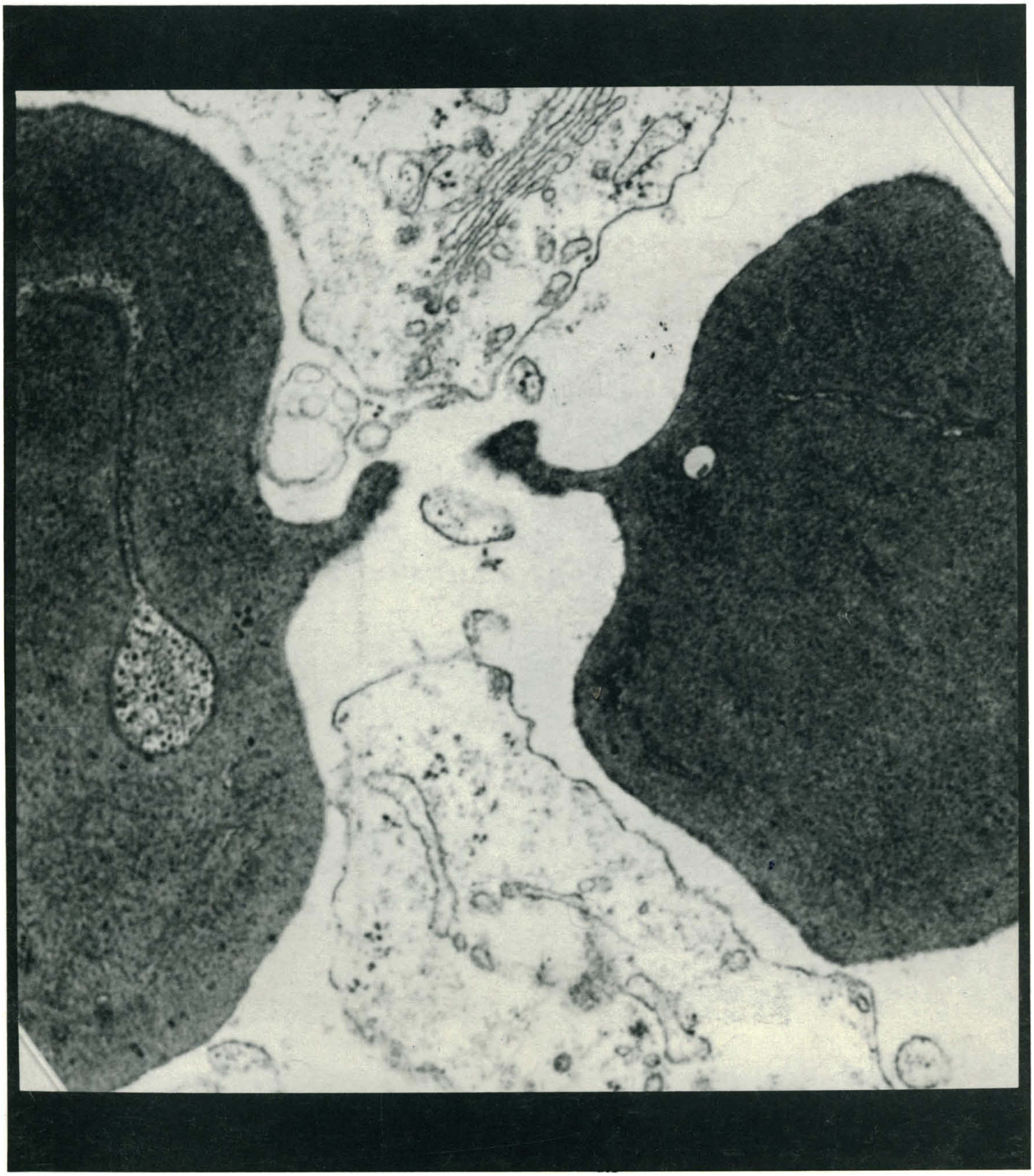
SCIENCE

14 July 1972

Vol. 177, No. 4044

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



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Vol. 177, No. 4044

SCIENCE

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COVER

Portion of electron micrograph of an erythrocyte apparently split in two. One part contains remains of a malaria parasite trapped in the cord of the spleen and unable to squeeze through the narrow space separating the cord from the sinus. The other part, severed from the parasitized portion, has passed into the sinus (about × 39,800). See page 175. [Bertram Schnitzer, University of Michigan Medical Center, Ann Arbor]

