

SCIENCE NEWS

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COVER: Although animal experiments hold great benefit for humanity, scientists as well as the public are becoming increasingly concerned about the discomfort that research animals sometimes experience. What's more, they are taking measures to improve the animals' condition. See p. 59. (Photo courtesy of the USDA)

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SCIENCE ON THE AIR

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 and radio. Check your local listings for exact times.

• **Aug. 4 (PBS) "Survivors"** is a documentary that examines the experiences, both past and present, of Japanese-American survivors of the Hiroshima and Nagasaki bombings.

• **Aug. 6 (PBS) "How Much is Enough? Decision Making in the Nuclear Age"** contends that U.S. defense policymakers have followed no sensible planning rationale in building a lethal nuclear arsenal. Interviews were conducted with Defense Department officials, former presidential advisers, SALT negotiators, European arms-race decisionmakers and others. The program also includes video game-style computer animation to illustrate the workings of complex new missiles and possible nuclear attack scenarios.

Series

• (PBS) **"National Geographic Specials": Aug. 17 "The Superliners: Twilight of an Era"** takes a nostalgic look at the complexity and elegance of the luxury liners, only one of which — the QE2 — is still in transatlantic service; **Aug. 24 "The Sharks"** introduces viewers to a much-maligned creature and to the people who are uncovering new data on how sharks feed, rest and why they attack; **Aug. 31 "Living Treasures of Japan"** features the artisans and performing artists who keep an ancient culture alive.

• (PBS) **"NOVA": Aug. 1 "Palace of Delights"** looks at the inner workings of San Francisco's Exploratorium, founded 15 years ago by Frank Oppenheimer and dedicated to the principle of learning by doing; **Aug. 8 "Finding a Voice"** tells the story of those with severe speech handicaps; **Aug. 15 "The Wizard Who Spat on the Floor"** takes a rare look at Thomas Edison, the man and the myth, using unique archival footage and interviews with Edison's family, employees and critics; **Aug. 22 "Animal Olympians"** captures the beauty, endurance and raw power of animals in the wild; **Aug. 29 "Animal Imposters"** studies mimicry and camouflage in nature.

• (PBS) **"Odyssey": Aug. 5 "Shipwreck: La Trinidad Valencera"** focuses on the discovery of the remains of the fourth largest ship in the Spanish Armada; **Aug. 12 "The Incas"** follows three archaeologists as they trace the networks of roads, towns and agricultural regions responsible for the prosperity of these 16th century Peruvians; **Aug. 19 "Ongka's Big Moka"** shows a lavish ceremonial presentation of gifts by a New Guinea highlander to establish political alliances with other tribes and enhance his prestige; **Aug. 26 "Other People's Garbage"** examines three sites that are revealing a clearer story of our recent past.

LETTERS

Three cheers

In the June 12 SCIENCE NEWS, you published a letter from Byron Nelson of the Environmental Protection Agency (p. 387). In the letter's 500 plus words, Mr. Nelson takes exception to a prior article, "Environmental coalition of 10 groups attacks Reagan policies" (SN: 4/10/82, p. 246). After digging through his letter — it sure sounded like a "snow job" to me — I say thank goodness for the concerned citizens that take the time and effort to monitor the performance of the government bureaucracy. Without these groups and individuals I fear our government would bend too quickly to the wishes of well-financed powerful lobbies. Three cheers to those that have brought us cleaner air and water. You are appreciated. Thank you.

*Thomas G. McBride
West Orange, N.J.*

Lead effects and measurement

How odd that Claire Ernhart (SN: 7/3/82, p. 3) should single out the study by Herbert Needleman and his collaborators to deny a significant toxic action of lead at tissue concentrations regarded as "low." Since Needleman's study, which appeared in 1979, other publications have supported his conclusions. The most notable is one conducted in Great Britain by

Yule and his co-workers in response to the British Government's report on lead. Yule's group took account in their analyses of all the problems noted by Ernhart, and still emerged, to their surprise, with conclusions akin to Needleman's.

Ernhart claims expertise in statistics, yet disregards the statistical problems stemming from the notorious defects in biological measures, such as broad concentrations of lead exposure. Blood levels, for example, reflect only recent exposure. Anyone familiar with such defects is bound to be impressed with the robust consistency of low level lead effects on behavior in the face of these measurement problems.

*Bernard Weiss, Ph.D.
Rochester, N.Y.*

A mistake in the wobble

The article on "Planets for Alien Suns" (SN: 6/26/82, p. 424) prompted by a session on that subject at a recent meeting of the American Astronomical Society came up to Dietrick Thomsen's high standard of reporting with interest and clarity. I regret that the caption to the Barnard's star diagram which we sent to the editor had a misprint. The interpretation of the wobble in the path of Barnard's star from the Sproul Observatory indicates two planets, one about 0.4 Jupiter's mass, one about 0.8 times (not ten times those values as printed).

*Sarah Lee Lippincott
Swarthmore, Pa.*