A Science Service Publication Volume 133, No. 23, June 4, 1988

E.G. Sherburne Jr. Patrick Young Dietrick E. Thomsen

Publisher Editor Senior Editor/ **Physical Sciences** Managing Editor Production/Design Director

Laurie Jackson Wendy McCarren **Bruce Bower** 

Stefi Weisburd

**Behavioral Sciences** Richard Monastersky Earth Sciences General Science Life Sciences/ Biomedicine Mathematics/Technology

Diane D. Edwards, Rick Weiss Ivars Peterson Janet Raloff Jonathan Eberhart Janice Rickerich

Policy/Technology Space Sciences Assistant to the Editor Science Writer

Christopher Vaughan Jane M. Livermore

Books

Intern

Donald R. Harless Manager

Advertising/Business

Copyright © 1988 by Science Service, Inc., Editorial and Business Offices, 1719 N St., N.W., Washington, D.C. 20036. Republication of any portion of SCIENCE NEWS without written permission of the publisher is prohibited.

Subscription Department 231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$34.50; 2 yrs., \$58.00. (Foreign postage \$6.00 additional per year.) Change of address: Four to six weeks' notice is required. Please state exactly how magazine is to be addressed. Include zip code. For new subscriptions only call (1) 800-247-2160. Printed in U.S.A. Second class postage paid at Washington, D.C., and additional mailing offices. 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) ISSN 0036-8423

#### **This Week**

356	New Misgivings About Low Magnesium
356	Speaking to an understanding SPHINX
357	Study shows AIDS virus may be hiding out
358	Exposing lung cancer as a genetic disease
358	Hitting enzymes to kill cancer cells
358	Flashbulb memories: The picture fades
359	Mining for traces of galactic star deaths
359	Bone density drops with thyroid therapy

#### **Research Notes**

363 Biology

363 Earth Sciences 364 Technology

#### **Articles**

360 Delivering the Goods

366 Unraveling the Economics of Deforestation

Cover: Globally, forests cover roughly 4.1 billion hectares, or about three times as much land as is cultivated for crops. But deforestation, especially in the tropics, is reducing that tree cover by an area the size of Pennsylvania each year. By the end of the century, the 33 developing countries that now qualify as net exporters of wood may be reduced to fewer than 10. Ironically, many countries have created economic incentives to destroy or plunder one of their most valuable resources. A new study shows why this is so costly and argues that forest conservation is really in why this is so costly and argues that forest conservation is really in a government's own economic interests. (Illustration adapted from poster by Bobbi Tull, courtesy Smithsonian Institution Traveling Exhibition Service [SITES], from the exhibition "Diversity Endangered")



### **Departments**

355 Letters 365 Books

Science Service Institution for the public understanding of science founded 1921; a nonprofit corporation. Board of Trustees — President, Glenn T. Seaborg; Vice President, Gerald F. Tape; Treasurer, Willis Harlow Shapley; Secretary, Hilleary F. Hoskinson; Joseph W. Berg Jr.; Edward Bliss Jr.; Bowen C. Dees; David A. Goslin; J. David Hann; Milton Harris; Elena O. Nightingale; O.W. Riegel; H. Guyford Stever; John Troan;

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Business Manager: Donald R. Harless

# Letters

## **Developmental distinction**

Stefi Weisburd makes a strange statement in her article on Australian fauna: "Marsupials incubate their young in an external pouch rather than in a placenta" ("Creatures of the Dreamtime," SN: 4/16/88, p.248). *Incu*bate is generally restricted to egg layers, and the placenta is the organ of exchange between the fetus and the mammalian mother.

It would be correct to say, "The development of the marsupial fetus is completed in the mother's external pouch, nourished by the mother's milk. The mammalian fetus develops to term within the uterus of the mother, nourished through the placenta." William C. Kaufman

### No UV for newborns

I have long enjoyed your magazine and was

Woodinville, Wash.

especially interested in the article about a new approach to protecting newborns against the hazards of hyperbilirubinemia ("New therapy blocks newborn jaundice," SN: 4/16/88, p.247). There is, however, one point in your article that deserves correction. If pediatricians really used ultraviolet light in phototherapy of infants with high bilirubin levels, we would need to lay in a heavy supply of sunscreen in addition to the already requisite eye patches. Actually, blue to green visible light seems to be most effective in the photoisomerization of unconjugated bilirubin, thereby converting it to a soluble form that can be excreted by the kidneys.

Prescott Atkinson The Children's Hospital Birmingham, Ala.

# Splitting hairs?

In "Fingerprinting DNA from a single hair" (SN: 4/23/88, p.262), which mentions the work done by our group, perhaps too much is being made of the degree to which one person can be distinguished from another. "One in 30 billion" is meaningless if human errors in the typing are made at a rate 30 million times this (a mistake once per 1,000 tests is pretty good going for tests such as these). On the other hand, if a test is inexpensive and simple to do as are blood tests - it will be used even when better tests are available. The reason is cost-effectiveness. One will perform the most tests with the cheapest test, in order to eliminate as many suspects as possible be-fore using, if at all, the more powerful (but more complex and expensive) test.

We hope to bring our test into the category of "inexpensive and simple to do" – even with only 21 genotypes it will far outstrip blood typing and will be able to do samples no other test can.

> Russell Higuchi Associate Scientist Dept. of Human Genetics Cetus Corp. Emeryville, Calif.

JUNE 4, 1988 355