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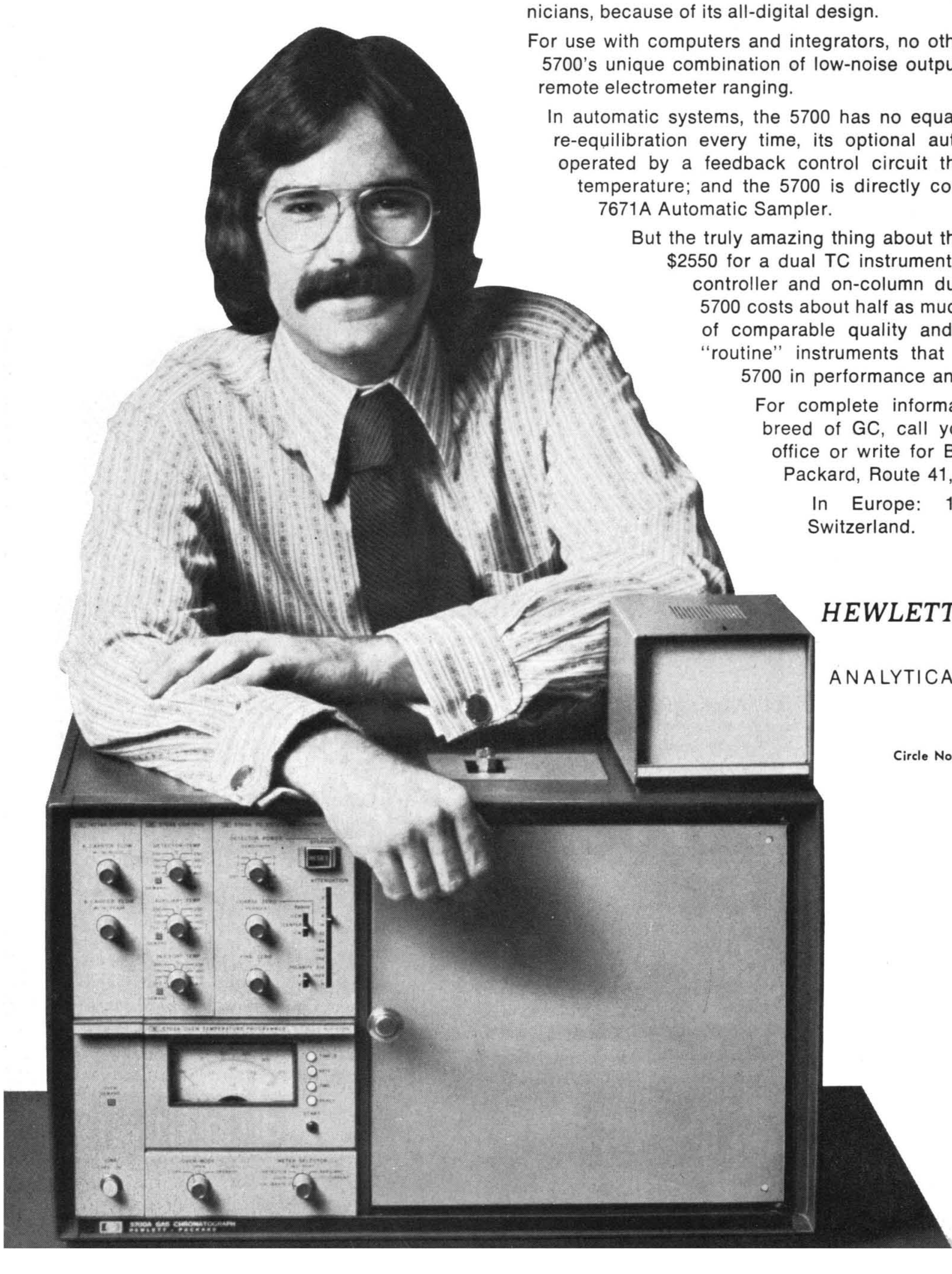

