

RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Eight Get Medal of Science

Eight scientists were selected this week for the United States' highest scientific honor, the National Medal of Science. The awards will be given at the White House by President Clinton. This year's recipients, their affiliations, and their research areas are:

Structural engineer Ray Clough (retired), University of California, Berkeley, earthquake-proof construction; computer scientist John Cocke (retired), IBM, RISC architecture; biologist Thomas Eisner, Cornell University, biodiversity; geophysicist Frank Press, Carnegie Institution, natural-disaster mitigation; chemist George Hammond, Bowling Green State, organic photochemistry; sociologist Robert Merton, Columbia University, studies of social life; biochemist Elizabeth Neufeld, UCLA, lysosomal storage diseases; and physicist Albert Overhauser, Purdue University, dynamic nuclear polarization.

Diet Chemistry

Food writers have lately been extolling the health virtues of the Mediterranean diet. Now chemists are chiming in. There is no substitute for two staples—garlic and red wine—according to participants at last week's American Chemical Society meeting.

Andrew Waterhouse of the University of California, Davis, department of viticulture, reported the isolation of a compound in red wine that may help explain its apparent beneficial effect on the heart. The substance in question is catechin, an antioxidant shown by in vitro studies to inhibit the oxidation of cholesterol. To see if people could absorb catechin from wine, Waterhouse put four patients on a catechin-free diet for 2 days and then asked them to drink two glasses of red wine. The wine caused blood levels of catechin to rise sharply, he says. White wine won't do the trick, because it is fermented without grape skins, the major source of catechin. Neither will processed grape

juice, says Waterhouse. While it may be possible to isolate the beneficial compound in a pill form, he adds, "I can't imagine why anyone would rather take a pill than drink wine."

People do take pills to get the benefits of garlic, which is also believed to possess heart-disease-fighting compounds. But, says chemist Eric Block of the State University of New York, Albany, breath-friendly garlic pills and powders miss the point. Block and his colleagues have been examining garlic's components with an atomic emission detector. The device, which can pick up minute amounts of trace elements,

revealed several selenium compounds which have been shown, in earlier studies, to reduce atherosclerosis in animals and blood lipids in humans. Unfortunately, he says, these compounds occur in close association with the sulfur compounds that give garlic its characteristic odor. "If you don't have garlic breath, you're not getting any benefit," he says.

Confluence of Interest

The logos to the right represent a rare Middle East confluence: Israel and Egypt have put together a joint bibliography of research on the Nile River delta.

The document, which appeared



Mortal coils. Veterinarian Daniel Hillman begins an elephant necropsy.

HARRY M. COWGILL

Recycling Elephants

Tyke, the circus elephant who was shot dead after she killed her handler and then rampaged through the streets of Honolulu last month, left one positive legacy: She donated an ovary to science. The organ was sent by express mail to reproductive physiologist Earle Pope of the Cincinnati Zoo, who does research aimed at developing in vitro fertilization for elephants.

Pope got the ovary as part of the Elephant Species Survival Plan (ESSP), set up by the American Zoo and Aquarium Association in 1985, to ensure the survival of the elephant for the next two centuries. To this end, the ESSP calls for greater study of the elephant. When one dies in the United States, a crack necropsy team organized by the ESSP flies in to measure, sample, store, and distribute its remains. The measurements include the weight of the animal's skin and skeleton, the volume of the nasal passages, and a count of the toes. "The aim is to increase the anatomical database," says veterinary anatomist Daniel Hillman of Louisiana State University in Baton Rouge. Without a good database, he says, "one cannot speculate on physiological processes" or identify possible subspecies.

Beneficiaries of the project to date include muscle expert Stephen Wainwright at Duke University in Durham, North Carolina, who got an embalmed elephant trunk. Requests from other researchers include one for an intact elephant head and neck to investigate the ears' role in cooling the brain, and one for the two large cigar-shaped vomeronasal organs, located above the roof of the mouth, that are involved in the sense of smell.

The ill-fated Tyke was unable to donate more parts because Hawaiian veterinarians had to conduct a post-mortem to see if there was a biological cause for her aberrant behavior. They found no sign of disease, but she had previously suffered a tusk abscess.

in July, is the result of an informal "trilateral collaboration"—the third party being the Smithsonian Institution in Washington, D.C. Daniel Stanley, senior oceanographer at the Museum of Natural History, says that until now "there hasn't been any substantive communication between the geological surveys of these two countries."

Stanley, who does research on coastal evolution in the Nile delta, says he and Varda Arad of the Israeli Geological Survey last summer cooked up the idea of a cooperative effort. When the directors of the two surveys met last October, they agreed on the joint publication. Israel has a direct interest in the behavior of the Nile: The Aswan Dam, by preventing the transport of sediments to the coast, is affecting the Israeli coastline. Ordinarily, Nile sediments refurbish the coastline, but without them the shore is eroding. The process has also robbed several underwater archaeological sites of their protective layer of silt.

Stanley says he believes the new bibliography, which cites 2000 books and papers published over close to a century, is the first to be published jointly by Israel and another Mideast country. The future may hold more—the two geological surveys are now talking about doing another joint bibliography based on geological surveys of the Nile Valley.

