

**OF THE WEEK**

The day of the particles	196
Taking the heat off dioxins	197
More feed additives deemed hazards	197
Discriminatory death sentences	198
Looking at lesbian mothers	198
More hope for central nerve repair	199
The economics of energy policy	199
Integrated Pest Management support	199

**RESEARCH NOTES**

Chemistry	200
Behavior	201

**ARTICLES**

Hot spot data heating up	202
--------------------------	-----

**DEPARTMENTS**

Letters	195
Science on TV	206

**COVER:** Hot spots — anomalously warm spots in the earth's mantle capable of causing surface symptoms from partial melting to uplifts to volcanism — are becoming increasingly important in theories proposed to explain the planet's changing face. See p. 202. (Illustration: John R. Ellis, with hot spot locations after K. C. Burke and J. T. Wilson)

<b>Publisher</b>	E. G. Sherburne Jr.
<b>Editor</b>	Robert J. Trotter
<b>Senior Editor and Physical Sciences</b>	Dietrick E. Thomsen
<b>Behavioral Sciences</b>	Joel Greenberg
<b>Biomedicine</b>	Joan Arehart-Treichel
<b>Earth Sciences</b>	Susan West
<b>Life Sciences</b>	Julie Ann Miller
<b>Policy/Technology</b>	Janet Raloff
<b>Space Sciences</b>	Jonathan Eberhart
<b>Contributing Editors</b>	Lynn Arthur Steen (mathematics) Kendrick Frazier John H. Douglas Michael A. Guillen
<b>Science Writer Interns</b>	Mary-Sherman Willis Susan Walton
<b>Assistant Editor</b>	Judy Klein
<b>Art Director</b>	Dale Appleman
<b>Assistant to the Editor</b>	Angela Musick
<b>Books</b>	Jane M. Livermore
<b>Business Manager</b>	Donald Harless
<b>Advertising</b>	Scherago Associates 1515 Broadway New York, N.Y. 10036 Fred W. Dieffenbach, Sales Director

Copyright © 1979 by Science Service, Inc., 1719 N St., N.W., Washington, D.C. 20036. Republication of any portion of SCIENCE NEWS without written permission of the publisher is prohibited.

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

**Subscription Department**  
231 West Center Street  
Marion, Ohio 43302  
Telephone (1) 800—247-2160

Subscription rate: 1 yr., \$15.50; 2 yrs., \$27.00; 3 yrs., \$37.50 (Add \$3 a year for Canada and Mexico, \$4 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) TWX 710-822-9433 SCIEN NEWS. ISSN 0036-8423

# LETTERS

**Hot spot motion**

We are seeing an increasing amount of study of the history of our own physical planet. Now, SCIENCE NEWS even has a section on "Volcanology."

I would like to comment on the work of Jason Morgan (SN: 7/28/79, p. 69) and others involving hot spots. Enough evidence probably exists to support current ideas in plate tectonics, and the idea that an island chain such as Hawaii was created in sequence as the Pacific Plate moved over a hot spot is now accepted as fact.

But it seems to be taken for granted that hot spots are fixed points on the earth over which all tectonic activity takes place. Morgan's presumption regarding the hot spot under the present United States is interesting, but never assumes that the hot spot could have movement of its own.

As a matter of fact, it seems as though no studies of plate tectonics make mention of movement of the hot spot. Granted, in the short term, if the movement of the plate in relation to the hot spot is the faster of the two, sequential surface changes will be evident. But on a global scale, considering the fluidity of the hotter inside of the earth, could not the hot spots have "traveled" across the planet as well?

Is it possible that in the formation and subsequent cooling of the earth the mantle has shifted as well as the plates on the surface, giving us movements more complex than any previously considered?

Frank Solomon  
Rochester, N.Y.

(See story, p. 202 —Ed.)