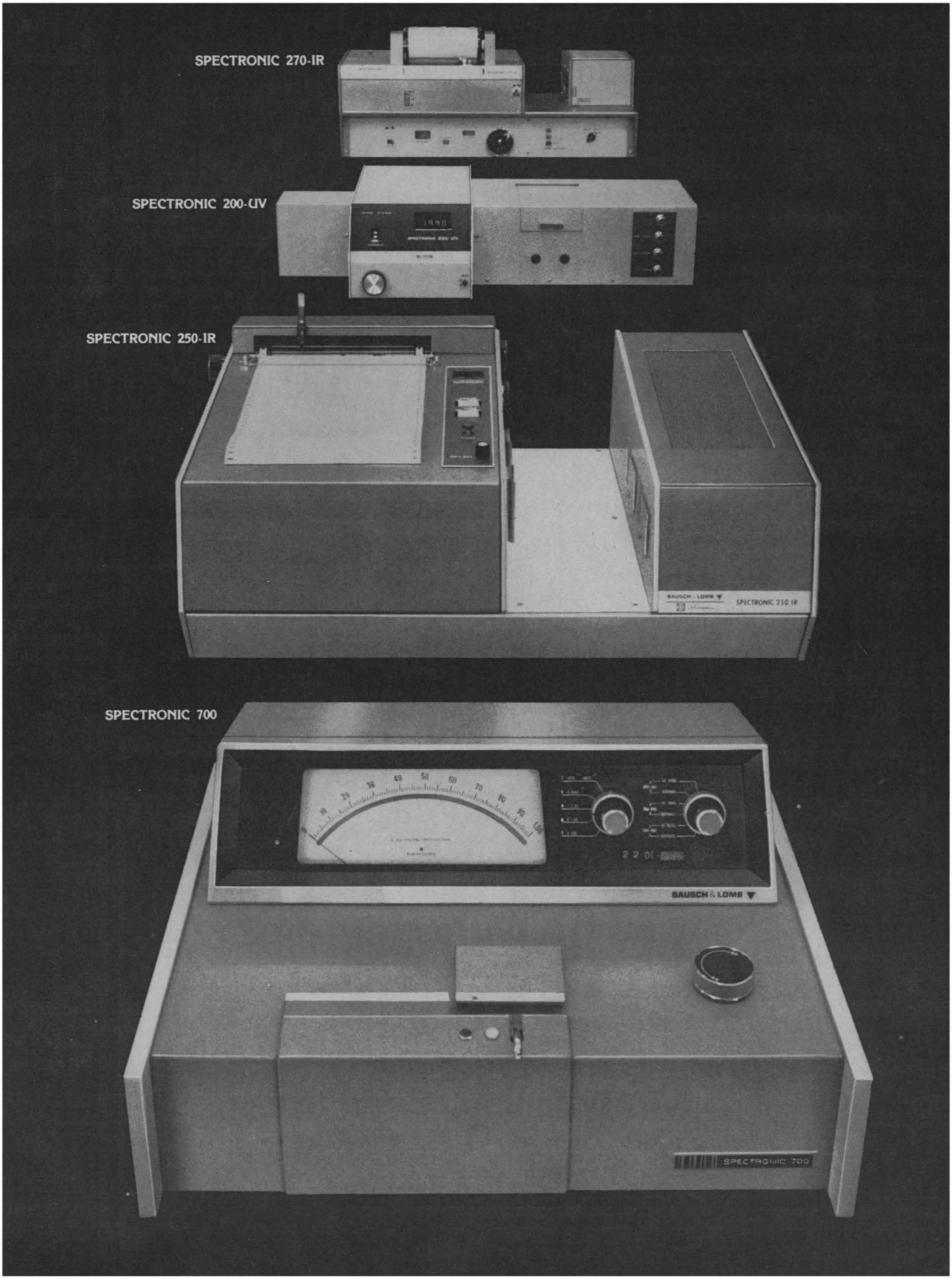
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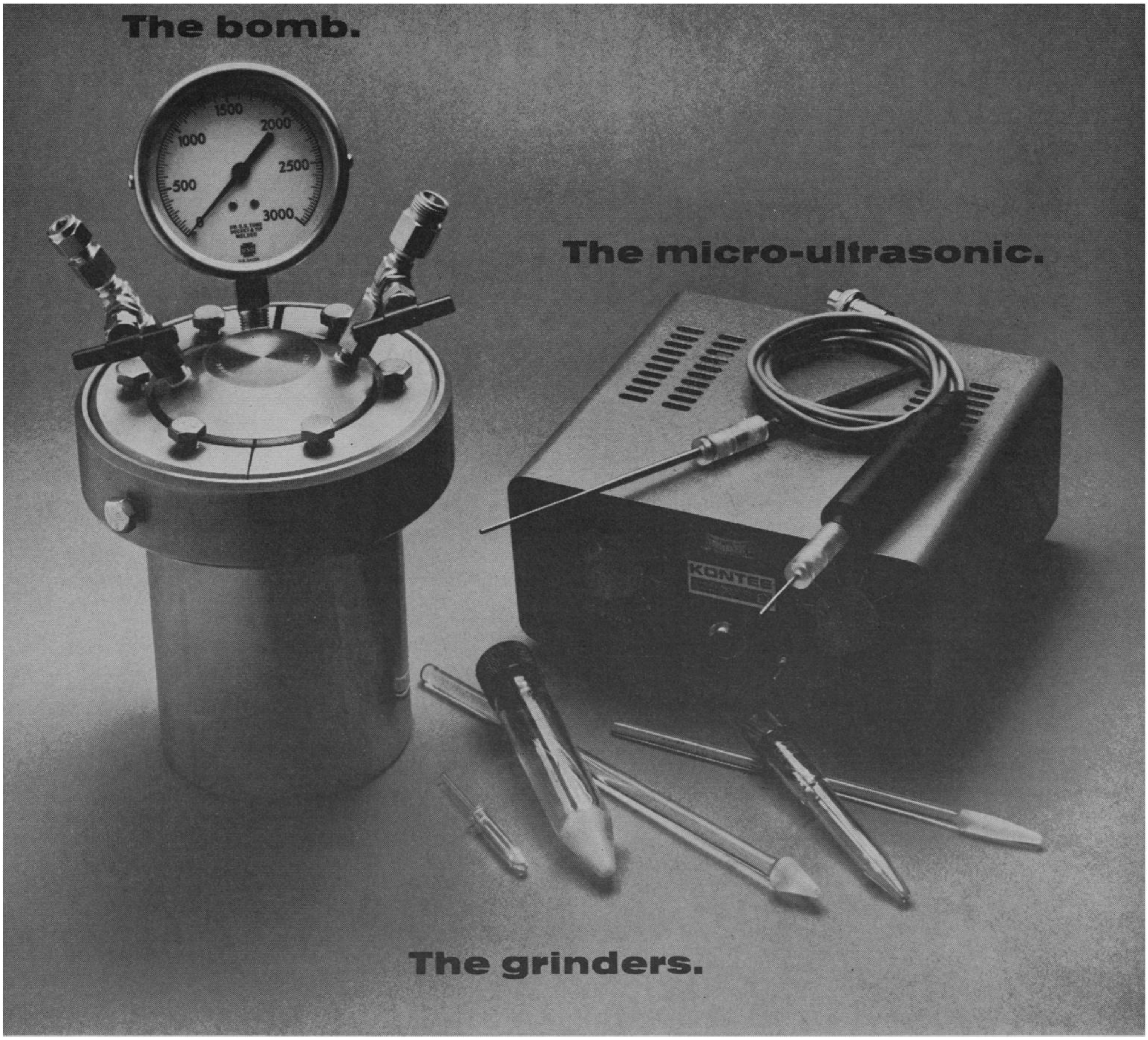

