
CASW

COUNCIL FOR THE ADVANCEMENT OF SCIENCE WRITING, INC.

NEW HORIZONS IN SCIENCE

Eighteenth Annual Briefing

November 30 through December 5, 1980

Ramada Inn Downtown
Durham, North Carolina

Co-Chairmen:

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Co-Sponsored by:

Duke University
National Science Foundation

with additional contributions from:

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SUNDAY, NOVEMBER 30

Registration and Cocktail Party

6:00 to 9:00 P.M.

Ramada Inn (Downtown)

MONDAY, DECEMBER 1

8:30 A.M. to 11:30 A.M.

WHAT'S WRONG WITH OXYGEN?

Irwin Fridovich, Ph. D., James B. Duke Professor of Biochemistry,
Duke University Medical Center, Durham, N.C.

We get our energy from combustion of foodstuffs. In the process, oxygen is reduced to water. But a funny thing happens on the way: the oxygen forms "free radicals" with the potential to destroy living cells. Drugs called antioxidants may thwart this radical peril, which could lie at the root of many cases of arthritis, cataracts, gout, and several other inflammatory disorders.

VULCAN SPEAKS

Robert I. Tilling, Ph.D., Chief, Office of Geochemistry and Geophysics, U.S. Geological Survey, Reston, Va.

Mt. St. Helens does not seem to have finished blowing her stack. The good news is that the blasts are spewing out important information about the goings-on in the Earth's interior.

2:30 P.M. to 5:30 P.M.

GENE TRANSFER

Richard Axel, M.D., Professor of Pathology and Biochemistry,
Institute of Cancer Research, College of Physicians and Surgeons,
Columbia University, New York, N.Y.

Scientists recently reported transferring genes in human patients, but biological questions still need to be answered before such therapy will be available for treating genetic disorders.

IS THERE A SOCIAL GENE?

Ethel Tobach, Ph.D., Curator, Department of Animal Behavior,
American Museum of Natural History, New York, N. Y.

Are altruism, selfishness, and spite genetically based? Perhaps no field of research has aroused more debate in recent years than what has come to be called sociobiology.

6:00 P.M. to 7:30 P.M.

Hospitality Suite Open

TUESDAY DECEMBER 2

8:30 A.M. to 11:30 A.M.

SUPERCONDUCTING ELECTRONICS

John Clarke, Ph.D., Professor of Physics, University of California, Berkeley

With development of a superconducting device known as the Josephson junction, scientists are approaching the ultimate in measuring instruments--including a magnetometer that can detect a change in the Earth's field of one part in 10 billion, and a computer the size of a baseball with processing rates that vastly exceed those available today.

X-RAY ASTRONOMY

Riccardo Giacconi, Ph.D., Professor of Astronomy, Harvard University, and Associate Director, High Energy Astrophysics Division, Harvard/ Smithsonian Center for Astrophysics, Cambridge, Mass.

The Einstein Observatory (HEAO-2), a satellite carrying the first telescope capable of focusing X-ray images, has been aloft for two years. The findings, which affect nearly every branch of astronomy and astrophysics, have much to say about the probable beginning and the possible end of the universe.

2:30 P.M. to 5:30 P.M.

NEUTRINOS AND COSMOLOGY

David N. Schramm, Ph.D., Professor and Chairman, Department of Astronomy and Astrophysics, University of Chicago

Is the universe neutrino-dominated? Is it open or closed? What was the nature of the Big Bang? How smooth is space-time? A variety of new discoveries shed light on these cosmic issues.

MAYAN MYTHS AND MYSTERIES

John A. Graham, Ph.D., Professor of Anthropology, University of California, Berkeley

Newly gathered evidence shows that several long-standing mysteries surrounding the Maya are nothing more than tall tales concocted by archaeologists.

6:30 P.M.

COCKTAILS AND BANQUET

Presentation of the National Association of Science Writers' Science-in-Society Journalism Awards.

Guest Speaker: Philip Smith, Associate Director, Office of Science and Technology Policy, Executive Office of the President.
Subject: Science Funding in the 80's.

WEDNESDAY, DECEMBER 3

8:30 A.M. to 11:30 A.M.

THE ALL-PURPOSE PROTEIN

Thomas C. Vanaman, Ph.D., Professor of Microbiology and Immunology, Duke University Medical Center, Durham, N.C.

This newly discovered protein, which seems to regulate everything on the cell from division to movement to secretion, could be the most important find since the recombinant DNA. It may open the way to a new morning-after contraceptive and an anti-psychotic agent.

CONTRACEPTION: THE COMING ERA

D. Malcom Potts, M.D., Ph.D., Executive Director, International Fertility Research Program, Research Triangle Park, N.C.

One of the more promising developments is a spermicide that also protects against VD. It will soon be tested clinically with the help of French prostitutes.

2:30 P.M. to 4:30 P.M.

DUKE UNIVERSITY TOUR

An opportunity to visit with a number of Duke investigators in their laboratories. Transportation to the campus will be available.

5:30 P.M. to 7:00 P.M.

Hospitality Suite Open

Note:

Wednesday morning sessions will be held at the Searle Conference Center, Duke University.

THURSDAY, DECEMBER 4

8:30 A.M. to 11:30 A.M.

THE MISMEASURE OF MAN

Stephen Jay Gould, Ph.D., Professor of Geology, Harvard University, Cambridge, Mass.

From Cyril Burt to Arthur Jensen--a renowned evolutionist takes a scientifically rigorous look at widely touted claims related to the measurement of intelligence, especially those having to do with alleged racial differences.

EYEWITNESS TESTIMONY

Elizabeth Loftus, Ph.D., Professor of Psychology, University of Washington, Seattle

Jurors lend enormous weight to eyewitness identification, but there's strong reason to question the reliability of such testimony. Recent studies demonstrate how readily individuals can be persuaded to recollect things that never happened.

2:30 P.M. to 5:30 P.M.

BIOLOGICAL EXTINCTIONS

David M. Raup, Ph.D., Curator and Chairman, Department of Geology, Field Museum of Natural History, Chicago, Ill.

Is extinction a constructive force for gradually enhancing overall fitness of species? Or do all species actively exist in a "field of bullets" (or crashing meteorites) such that the "strong guys" have no better chance of survival than the "weak guys"?

COPING AND AGING

Judith Rodin, Ph.D., Professor of Psychology, Yale University, New Haven, Conn.

Give the elderly a sense of control over their own destinies, says a new study, and you're likely to see decreased mortality, illness and psychological disability.

6:00 P.M. to 8 P.M.

Hospitality Suite Open. Cocktail party sponsored by the International Fertility Research Program.

FRIDAY, DECEMBER 5

8:30 A.M. to 11:30 A.M.

NATURAL ENGINEERING

Steven Vogel, Ph.D., Professor of Zoology, Duke University

A group of scientists is examining how various creatures are designed and how they build structures as part of their repertoire for survival. The findings point to a variety of engineering strategies that could be applied to human benefit.

OCEAN TIDINGS

Richard T. Barber, Ph.D., Professor of Zoology and Botany,
Duke University Marine Laboratory, Beaufort, N.C.

Perturbations in the surface temperature of the North Pacific may influence climate and global food productivity. Monitoring these changes may make it possible to give world governments as much as 2½ years advance warning of impending food shortages.

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