A Science Service Publication Vol. 115/March 31, 1979/No. 13

OF THE WEEK

Ancient footprints spur debate Milky Way may have central black hole Light ion fusion prospects Tenth "rockfest": A lot to look at SYNROC may spell safe rad storage Proteins isolated that fight cancer	196 197 197 198 199
RESEARCH NOTES	
Biomedicine Biology Behavior Earth Sciences	200 200 201 201
ARTICLES	
Seal hunt debate: Fur is flying	202
SPECIAL EINSTEIN ISSUE	
The photogenic Einstein Einstein at Princeton Supersymmetry: The great unifier A personal recipe for creativity Is the joy going out of research?	210 212 214 216 218
DEPARTMENTS	
Science on TV Letters Books	195 195 205

COVER: Albert Einstein, 1879-1955. SCIENCE NEWS celebrates the 100th anniversary of the birth of this century's most prominent scientist. See pp. 210 to 220. (Painting by Josef Scharl, 1947, courtesy of the German Information Center)

Publisher Editor Senior Editor and **Physical Sciences Behavioral Sciences Biomedicine** Earth Sciences Life Sciences Policy/Technology Space Sciences Contributing Editors

Dietrick E. Thomsen Joel Greenberg Joan Arehart-Treichel Susan West Julie Ann Miller Janet Raloff Jonathan Eberhart Lynn Arthur Steen (mathematics) Kendrick Frazier John H. Douglas Michael A. Guillen Judy Klein Dale Appleman Angela Musick lane M. Livermore Donald Harless Scherago Associates 1515 Broadway New York, N.Y. 10036 Fred W. Dieffenbach,

E. G. Sherburne Ir.

Robert J. Trotter

Assistant Editor Art Director Assistant to the Editor **Books Business Manager** Advertising

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

Subscription rate: I 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

SCIENCE

SCIENCE NEWS prints the latest written word of scientific developments and noteworthy news. We've set this space aside to inform our readers of programs of scientific interest that are scheduled on television. Check your local listings for exact times

- "Universe," (CBS) a half-hour "science magazine" will debut in April - probably during the latter half of the month, although an exact date has not yet been set. Walter Cronkite will host the first show, which "opens with an animated portrayal of the first 20 billion years of the universe." Although there is no specific design set for the series, producer Ron Bonn says that each broadcast will probably contain three or four segments on theoretical ideas, health and current news items, as well as investigative pieces. While the fate of the series rides on the success of the pilot, it could start being shown on a regular basis by next fall.
- April 1 (PBS) National Geographic Society—"The Tigris Expedition" recounts the efforts of scientist-adventurer Thor Heverdahl to sail a reed boat over routes he believes were followed by Sumerian traders 5,000 years ago.

In what he considers his last venture across the oceans, Heyerdahl continued the scientific adventuring begun when he sailed the balsa-log raft Kon-Tiki from Peru to Polynesia in 1947.



A partial answer

The complete answer to the question raised in "Human cloning: Partially achieved?" (SN: 2/17/79, p. 101), specifically, how the nucleus from a precursor sperm cell (spermatogonium) "might have fertilized an egg without a nucleus is not completely known. But the principle and procedure are. During the 1960s, J. B. Gurdon used the nuclei from intestinal cells of a tadpole and transplanted them into enucleated amphibian eggs. These eggs with the transplanted nuclei developed into tadpoles and some developed into sexually mature adult frogs.

Even as the nucleus of the usual fertilized egg

An attempt to find out how far the "intrepid and culturally advanced" Sumerians could have traveled by sea led Heyerdahl to construct a 60-foot by 20-foot ship with the buoyant bardi reed of Iraq. In a four-month voyage Heyerdahl and his crew of 10 traveled down the Persian Gulf, across the Arabian sea to Pakistan and back again, and finally to the Red Sea - a 4,200-mile journey.

The program focuses on the motivation that compels a scientist to risk his life in the search for knowledge and on the idea that seas can be highways for cultural exchange rather than barriers.

- April 5 (PBS) NOVA—"Road to Happiness" tells the story of Henry Ford through the use of rare film footage that forms part of the extensive Ford Film Collection. The program was first shown in May 1978.
- April 17 (NBC) "NBC Reports: Reading, Writing and Reefer," originally broadcast Dec. 10, 1978, will be rebroadcast as part of NBC-TV's Special Treat series for young people. According to Robert Dupont, former director of the National Institute for Drug Abuse, "It is no longer uncommon for 12-year-olds, 13year-olds and even younger people to be using marijuana on a regular basis." Although at one time Dupont helped work for the liberalization of marijuana laws, increased knowledge about the drug's effects has left him with reservations about its use, especially its effects on the growing-up process.

is diploid, so, too, are the nuclei of spermatogonia and intestinal cells.

It may be that the presence of a diploid nucleus is enough in itself to initiate cell division, cleavage, the start of embryo formation, and to complete embryogony.

Walter Lener, Ph.D. Garden City, N.Y.

Bravo

Bravo to Michael H. Hart for his analysis of planetary continuously habitable zones (CHZ's) (SN: 2/24/79, p. 121).

I find myself on the edge of my chair with curiosity about the next logical step in his work, namely, deriving the expected number of habitable planets in the galaxy based on the probable number of stars of each type that can have planets whereon life could develop.

Thank you for your continuously fine magazine.

> Fredric M. Blum Bala Cynwyd, Pa.

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; Treasure, 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

MARCH 31, 1979 195