

SCIENCE NEWS®

A Science Service Publication
Vol. 109/April 24, 1976/No. 17
Incorporating Science News Letter

OF THE WEEK

Proteins halt cancer	260
Heart disease and cancer tied?	260
Mayan origins pushed back	261
Swine flu mass vaccine	261
Gap in tap-water energy flap	262
Assessing acceptable risks	263

RESEARCH NOTES

Chemistry	266
Biology	266
Earth Sciences	267
Physical Sciences	267

ARTICLES

Neutrons as waves	268
-------------------	-----

DEPARTMENTS

Letters	259
Stars	270
Products	270

COVER: A Mayan stela with date (bar dot column in center of sculpture) from first century B.C. or earlier is among recent discoveries that may force revisions in thinking about the origins and development of the Mayan civilization. See p. 261. (Photo: John A. Graham)

Publisher	E. G. Sherburne Jr.
Editor	Kendrick Frazier
Senior Editor and	
Physical Sciences	Dietrick E. Thomsen
Senior Editor and	
Behavioral Sciences	Robert J. Trotter
Biomedical Sciences	Joan Arehart-Treichel
Biology/Chemistry	Janet L. Hopson
Science and Society	John H. Douglas
Space Sciences	Jonathan Eberhart
Contributing Editor/	
Mathematics	Lynn Arthur Steen
Copy Editor	Michelle Galler Riegel
Art Director	Dale Appleman
Assistant to the Editor	Susan Strasburger
Books	Margit Friedrich
Advertising	Scherago Associates, Inc.
	11 W. 42nd St.
	New York, N.Y. 10036
	Fred W. Dieffenbach
	Sales Director

Copyright © 1976 by Science Service, Inc., 1719 N St. N.W., Washington, D.C. 20036. Republication of any portion of SCIENCE NEWS is prohibited.

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

The diminishing planets

I enjoyed your article "The Three-Star Solar System (Almost)" (SN: 1/17/76, p. 42) especially because it is consistent with the research I'm doing. The article states that the once sharp distinction between planets and stars is diminishing. You refer mostly to Jupiter and Saturn as being starlike because of their immense size and their composition of hydrogen and helium. I'd like to take it a step further and suggest that the terrestrial protoplanets also were approximately the same size, if not larger than, and had a similar composition to that of Jupiter and Saturn today. If this was true, than the terrestrial protoplanets must have evolved similarly to Jupiter and Saturn although at a more rapid rate, being that their outer surfaces were boiled off by the sun. This suggests the probability that the protoplanets also, because of their immense size, had cores of degenerate matter, as you mention Jupiter does. If this be the case, planetary cores of degenerate matter may better explain the magnetic fields, especially if they're still at superconducting temperatures. The planet Mercury is a prime example since the dynamo effect doesn't apply because of its slow rate of rotation.

The questions that I'm interested in are: Did the protoplanets have cores of degenerate matter? Did it remain in a degenerate state or go back to a normal state? If it remained in a degenerate state, by what mechanism: The pressure from the remaining matter that wasn't boiled off, from a strong magnetic field possibly at superconducting temperatures, or a combination of both?

At any rate, Jupiter and Saturn shouldn't be celebrated alone as nearing stardom; the terrestrial protoplanets, one of which we now walk upon, were as close if not closer to being stars than the overrated gas giants that exist in our solar system today.

Kenneth R. Oexmann
University Without Walls
New York University
Geology Department
New York, N.Y.

The Litek light

After reading your March 20th issue's Technology Notes, I couldn't help but feel twinges of cynicism about the possibilities of having the energy-saving 'Litek' lamp in my home within the next two years.

Hopefully, the U.S. government will prevent this invention from being bought by big

business or railroaded into the slow court process of patent contests

We all could use help in saving energy.

Lawrence Dykas
Rockaway, N.J.

Placebo Factors

Re: "Who Responds Best to Placebos?" (SN: 3/20/76, p. 182), if I may be allowed one Aristotelian postulation, I would guess that the key factor in whether or not one responds to placebos is the degree of certainty in one's life. Of course, persons in positions of responsibility for decision making (professionals) or persons subject to an uncertain environment (farmers) are most likely to be looking for an "answer" that makes everything alright and relieves them of their unending confrontation with uncertainty. What's more, "knowledge" and "sophistication" have never, to my knowledge, provided any protection or relief from deeper emotional needs.

Horace H. Allen Jr.
Philadelphia, Pa.

Left hand of life

In reference to your article, "Physics and the Left Hand of Life" (SN: 11/29/75, p. 340), I would like to call attention to some well-known aspects of materials science. Nucleation and growth are separable phenomena. If the whole world were made of the proper sterile liquid culture medium, and one living cell were dropped in, in a geologic instant the whole world would be transformed by that organism.

If ancient seas of amino acid soup existed for any appreciable geologic time, then the time for the probably nucleation of one piece of organic material exhibiting the property of reproducing itself must be comparably large. In essence, the nucleation rate of primordial bits of life is infinitesimal when compared to propagation rates of cellular organisms. Even if primordial cells reproduced themselves millions of times slower than modern cells, the first cell and its offspring would almost certainly inherit the earth before the second independently nucleated cell appeared.

This line of reasoning suggests that the probability of life starting left or right handed is equal, but that the first form to appear would be the only form to appear and would be the lone precursor to all future life.

Jack Goodstein
Seattle, Wash.

Address communications to Editor,
Science News, 1719 N Street, N.W.
Washington, D.C. 20036

SCIENCE SERVICE

Institution for the Popularization of Science founded 1921; a nonprofit corporation

Board of Trustees—Nominated by the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE: **Deborah P. Wolfe**, Queens College of City University of New York; **Bowen C. Dees**, The Franklin Institute; **Athelstan Spilhaus**, National Oceanic and Atmospheric Administration. Nominated by the NATIONAL ACADEMY OF SCIENCES: **Gerald F. Tape**, Associated Universities; **Allen V. Astin**, Bethesda, Md.; **Glenn T. Seaborg** (President), University of California, Berkeley. Nominated by the NATIONAL RESEARCH COUNCIL: **Gerald Holton**, Harvard University; **Joseph W. Berg Jr.**, National Research Council; **Aaron Rosenthal**, National Academy of Sciences. Nominated by the JOURNALISTIC PROFESSION: **Edward Bliss Jr.**, American University; **Julius Dusha**, Washington Journalism Center; **O. W. Riegel** (Secretary), Washington and Lee University. Nominated by E. W. Scripps Trust: **Milton Harris** (Treasurer), Washington, D.C.; **Edward W. Scripps II** (Vice President and Chairman of the Executive Committee), Edward W. Scripps Trust; **John Troan**, Pittsburgh Press.

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