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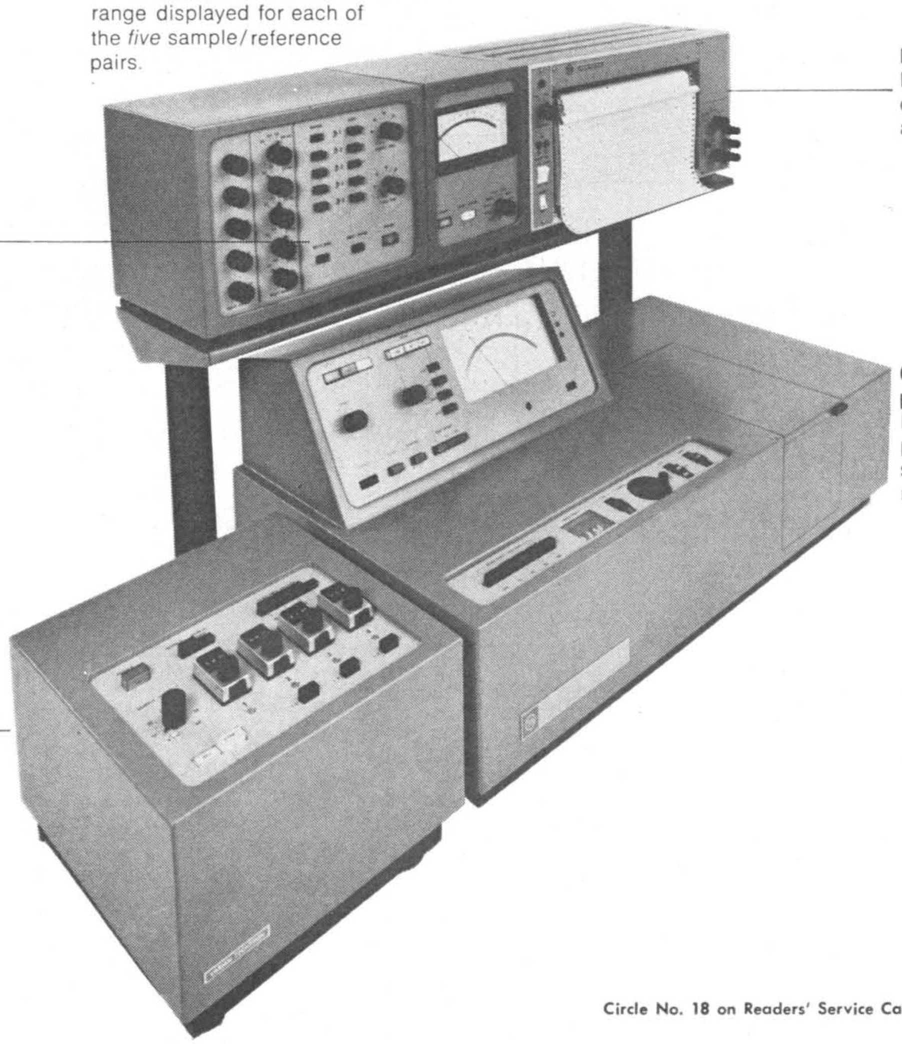

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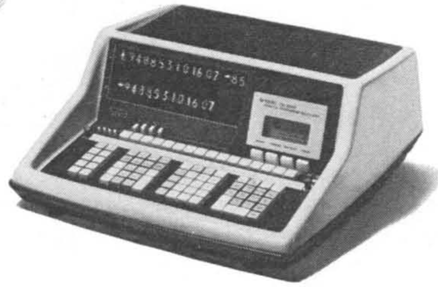

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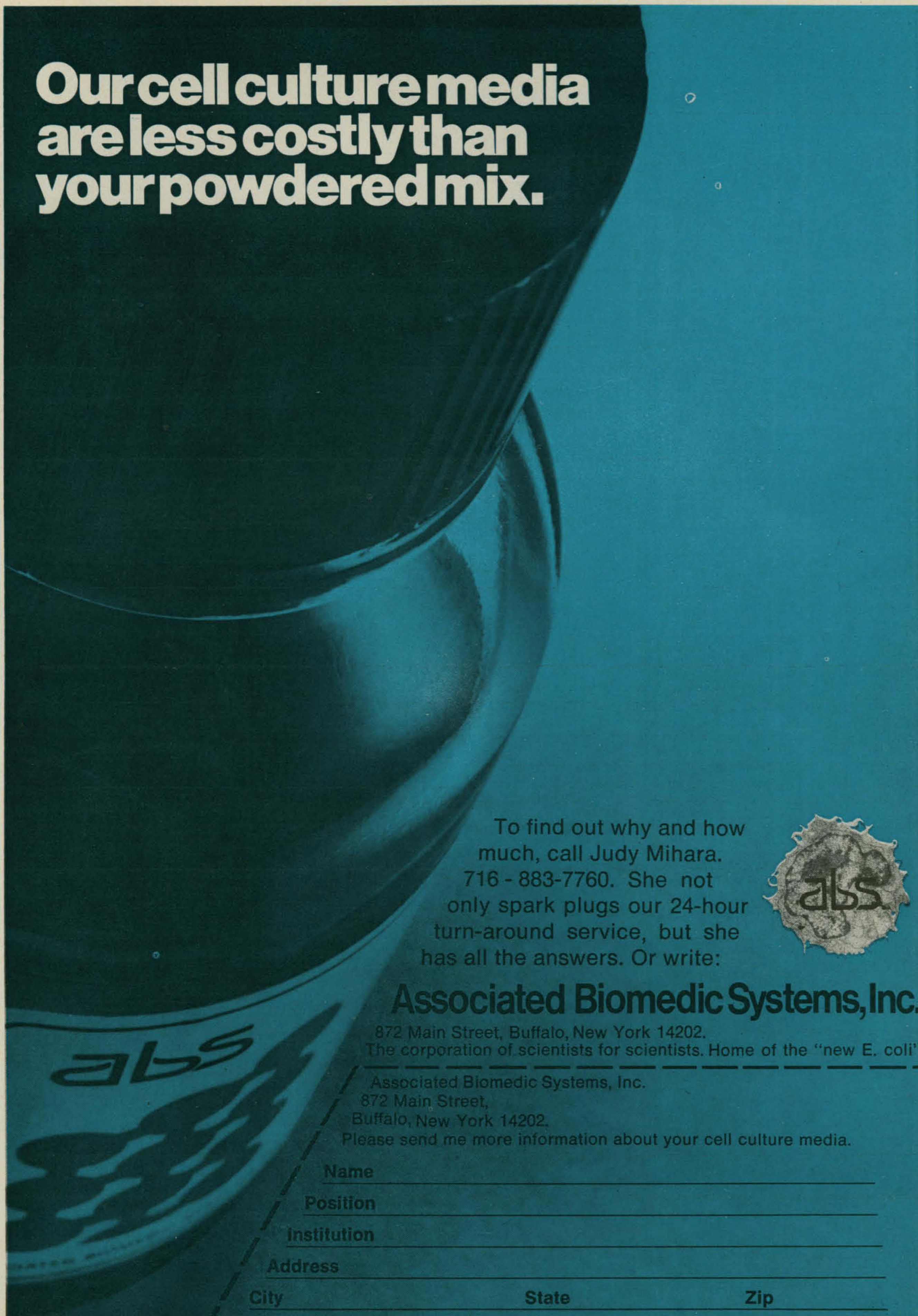

