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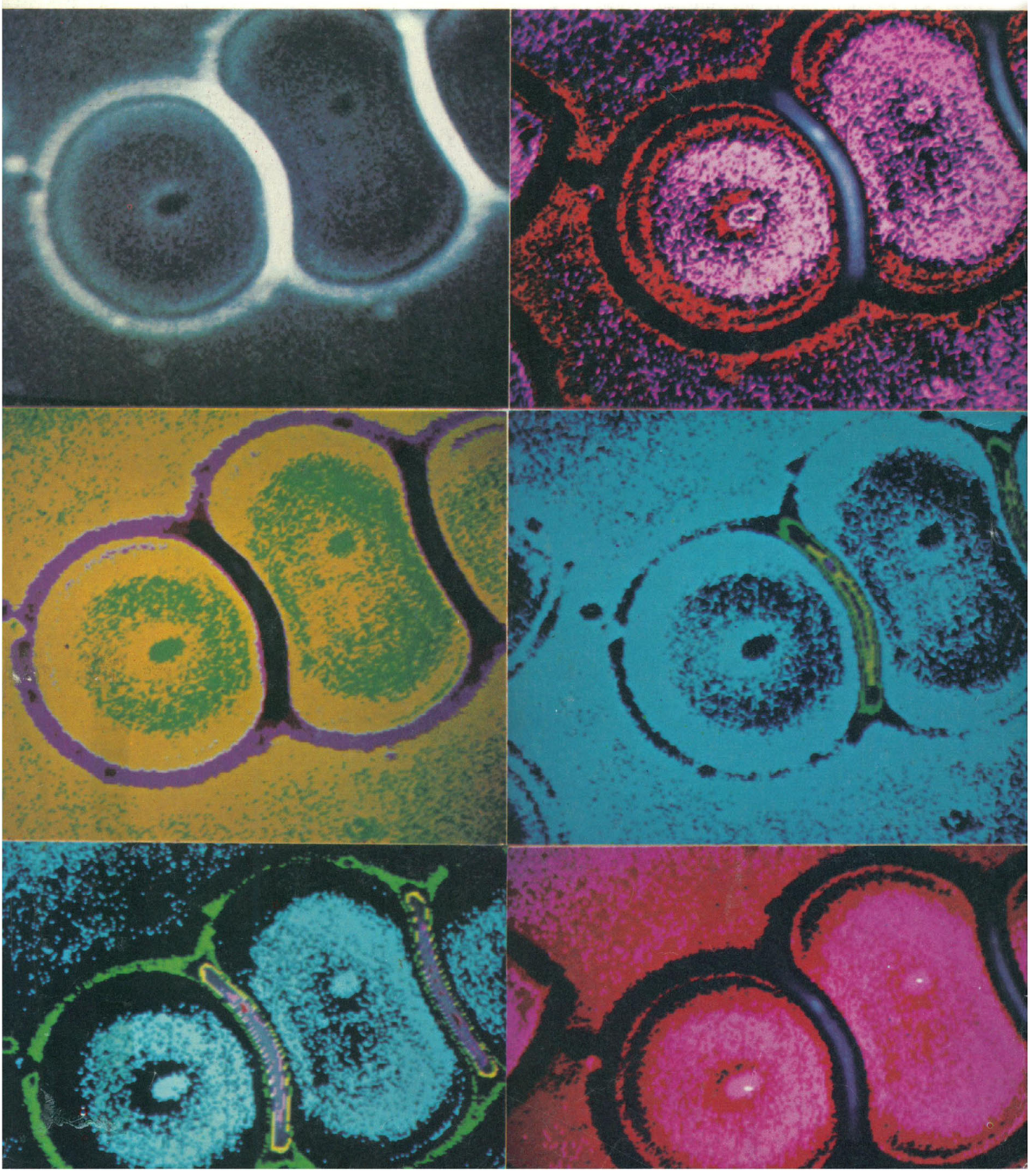

