Science

7 April 1989 Volume 244 Number 4900

American Association for the Advancement of Science Science serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or comflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all ar-

on which a consensus has been reached. Accordingly, all articles published in *Science*—including editorials, news and comment, and book reviews—are signed and reflect the individual views of the authors and not official points of view adopted by the AAAS or the institutions with which the authors are affiliated.

Publisher: Philip H. Abelson, *Acting* **Editor:** Daniel F. Koshland, Jr.

Deputy Editor: John I. Brauman (Physical Sciences)

EDITORIAL STAFF

Managing Editor: Patricia A. Morgan Assistant Managing Editor: Nancy J. Hartnagel Senior Editor: Eleanore Butz Associate Editors: Keith W. Brocklehurst, Martha Coleman, R. Brooks Hanson, Barbara Jasny, Katrina L. Kelner, Edith Meyers, Linda J. Miller, Phillip D. Szuromi, David F. Voss Letters Editor: Christine Gilbert Book Reviews: Katherine Livingston, *editor* This Week in Science: Ruth Levy Guyer Contributing Editor: Lawrence I. Grossman Chief Production Editor: Ellen E. Murphy Editing Department: Lois Schmitt, *head*; Mary McDaniel, Patricia L. Moe, Barbara E. Patterson Copy Desk: Joi S. Granger, Jane Hurd, MaryBeth Shartle, Beverly Shields Production Manager: Karen Schools Colson Assistant Production: Holly Bishop, James J. Olivarri, Yolanda M. Rook Covers Editor: Grayce Finger Manuscript Systems Analyst: William Carter

NEWS STAFF

News Editor: Barbara J. Culliton Deputy News Editors: Roger Lewin, Colin Norman News and Comment/Research News: William Booth, Gregory Byrne, Mark H. Crawford, Constance Holden, Richard A. Kerr, Eliot Marshall, Jean L. Marx, Robert Pool, Leslie Roberts, Marjorie Sun, M. Mitchell Waldrop European Correspondent: David Dickson Contributing Writer: John Walsh

BUSINESS STAFF

Circulation Director: John G. Colson Fulfiliment Manager: Ann Ragland Business Staff Manager: Deborah Rivera-Wienhold Classified Advertising Supervisor: Karen Morgenstern Guide to Biotechnology Products and Instruments: Shauna S. Roberts

ADVERTISING REPRESENTATIVES Director: Earl J. Scherago Traffic Manager: Donna Rivera Traffic Manager (Recruitment): Gwen Canter Advertising Sales Manager: Richard L. Charles Marketing Manager: Herbert L. Burklund Employment Sales Manager: Edward C. Keller Sales: New York, NY 10036; J. Kevin Henebry, 1515 Broadway (212-730-1050); Socth Plains, NJ 07076; C. Richard Callis, 12 Unami Lane (201-889--4873); Chicago, IL 60914: Jack Ryan, 525 W. Higgins Rd. (312-885-8675); San Jose, CA 95112; Bob Brindley, 310 S. 16th St. (408-989-4690); Dorset, VT 05251: Fred W. Dieffenbach, Kent Hill Rd. (802-867-5581); Damascus, MD 20872: Rick Sommer, 11318 Kings Valley Dr. (301-972-9270); U.K., Europe: Nick Jones, +44(0647)52918; Telex 42513; FAX (0647) 52053.

Information for contributors appears on page XI of the 31 March 1989 issue. Editorial correspondence, including requests for permission to reprint and reprint orders, should be sent to 1333 H Street, NW, Washington, DC 20005. Telephone: 202-326-6500.

Advertising correspondence should be sent to Tenth Floor, 1515 Broadway, New York, NY 10036. Telephone 212-730-1050 or WU Telex 968082 SCHERAGO, or FAX 212-382-3725.

Scare of the Week

The fable of the boy who cried wolf is as pertinent today as it was in Aesop's time. We are being subjected to the scare of the week. Some of these scares may reflect real dangers, but they are becoming obscured by a cacophany of false or exaggerated ones. Two that hit the headlines recently illustrate quite different problems.

The first was a highly publicized announcement by the Natural Resources Defense Council that Alar-treated apples would cause thousands of cancer deaths to children. The reaction was predictable: school districts quickly canceled apple distribution and the fruit piled up on grocery shelves. The facts came more slowly. Only 5% of apples are treated with Alar, and in that 5% the levels of Alar are well below conservative Environmental Protection Agency tolerances. Even in a worst case scenario the probability of cancer among the affected group would change from 25% to 25.025%. When health commissioners announced the facts, the country returned to normal and apples were returned to school districts and grocery shelves. However, serious psychological and financial damage was sustained.

It is time to recognize that public interest groups have conflicts of interest, just as do business groups, even though their public positions are orthogonal. Businesses prefer to be out of the limelight; public interest groups like to be in it. Because they are selling products in the marketplace, businesses downplay discussions of hazard. Because public interest groups acquire members by publicity, they emphasize hazards. Each group convinces itself that its worthy goals justify oversimplification to an "ignorant" public. Businesses today have product liability and can incur legal damages if they place a dangerous product on the market. Public interest groups have no such constraints at the moment; it may be time to develop appropriate ones so that victims of irresponsible information have redress. Public interest groups, as well as apple growers, contribute importantly to our society, but both groups should be accountable for their acts.

The second scare was the banning of Chilean grapes after a terrorist threat and the finding of traces of a little cyanide in two grapes. On the surface it resembles the Alar scare: the amounts of cyanide were found to be negligible, so the job losses and the ensuing ill will created among Chilean farmers seemed disproportionate in retrospect. The difference is that eating too much cyanide can cause instant death, whereas Alar presents a possible danger only over a lifetime of consumption and that scare required no instantaneous action. Although the Chilean grape scare may have been more justifiable, a reevaluation suggests that a less extreme reaction would have been more appropriate.

The overreaction in these cases has as its background the present climate in our society in which complete safety without cost is seen as a feasible goal. The possibility of danger, therefore, is perceived to result from chicanery, negligence, or incompetence. In such a climate, officials respond with extreme measures. Because increased costs in either the affected products or in taxes are not obviously linked to these official actions, the system becomes tilted to overreaction. A certain balance is necessary to prevent the costs of legitimate safety measures from becoming prohibitive. A graphic illustration of this problem surfaced recently with the arrest in Los Angeles of a person who admitted having made about a hundred bomb threats to airlines, all false, each of which had been investigated by authorities. If every threat causes flights to be canceled or fruit to be removed from grocery shelves, terrorists and psychotics will soon be able to grind society to a halt. On the other hand, the alternative of broadcasting each threat, caveat emptor with a vengeance, would soon cause all warnings to be ignored.

To thread our way between real dangers and false alarms, we must often let officials decide which terrorist threats deserve wide publicity, and the public must be understanding of risk as well. Because these officials cannot always be right they deserve to be judged on an overall record, not from the certainty of hindsight. The public must recognize that a risk-free society is not only impossible, but intolerably expensive. At some point the real danger of too much pesticide must be balanced against the value to poor people of cheaper fruit. There are numerous deaths from falls down stairs in the home every year, but we do not advocate that all staircases be replaced by elevators. Scares of the week are in the same category. We cannot afford to be complacent about real threats, but we must remember that to be alive is to be at risk.—DANIEL E. KOSHLAND, JR.