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academic ecologists are quite willing to help, fewer have the requisite information, and fewer still the time to fulfill satisfying roles as advisors. Because of the structure of the universities themselves, science professors do not become involved in the affairs of government at a level other than that of the occasional testimony at a hearing. Universities were intended for teaching and research, and the reward structure is so oriented. A professor who is asked to supply a detailed memo on a topic of immediate concern to a congressional committee cannot drop other responsibilities for 2 weeks while he completes the task. Not, that is, unless universities provide some mechanism and incentive to make such involvement possible. Allowing interested professors a term off, at full pay, independent of sabbatical leave, to research some issue of concern to Congress, is one possibility. Encouraging a professor to spend sabbatical leave in Washington, and giving credit to such experience when promotions are made, is another. Acknowledging the merit of research of an immediate and applied nature, is a third. These are certainly departures from traditional academic roles. Those university administrators who proclaim a desire for university involvement in community affairs need to determine whether the priorities and rewards characteristic of their own institutions are at all conducive to such activity.

In addition to a lack of professors' time, there is currently a deficiency of requisite environmental information. This phenomenon may stem from the stigma still attached to applied research in some circles of academic ecologists, as well as to the difficulty of doing such research without the sponsorship of a government agency or company with a bias about the desired results. The new Institute of Ecology, the RANN (Research Applied to National Needs) program of the National Science Foundation, and the National Environmental Center bill (S.1113) which has passed the Senate, may help the latter situation.

Clearly, there is much more that politicians could do to encourage the involvement of academic scientists—publish in *Science* or elsewhere an account of current problems that need to be solved; embrace facts offered in their full complexity, without simplifying problems to the extent that scientists are turned off; support the appropriation of funds for long-term basic research and immediate problem-solving research.

At the same time, immediate steps can be taken within the universities to bring the expressed concern for involvement in environmental problems, and incentives for such involvement, into closer consonance.

WALTER E. WESTMAN
2659 Connecticut Avenue, NW,
Washington, D.C. 20008

Technology Assessment

The report on the Office of Technology Assessment (News and Comment, 3 Mar., p. 970) contains an unfortunate non sequitur which might lead some readers to infer that Raymond Bowers and I feel that our technology assessment of microwave devices (*1*) was a complete assessment —even though we did not consider the social impact of the use of these devices.

The original title of our paper, when it was given at last summer's Cornell Conference on High Frequency Generation and Amplification, was "A preliminary technology assessment of solid state microwave devices." Within the *Scientific American* article itself, we admitted that, "Our attempt cannot be comprehensive. . . . We hope these first steps will lead to an analysis of broader social implications."

We agree entirely with the Congress that technology assessment must include the "physical, economic, social, and political" effects of a technology.

JEFFREY FREY
School of Electrical Engineering,
Cornell University,
Ithaca, New York 14850

Reference

1. R. Bowers and J. Frey, *Sci. Amer.* **226**, 13 (Feb. 1972).

PCB's in the Environment

It is simple to assert that an event, having once occurred in a laboratory, "may" take place again. Thus it took no great foresight for Mosser *et al.* (14 Jan., p. 191), in their study of the effects of polychlorinated biphenyls (PCB's), to conclude:

> Selective inhibition of sensitive phytoplankton species by PCB's, DDT, and other stable pollutants in the environment may alter the species composition of natural algal communities. . . . Such effects at the base of aquatic or estuarine food webs could profoundly affect higher organisms as well.


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HAMILTON
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The authors' conclusion that selective species alteration "may" occur is indisputable but obvious, since the addition to an ecological system of almost any long-lived contaminant is likely to alter species composition.