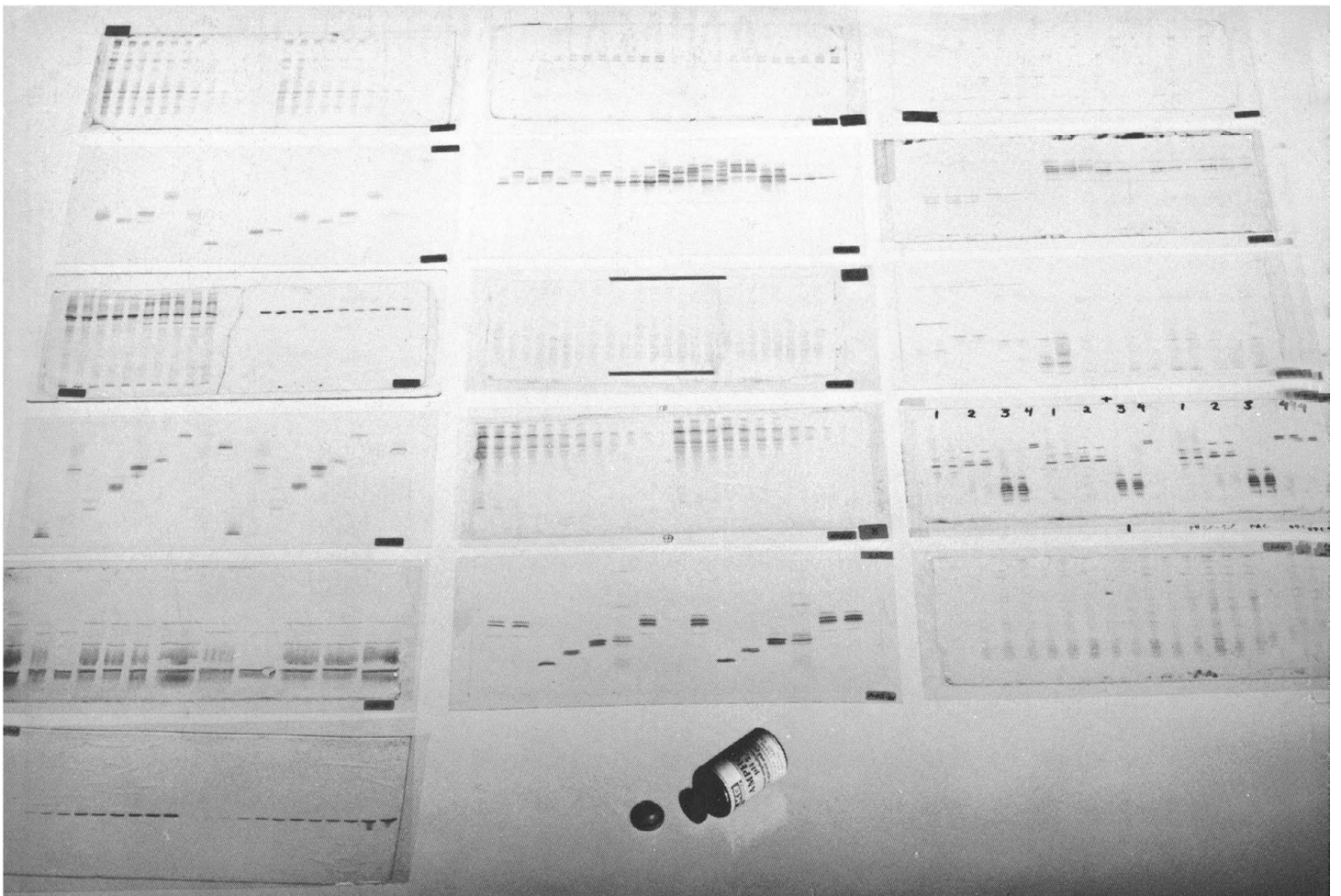

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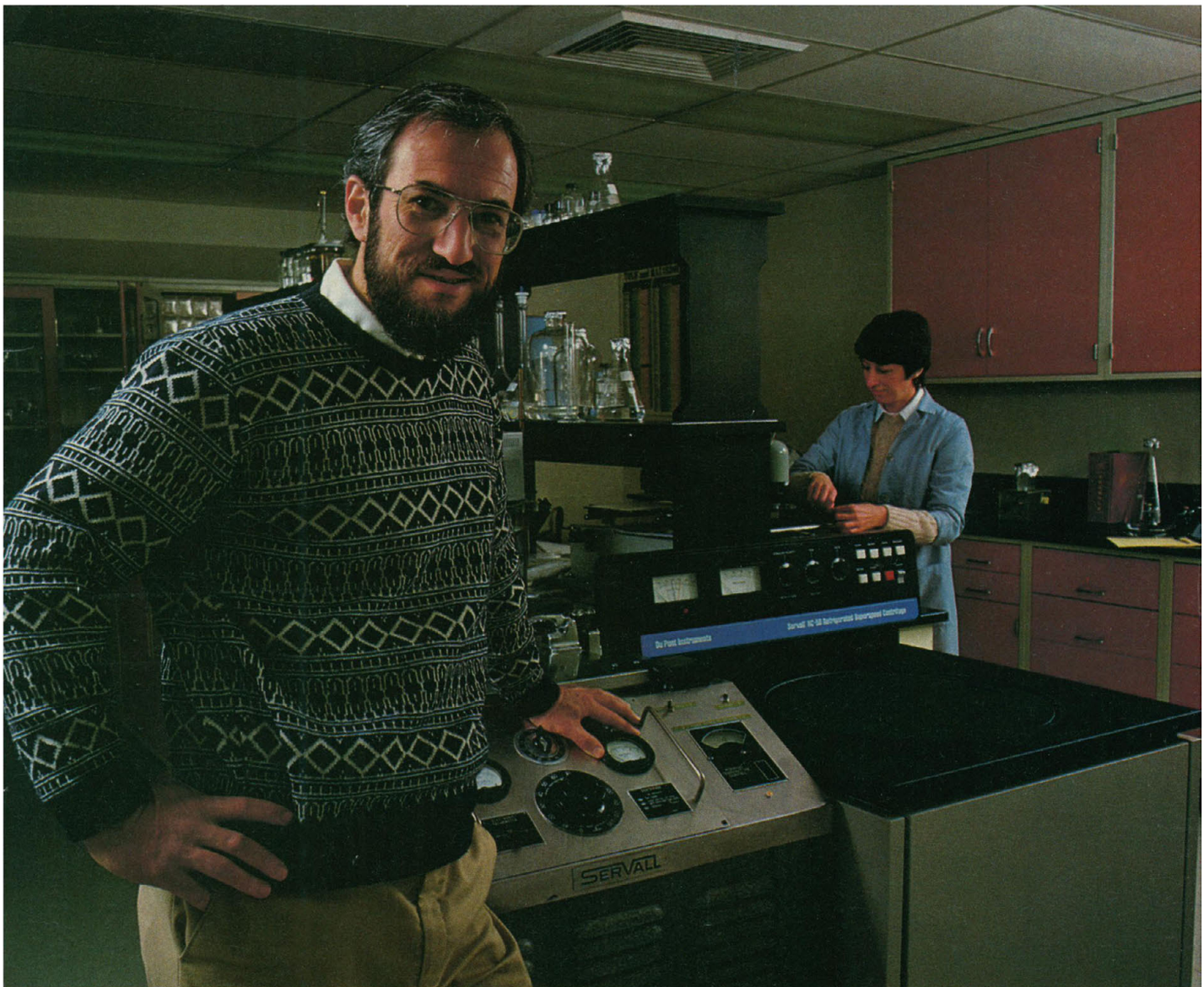

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COVER

Computer-pseudocolor-enhanced video images of red blood cells following placement of a 2-micrometer laser lesion (dark spots in black-and-white photo). Different color enhancements bring out specific detail not detectable by conventional microscopy. Note small white spot (0.4 micrometer) in red enhancements; this is a hot spot in center of laser lesion not detectable in black-and-white photo. See page 505. [Michael W. Berns, Department of Developmental and Cell Biology, University of California, Irvine 92717]

