

Subscription Department
231 West Center Street
Marion, Ohio 43302

Subscription rate: 1 yr., \$10; 2 yrs., \$18; 3 yrs., \$25. (Add \$2 a year for Canada and Mexico; \$3 for all other countries.) Change of address: Four to six weeks' notice is required. Please state exactly how magazine is to be addressed. Include zip code.

Printed in U.S.A. Second class postage paid at Washington, D.C. Title registered as trademark U.S. and Canadian Patent Offices.

Published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N.W., Washington, D.C. 20036. (202-785-2255). Cable SCIENSERV. Telex 64227.

LETTERS

Mathematics in schools

I would like to convey my profound satisfaction—and relief—upon reading the article "Olympics in Mathematics" (SN: 3/15/75, p. 174). Through the Olympiad scenario, Dietrick Thomsen exposes the underlying malaise which is so prevalent in North American secondary school mathematics: Students on this continent are not being taught to think mathematically. The malaise is portrayed as a two-headed ogre. The first head embodies the failure to instruct students in the classical methods of mathematical proof within the confines of the established curriculum. The second consists of the inflexibility of the curriculum—the students are not exposed to the fundamental branches of mathematics. Moreover, the "new" math actually sharpens the teeth of this ogre so that the beast may keep a firm grip on the unsuspecting student.

In the university, math majors get a chance to recuperate by taking an appropriate series of pure math courses. For science majors, however, their present deficiency is hardly remedied by applied math courses. These courses usually provide the student with a hodgepodge of techniques but give him little experience in abstract mathematical reasoning. For science students who will regularly employ the concepts of advanced mathematics in their careers, incompetence in formal abstract thinking leaves them in a precarious situation.

I hope Thomsen's article will inspire others to express the need to revamp this important area of science education.

Edwin S. Wright
Port Hawkesbury, Nova Scotia

Relativity's Catch 22

While reading D. E. Thomsen's article "General Relativity's Catch 22" I was struck by a bias which is possibly a bias in general of Western man to science, which leads to a provincialism concerning Eastern thought. It is that without a predictable future from past knowledge we would not have physical science. This might be true regarding that the only purpose of physical science is for future prediction by the understanding of universal law. But is this the only way of looking at physical science, or science in general? It would seem to be outside of the basic "spirit of science" to believe we must hold to a determinism to maintain the science or lose it without determinism.

Robert Smythe
Port Huron, Mich.

Aesthetics of nature

The article "Science and the Humanities: Bridging the Crosscultural Gap" by Joan Baum (SN: 3/15/75, p. 179) again reminded me of how much talk there is about combining science and aesthetics in education, and how little is really done to implement what the literature suggests, let alone do formal research on this topic.

As an ecologist and an educator, I believe that "aesthetics" has a great deal to contribute to student motivation in science education. At least in my own case, the beauty of nature, as perceived through all senses, as well as through the intellect, has been a major source of my interest in science. I am now in the final phase of my Ph.D. research project titled: "An affective/aesthetic approach to self-paced instruction in ecology for nonscience majors." Data indicate that from the standpoint of student enjoyment of science courses it is a mistake to ignore the many opportunities to emphasize and have students respond to the aesthetic appeal of natural objects and processes.

I am in a very early stage in my explorations, yet I am planning to devote the remainder of my career to the many fascinating possibilities in this area. I would like to get in touch with others who have similar interests and, perhaps, have done some work along these lines. My home address: 3010 Smyth Road, F-13, Berkeley, Calif. 94720.

I have been a subscriber to SCIENCE NEWS for a number of years. It provides a very economical way, both in terms of time and money, to keep broadly-informed. The information you present is also very useful in my teaching of environmental sciences.

Eberhard Thiele
Science and Math Education Group
University of California
at Berkeley

Women in science

A member of the Association of Women in Science and a new subscriber to SCIENCE NEWS, I am pleased with your coverage of women's concerns in the sciences and reports on studies regarding sexism (SN: 4/26/75, p. 270) and "The Androgynous Strain" (SN: 4/26/75, p. 274).

I hope you will continue, as there are countless women waiting for information like this. It gives your science reporting a new dimension.

A. Ashe
South Casco, Maine

Address communications to Editor,
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