An estimate of the probability of ecological damage likely to occur as a result of PCB usage would have been meaningful. C. G. Gustafson (*1*) has pointed out that "All studies of PCB's in animals indicate that acute toxicity is not a significant factor . . . ," and, further, "Compared to DDT . . . PCB's have a relatively low acute toxicity. . . ." That PCB's "could profoundly affect higher organisms" is dubious because, as the authors failed to mention, PCB distribution is much more tightly regulated than it was a few years ago, and the levels prevalent in the environment are likely to cause little, if any, harm to plants or to animals. Statements to the contrary sound like the fantasies that robins are "on the verge of extinction" (*2*), and that the supply of planetary oxygen could diminish as a result of DDT usage.

CYRUS ADLER
Science for the Citizen Program, New School for Social Research, New York 10011

References

1. C. G. Gustafson, *Environ. Sci. Technol.* **4**, 815 (1970).
2. R. Carson, *Silent Spring* (Houghton Mifflin, Boston, 1962).

The alteration of species composition within phytoplankton communities is indeed the expected result of differential sensitivity to long-lived environmental contaminants, but documentation for its occurrence is lacking. Our laboratory studies (*1*) provide suggestive evidence that it may occur with PCB's and DDT, among the most widespread of all pollutants. We cannot assess fully the ecological significance of our findings because we do not know to what extent such alteration is occurring in nature, but we doubt that our conclusions can be considered "fantasies." We would point out that we have never subscribed to the theory that DDT (or PCB) usage could diminish the earth's oxygen supply (*2*). Hopefully, our reports will lead to the required studies on natural algal populations.

Acute toxicity tests with animals have no bearing on the potential hazard of phytoplankton species alterations by PCB's or DDT. Changing the food source at the base of a food web would be expected to affect animals higher in the web, since many herbivores have specific food requirements. Higher organisms therefore need not be directly sensitive to these substances to be affected.

The tight regulation that Adler claims for PCB distribution has not been manifested by any decline in PCB concentrations in environmental samples. Furthermore, we are aware of no law that permits regulation of their escape into the environment. Pesticides, at least, can be regulated under the Federal Insecticide, Fungicide and Rodenticide Act, but PCB's are not pesticides. Who, then, is tightly regulating PCB's?

We believe that the environmental impact of a chemical should be studied before it is released into the environment; DDT and the PCB's were released first and studied later. Assurances of safety based on little or no evidence, such as those by Adler, are no longer sufficient for most environmental scientists. Too often these assurances have proven misleading and naive.

JERRY L. MOSSER
NICHOLAS S. FISHER
TZU-CHIU TENG
CHARLES F. WURSTER

Marine Sciences Research Center, State University of New York, Stony Brook 11790

References

1. J. L. Mosser, N. S. Fisher, C. F. Wurster, *Science* **176**, 533 (1972).
2. C. F. Wurster, *ibid.* **159**, 1474 (1968).

Canceled Invitation

I was invited to attend the 2nd International Ocean Development Conference and Exhibition, which will be held in Tokyo, Japan, from 4 through 9 October 1972. My paper "Strontium distribution in sea waters from the South China Sea" was accepted for presentation.

However, because several oceanographers from Communist China were later invited to participate, my invitation was canceled by the chairman of the organizing committee, Seiichi Tagawa. Apparently, politics is governing science at the conference, which is not only regrettable, but also harmful to the world's scentific community.

JU-CHIN CHEN

Institute of Oceanography, National Taiwan University, P.O. Box 6013 Taipei, Taiwan, Republic of China

14 July 1972, Volume 177, Number 4044 **SCIENCE**

The Fourth Revolution

The public has begun to resist further increases in the support of education. If improvement is to occur in teaching it must come from new approaches rather than from more of the same. It is ironic that there has been so little real progress in education and that the research and development effort needed to improve it have not been commensurate with the large total expenditure for education.

Nevertheless, we seem on the threshold of profound changes. Some of these have been discussed in a recent report of the Carnegie Commission on Higher Education.*

The report begins, "Higher education (and education generally) now faces the first great technological revolution in five centuries in the impact of the new electronics." The authors point to the growing use of electronic technology (computers, cable television, video cassettes) in many facets of education, including research, administration, the library, and instruction. The report predicts that by 1980 computers will have been generally introduced in libraries and that by 1990 they will have been generally introduced for instruction.

The report outlines some of the advantages for use of expanded technology in instruction. "It increases the opportunities for independent study and provides students with a richer variety of courses and methods of instruction" . . . "additionally it is infinitely tolerant and infinitely patient toward the slow learner." The new technology also seems to have good potential for off-campus instruction of adults. In view of these advantages and others cited in the report, the delay predicted in the introduction of the new technology seems long. Perhaps the authors have been influenced by two factors—their estimate of the inertia of higher education and their past experience with the deflation of overoptimistic claims for computer assisted instruction (CAI).

Until recently no single institution mounted a sufficiently large effort to be able to demonstrate both quality-effectiveness and cost-effectiveness of CAI. Most investigators employed small installations that were equipped with small computers that could not be cost-effective. Some of the medium-sized installations have successfully demonstrated that CAI has features which tend to make it superior to conventional teaching, at least for some subjects. A personal experience at Stanford convinced me of the value of CAI for teaching languages. I took a lesson in Russian from the computer. The degree to which the system demanded and captured attention was startling. Others have noted that CAI is particularly useful in teaching languages and in situations in which repeated drills are indicated.