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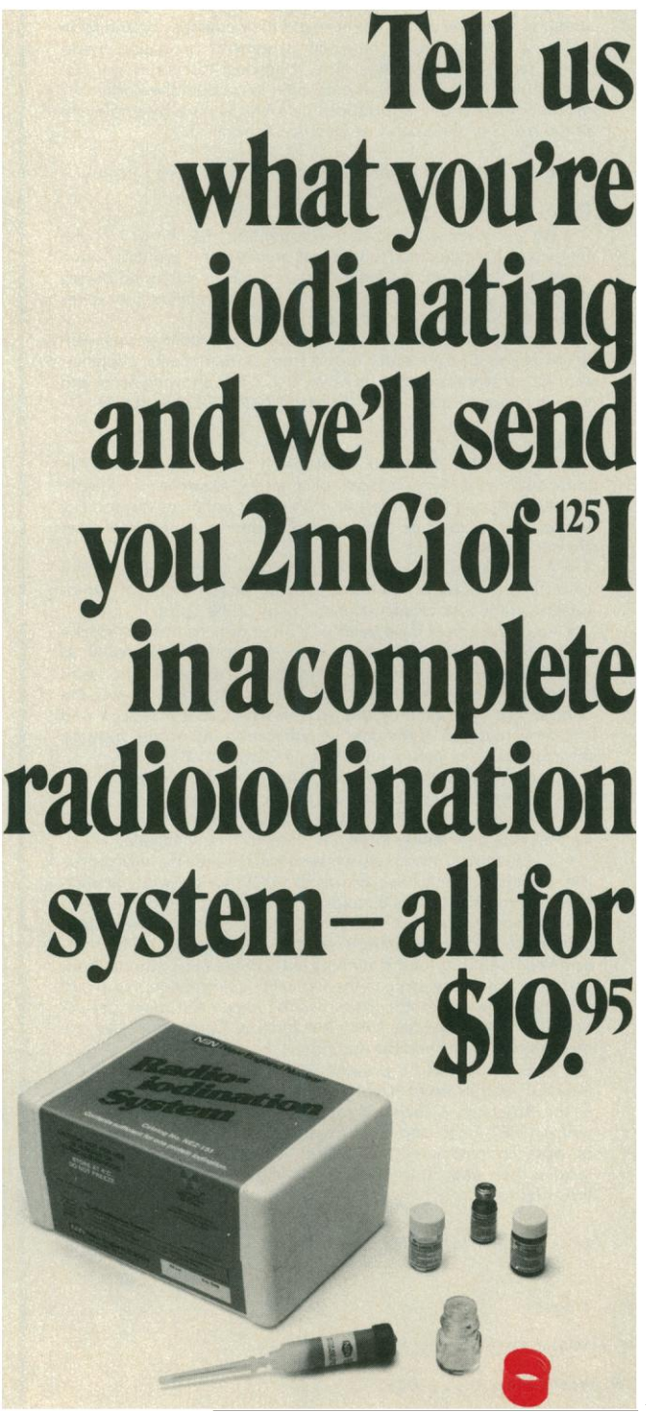

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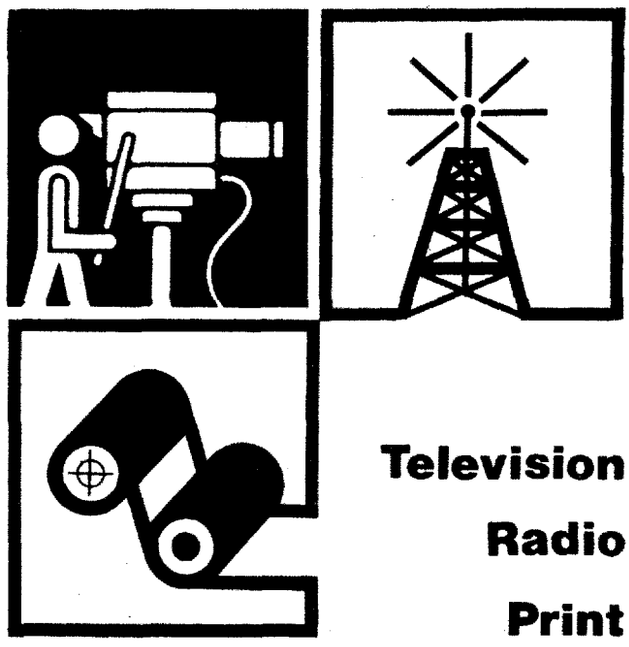
1981 AAAS Westinghouse Science Journalism Awards



Television

Radio

Print

Rules

The aim of this competition is to encourage and recognize outstanding reporting on the sciences and their engineering and technological applications in newspapers, general circulation magazines, radio, and television. The following categories are not eligible: items on the field of medicine, items published originally in AAAS publications or produced by AAAS; reports by employees of the AAAS or Westinghouse Electric Corporation.

- Each entrant may submit three entries for any one category.

Print

- An entry for a newspaper competition may be any of the following: a single story; a series of articles; or a group of three unrelated stories, articles, editorials, or columns published during the contest year. A magazine entry may be a single story or series published during the contest year.
- A completed entry blank must be submitted together with seven copies of each entry in the form of tear sheets, clippings, reprints, or syndicate copy (**not over 8½" x 11"**), showing name and date of the publication. **ENTRIES MUST NOT BE ELABORATE!**

