ENCE NE

Science Service Publication Volume 147, No. 3, January 21, 1995

Alfred Scott McLaren Patrick Young Blair Burns Potter

Publisher Editor Managing Editor

Dan Skripkar

Production/Design Director Senior Editor Environment/Policy

Ron Cowen Bruce Bower Richard Lipkin Richard Monastersky

Janet Raloff

Tina Adler

Astronomy Behavioral Sciences Chemistry/ Materials Science Earth Sciences General Science Life Sciences/

Kathy A. Fackelmann, Elizabeth Pennisi Ivars Peterson Larry Norland Adrienne C. Brooks Jocelyn Kaiser

Biomedicine Mathematics/Physics **Editorial Assistant** Science Writer Interns

Cait Anthony Donald R. Harless Books/Resource Manager Advertising/Business

Manager

SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for \$44.50 for 1 year or \$78.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, D.C., 20036. Second-class postage paid at Washington, D.C., and additional mailing office. POSTMASTER: Send address changes to Science News, P.O. Box 1925, Marion, Ohio 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided.

Copyright © 1995 by Science Service, Inc. Title registered as trademark U.S. and Canadian Patent Offices. Printed in U.S.A. on recycled paper. ⊕

Editorial and Business Offices:

1719 N St. N.W., Washington, D.C. 20036 (202-785-2255)

Republication of any portion of SCIENCE News without written permission of the publisher is prohibited.

Subscription Department:

P.O. Box 1925, Marion, Ohio 43305 For new subscriptions only, call 1-800-247-2160. For customer service, call 1-800-347-6969.

This Week

New Evidence of Galactic Black Hole 36 Improving humans' blood with crocodiles'

37 Los Angeles faces a dangerous quake debt

37 Helical protein helps E. coli hang on

38 Computer reveals clues to spiderwebs 38 Brain activity calms down to expectations

39 Peptide provides target for a cancer killer

Obesity, diet linked to deadly cancers 39

Research Notes

42 Astronomy 42 Behavior 44 Environment

44 Mathematics

Articles

40 A Glass Mélange

46 Not Simply Symmetry

Cover: Fluctuating asymmetry — differences between the right and left sides of an animal's body — may provide important clues to behavior, including that of humans. Two English researchers, for example, find that the less perfect a racehorse's body symmetry, the more poorly it performs on the track. (Photo: United States Trotting Association)



35 Letters

45 **Books**



Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921. It gratefully accepts tax-deductible contributions and bequests to assist its efforts to increase the public understanding of science, with special emphasis on young people. More recently, it has included in its mission increasing scientific literacy among members of underrepresented groups. Through its Youth Programs it administers the International Science and Engineering Fair, the Science Talent Search for the Westinghouse Science Scholarships, and publishes and distributes the Directory of Student Science Training Programs for Precollege Students.

Board of Trustees — Chairman, Glenn T. Seaborg; Vice Chairman, Gerald F. Tape; Secretary, David A. Goslin; Treasurer, Willis Harlow Shapley; Joseph W. Berg Jr.; Robert W. Fri; J. David Hann; Dudley Herschbach; Shirley M. Malcom; Elena O. Nightingale; Ben Patrusky; Peter H. Raven; H. Guyford Stever; Sanford J. Ungar; Deborah P. Wolfe. Honorary Trustees — Edward Bliss Jr.; Bowen C. Dees; O.W. Riegel; John Troan. President: Alfred Scott McLaren; Vice President and Business Manager: Donald R. Harless.

Letters

Uncertainty: Preeclampsia prelude?

Regarding "Semen protects against preeclampsia" (SN: 10/15/94, p.246), a much more likely explanation for this condition, from the feminine perspective, is that a relationship of less than a year's duration cannot yet be considered permanent.

This uncertainty is stressful, causing high blood pressure and other symptoms. An ongoing relationship, especially when children of that relationship are already present, is felt as permanent and is therefore less stressful and less likely to cause preeclampsia.

Barbara Harrison Chestertown, Md.

Pangaea coverage faulted

In "Out of Africa: Clues to dinosaur evolution" (SN: 10/15/94, p.245), it is stated that "Pangaea covered most of Earth." This is false. Then, as now, most of Earth's surface was

covered by water. A correct statement would be that most of the land surface of Earth belonged to the supercontinent Pangaea.

Joseph B. Kruskal Maplewood, N.J.

Medical ethics and sick volunteers

Though I have my own doubts about the ethics of the prophylactic tamoxifen study, I cannot accept the view (attributed to Arthur Caplan) that medicine has "special obligations to the healthy volunteer" ("Tamoxifen Turmoil," SN: 10/22/94, p.268).

Surely the unhealthy volunteer has precisely the same rights as the healthy volunteer; and research subjects who have had breast cancer and take tamoxifen to prevent recurrence have the same rights as research subjects who have never had breast cancer and take tamoxifen to prevent an initial occurrence.

In my own surveillance of human research. I have heard it said that sick patients have "an investment" in their disease and that this investment justifies a lower risk-benefit ratio than that acceptable for "normal controls," lower financial compensation, and so forth — even when the study of the disease has no therapy in sight. This makes the sick subject a second-class citizen in the world of research.

The whole thrust of medical ethics in the clinical setting has been to restore autonomy to the sick. The same attitude should prevail when the sick are involved in medical research.

Douglas P. Lackey Professor of Philosophy Baruch College City University of New York New York, N.Y.

CLARIFICATION

The study cited in "Female war vets: Traumatic pains" (SN: 1/7/95, p.11) was published in the December 1994 JOURNAL OF CONSULTING AND CLINICAL PSYCHOLOGY

JANUARY 21, 1995 35