Two systems of CAI are now under development and they are being backed on a scale sufficient to permit a realistic evaluation of its potential [*Science* **176**, 1110 (1972)]. The most ambitious and versitile of these is the Plato system at the University of Illinois. This project has had strong support in the engineering and development of new hardware and has drawn on talents of some 200 instructors of varying backgrounds who have designed courses for use with the computer. Ultimately, it is contemplated that one computer would serve 4000 terminals, some located hundreds of miles away. In the fall of 1973 a 2-year demonstration of the system, involving 500 to 1000 terminals, will begin.

The potentials of CAI seem to warrant more intensive effort in exploiting them. At the same time there should be critical and imaginative thinking about the likely impacts of the new technology so that possible adverse effects may be identified and avoided.—PHILIP H. ABELSON

* *The Fourth Revolution: Instructional Technology in Higher Education*, Carnegie Commission on Higher Education (McGraw-Hill, New York, 1972).

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14–18. Australian and New Zealand Assoc. for the **Advancement of Science**, 44th congr., Sydney, Australia. (Mrs. D. Stretton, Dept. of Physiology, Univ. of Queensland, St. Lucia 4067, Brisbane, Australia)

14–18. Symposium on **Cosmochemistry**, Intern. Assoc. of Geochemistry and Cosmochemistry, Cambridge, Mass. (A. G. W. Cameron, Belfer Graduate School of Science, Yeshiva Univ., Amsterdam Ave. and 186 St., New York 10033)

14–18. American **Ornithologists'** Union, Grand Forks, N.D. (R. C. Banks, Bird and Mammal Labs., National Museum of Natural History, Washington, D.C. 20560)

14–18. **Physics and Chemistry of Ice**, intern. symp., Royal Soc. of Canada, Ottawa, Ont., Canada. (M. K. Ward, National Research Council, Ottawa K1A OR6)

14–18. **Social Science and Medicine**, 3rd intern. conf., Elsinore, Denmark. (P. J. M. McEwan, Center for Social Research, Univ. of Sussex, Falmer, Brighton, BN1 9QN, Sussex, England)

15–17. **Science and Policy in the North**, 23rd Alaska science conf., Alaska Div., American Assoc. for the Advancement of Science, Fairbanks. (G. S. Harrison, Inst. of Social, Economic and Government Research, Univ. of Alaska, College 99701)

15–17. Society for the **Study of Amphibians and Reptiles** (15th annual) and **Herpetologists** League, Lake Texoma, Okla. (V. H. Hutchinson, Dept. of Zoology, Univ. of Oklahoma, Norman 73069)

15–18. American **Astronomical** Soc., East Lansing, Mich. (H. M. Gurin, AAS, 211 FitzRandolph Rd., Princeton, N.J. 08540)

15–18. **Primatology**, 4th intern. congr., Intern. Primatological Soc., Portland, Ore. (W. Montagna, Oregon Regional Primate Research Center, 505 NW 185 Ave., Beaverton 97005)

15–25. International **Cartographic** Assoc., 4th general assembly, Montreal, P.Q., Canada. (B. Timmermans, Dept. of Energy, Mines, and Resources, Ottawa, Ont., Canada)

16–18. **Radiationless Processes in Gas-Phase Molecules**, intern. conf., Boulder, Colo. (W. C. Lineberger, Joint Inst. for Laboratory Astrophysics, Univ. of Colorado, Boulder 80302)

16–19. **Strontium Metabolism**, 2nd intern. conf., Glasgow, Scotland. (J. M. A. Lenihan, Dept. of Clinical Physics and Bioengineering, Western Regional Hospital Board, 11 W. Graham St., Glasgow G4 9LF)

17–19. American Acad. of **Clinical Toxicology**, Chicago, Ill. (E. G. Comstock, AACT, P.O. Box 2565, Houston, Tex. 77001)

17–22. **Jaw Tumors/Baro Pathology**, Intern. Soc. of Geographical Pathology, 11th conf., Newcastle upon Tyne, England. (I. Rannie, Sutherland Dental School, Newcastle upon Tyne)

20–22. American Acad. of **Physical Medicine and Rehabilitation**, Denver, Colo. (C. C. Herold, AAPMR, 30 N. Michigan Ave., Chicago, Ill. 60602)

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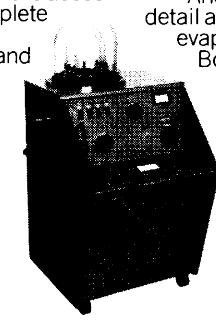

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20–23. **Food-Drugs from the Sea**, 3rd conf., Kingston, R.I. (E. Miller, Hoffmann-La Roche, Inc., Nutley, N.J.)

20–25. American Assoc. of **Clinical Chemists**, Cincinnati, Ohio. (D. A. H. Roethal, AACC, 1155 16th St., NW, Washington, D.C. 20006)

20–25. **Combustion**, 14th intern. symp., Combustion Inst., University Park, Pa. (CI, 986 Union Trust Bldg., Pittsburgh, Pa. 15219)

20–25. Federation of **European Biochemical** Socs., 8th annual, Amsterdam, Netherlands. (FEBS-BIOCHEM 72, RAI Gebouw N.V., Europaplein 8, Amsterdam)

20–26. **Low Temperature Physics**, 13th intern. conf., Intern. Union of Pure and Applied Physics, Boulder, Colo. (D. G. McDonald, National Bureau of Standards, Boulder 80302)

21–23. **Polymer Characterization**, 2nd intern. symp., Battelle Memorial Inst., Seattle, Wash. (F. A. Sliemers, Battelle, 505 King Ave., Columbus, Ohio 43201)

21–24. International Assoc. of **Milk, Food and Environmental Sanitarians**, 59th annual, Milwaukee, Wis. (H. H. Thomasson, IAMFE, Shelbyville, Ind. 46176)

21–25. **Cloud Physics**, intern. conf., American Meteorological Soc., London, England. (AMS, 45 Beacon St., Boston, Mass.)