Broadcast

- An entry for the radio or television competition may be an individual news story, feature, or a series, regardless of length, broadcast during the contest year on either public or commercial stations. Entries must be comprised of scripted material. Interviews are not eligible.
- A completed entry blank must be submitted together with a cassette in the case of radio and copy of the script or a ¾" videocassette in the case of television and copy of the script.
- Each entry must have been published or broadcast within the United States during the contest year—1 October 1980 through 30 September 1981. (In case of a series, more than half of the items comprising it must have been published or broadcast during the contest year.) The date on the issue in which an article appeared will be considered as the date of publication. All entries must be postmarked on or before midnight, 15 October 1981.
- Persons other than the author may submit entries in accordance with these rules. Entries will not be returned.
- Winners of the 1980 Awards are not eligible for the 1981 awards. Persons winning three times are no longer eligible.
- The Judging Committee, whose decisions are final, will choose the winners. There are five awards of $1,000: for the winning entry in the over 100,000 daily circulation newspapers competition; for the winning entry in the under 100,000 circulation newspapers competition; for the winning entry in the general circulation magazine competition; for the winning entry in the radio competition; and for the winning entry in the television competition. For award purposes, newspaper circulation will be sworn ABC daily circulation as of 30 September 1981. The Judging Committee may cite other entries for honorable mention.
- The awards will be presented at the dinner meeting of the National Association of Science Writers during the Annual Meeting of the American Association for the Advancement of Science in January 1982. Travel and hotel expenses of the awards winners will be paid. Entrants agree that, if they win, they will be present to receive their awards, unless prevented by circumstances beyond their control.

Grayce A. Finger

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31 July 1981, Volume 213, Number 4507 **SCIENCE**

Scientists' Responsibility for Public Information

One of the more vexing questions confronting scientists whose research may have a direct impact on the lives of the public has to do with the pressures to release observations and conclusions prematurely. One example is the question of early dissemination of information bearing on the likelihood of a major earthquake.

Geophysicists generally agree that results of earthquake prediction studies to date, although promising, do not indicate early arrival at the goal of providing accurate predictions of the time, place, and magnitude of large earthquakes. It is possible, from retrospective looks at phenomena immediately preceding some large earthquakes and from a few accurately predicted events such as the 1975 Haicheng earthquake in northeast China, to see certain premonitory patterns. However, when confronted by one or more apparent anomalies in geophysical observations in earthquake-prone areas, what is the responsible course of action for the scientists involved?

There have been too few repetitions of the precursor-earthquake relationship to allow any realistic estimates of the probability of an earthquake's occurrence. Therefore, attempts to inform the public of the scientists' concern over potentially precursory changes must be so hedged with qualifications that public officials would have no basis for taking any but routine precautionary measures, such as leaving fire trucks outside fire stations. Estimates of the time and magnitude of the possible event would probably be too uncertain to call for such measures as evacuation of unsafe structures and shutdown of nuclear reactors. However, between these extremes there is still a range of precautions that could be taken, although at some expense and with some loss of normal public services. If a severe earthquake following a vague warning does occur with injury and loss of life, does the failure of public officials to act render them liable for civil suits? If, on the other hand, the earthquake does not take place, are the costs of having taken routine precautions likely to reflect on the competence of the officials? Indirect costs to individuals, such as loss in property value, might also make for civil liability.

In our litigious society, little allowance is made for normal human errors if they have a substantial effect on someone's pocketbook or health. A course of action might be to maintain that earthquake prediction is still a subject for research and that no results, at present, warrant short-term or public warnings. A critical, objective look at the assembly of precursory phenomena collected up to now might lead most scientists to take this stance, in view of the potential for litigation and loss of public confidence to ensue from erroneous public predictions.

A different position has been taken in the past. In 1979 the U.S. Geological Survey issued a press release noting anomalous variations in radon emission and strain accumulation in southern California. It was hoped that the release would spur prudent homeowners to prepare for a possible large earthquake. A factual account of the observations and their significance, or lack thereof, is the only way to dispel the rumors that flourish in the absence of official statements. Thus, discussion of the observations has appeared to be the soundest policy, despite uncertainty about the public's reaction to the expressions of concern accompanying the discussion.

As our understanding of precursory phenomena improves, there will undoubtedly be warnings that are more specific and hence likely to occasion a serious response. Unless allowances are made for the possibility of an erroneous or ill-timed warning, few scientists will be willing to risk the opprobrium and litigation that could arise from open discussion. Thus, there is a conflict between the public's need for information and the scientists' need to be protected against threats to their livelihood. Unless some legal protection is forthcoming, the matter will most likely be resolved by the scientists retreating to an uninformative conservatism when asked to interpret their results in the public forum.—C. B. RALEIGH, *Earthquake Prediction Program, U.S. Geological Survey, Menlo Park, California 94025*

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