**It's so nice to have a man around . . .**

Re: the article "Two Mothers, No Father=One Embryo" (SN: 8/18/79, p. 116), which states that Soupart's experiment "suggests that there may be nothing special that the sperm contributes, at least to early embryonic development, beyond chromosomes and a membrane perturbation." I can't resist emphasizing the point that one thing a sperm contributes is the potential to produce a male embryo, although whether that is anything *special* is a matter of considerable discussion these days.

There is at least one circumstance wherein it would be special — i.e., in the event that either general catastrophe or extensive war catapult us back to a less technologically sophisticated era. In that event, the male embryo has the capability of helping out in the production of both male and female embryos without benefit of any technology. Until such time as we can guarantee that such situations won't happen, we'd best keep at least a few males of each species, including *Homo sap*, around for emergencies.

It would also be of benefit to give them some practice once in a while. This would be great for their morale, allow determination of their continued usefulness, and provide assurance that the "unnatural" females were still capable of "natural" procreation.

W. A. Horwood  
Pittsburgh, Pa.

If two mothers plus no father equal one embryo, then two fathers plus one enucleated mother's egg also equal one embryo. If two sperm cells are fused and the nucleus is then injected into an enucleated egg then a motherless child can be born! All that is needed is one man to donate X sperm and another to donate a Y sperm. Gay men, at last, can have their own children!

The above case would, of course, lead to a daughter! Let us hope that the battle of the sexes does not get too "out of hand" since men will be obsolete for the purpose of procreation. In addition, with the help of frozen eggs women are too! Somewhere in the future all male and all female societies are likely to be experimented with, possibly at some space colony in the sky!

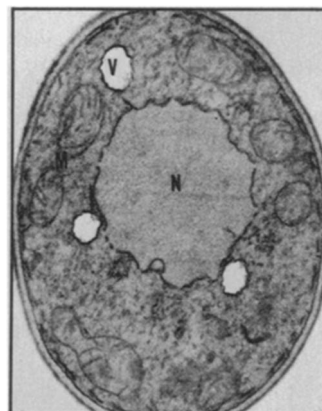
Finally, SCIENCE NEWS does not tell us what happens to the two fused eggs after they reach "an apparently normal 64 cell blastocyst stage."

Eric R. Braverman  
Brain Bio Center  
Princeton, N.J.

**General Relativity and star wheres**

In the illustration reprinted from CONTEMPORARY ASTRONOMY (SN: 8/25/79, p.141) the labels "Star (Apparent position)" and "Star (Real Position)" should be interchanged.

David Michael Steinberg  
Virginia Beach, Va.



Correction: The above picture, which accompanied the article "Puzzling Out the Cell's Power Plant" (SN: 9/15/79, p. 184), should have been captioned: Mitochondria (M) are prominent in yeast cells grown with oxygen.

**SCIENCE SERVICE**

Institution for the public understanding of science founded 1921; a nonprofit corporation.

**Board of Trustees** — President, Glenn T. Seaborg, University of California, Berkeley, CA; Vice President, Gerald F. Tape, Associated Universities, Washington, DC; Treasurer, Milton Harris, Washington, DC; Secretary, Julius Duscha, Washington Journalism Center, Washington, DC; Allen V. Astin, Bethesda, MD; Joseph W. Berg Jr., National Research Council, Washington, DC; Edward Bliss Jr., Newburyport, MA; Bowen C. Dees, The Franklin Institute, Philadelphia, PA; David A. Goslin, National Research Council, Washington, DC; Elizabeth Neufeld, National Institutes of Health, Bethesda, MD; O. W. Riegel, Glasgow, VA; Aaron Rosenthal, Washington, DC; Edward W. Scripps II, Edward W. Scripps Trust, Carson City, NV; John Troan, Pittsburgh Press, Pittsburgh, PA; Deborah P. Wolfe, Queens College of City University of New York, Flushing, L.I., NY

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Business Manager: Donald R. Harless; Things of Science: Ruby Yoshioka.