21–25. **Extended Atmospheres and Circumstellar Matter in Spectroscopic Binary Systems**, Intern. Astronomical Union, Victoria, B.C., Canada. (K. O. Wright, Dominion Astrophysical Observatory, R.R. 7, Victoria)

21–25. **Histochemistry and Cytochemistry**, 4th intern. congr., Kyoto, Japan. (K. Ogawa, Dept. of Anatomy, Kansai Medical School, Moriguchi, Osaka, Japan)

21–25. International Conf. on **Hydrogen Bonding**, Chemical Inst. of Canada, Ottawa, Ont. (M. K. Ward, Div. of Chemistry, National Research Council of Canada, Ottawa K1A OR6)

21–25. **Liquid Crystal**, 4th intern. conf., Kent, Ohio. (G. H. Brown, Liquid Crystal Inst., Kent State Univ., Kent 44240)

21–25. International Congr. on **Photobiology**, 6th, Bochum, Germany. (H. Tronnier, Universitäts-Hautklinik, D-7400 Tübingen, Germany)

21–25. **Science of Catalysis**, 5th intern. congr., North American Catalysis Soc., Miami Beach, Fla. (V. Haensel, Universal Oil Products Co., 30 Algonquin Rd., Des Plaines, Ill. 60016)

21–25. **Underwater Physiology**, 5th symp., Undersea Medical Soc., Freeport, British Bahamas. (C. J. Lambertsen, Inst. for Environmental Medicine, Univ. of Pennsylvania, Philadelphia, Pa. 19104)

21–26. **Theoretical and Applied Mechanics**, 13th intern. congr., Moscow, U.S.S.R. (G. K Mikhailov, Leningradskii Prospekt 7, Moscow A-40)

21–30. International **Geological** Congr., 24th, Montreal, P.Q., Canada. (Secretary-General, 24th Intern. Geological Congr., 601 Booth St., Ottawa 4, Ont., Canada)

22–26. International Soc. on **Thrombosis and Haemostasis**, 3rd congr., Washington, D.C. (H. R. Roberts, Box 630, Chapel Hill, N.C. 27514)

22–30. International Congr. of **Entomology**, 14th, Canberra, Australia. (C. N. Smithers, Australian Museum, College St., Sydney 2000)

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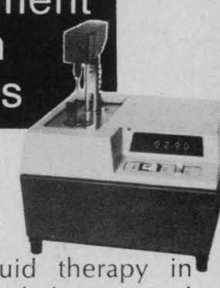

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23–25. **Aspects of Biological Gerontology**, 2nd annual Rocky Mountain symp. on aging, Fort Collins, Colo. (Office of Conferences and Institutes, Room 178, Student Center, Colorado State Univ., Fort Collins 80521)

23–25. **Chemical Education** Conf., Div. of Chemical Education, American Chemical Soc., South Hadley, Mass. (Miss A. J. Harrison, Dept. of Chemistry, Mt. Holyoke College, South Hadley 01075)

23–25. American Congr. of **Rehabilitation Medicine**, Denver, Colo. (C. C. Herold, ACRM, 30 N. Michigan Ave., Chicago, Ill. 60602)

25–27. **Rural Sociological** Soc., Baton Rouge, La. (H. M. Sauer, Dept. of Rural Sociology, South Dakota State Univ., Brookings 57006)

27. **Genetics** Soc. of America, Minneapolis, Minn. (M. W. Shaw, Room 523, Dept. of Biology, M. D. Anderson Hospital and Tumor Inst., Houston, Tex. 77025)

27–30. American Inst. of **Chemical Engineers**, 73rd natl., Minneapolis, Minn. (AICE, 345 E. 47 St., New York 10017)

27–1. American Inst. of **Biological Sciences**, Minneapolis, Minn. (J. R. Olive, AIBS, 3900 Wisconsin Ave., NW, Washington, D.C. 20016)

27–1. American **Chemical** Soc., New York, N.Y. (F. T. Wall, ACS, 1155 16th St., NW, Washington, D.C. 20036)

27–1. **General and Molecular Genetics**, Genetics Soc. of America, 41st annual, Minneapolis, Minn. (P. Snustad, Dept. of Genetics, 301 Snyder Hall, Univ. of Minnesota, St. Paul 55101)

27–1. American Soc. for **Horticultural Science**, St. Paul, Minn. (C. Blackwell, ASHS, P.O. Box 109, 914 Main St., St. Joseph, Mich. 49085)

27–1. Society for **Industrial Microbiology**, St. Paul, Minn. (W. M. Stark, Lilly Research Labs., Eli Lilly & Co., Indianapolis, Ind. 46206)

27–1. American **Physiological** Soc., University Park, Pa. (R. G. Daggs, APS, 9650 Rockville Pike, Bethesda, Md. 20014)

27–1. American Soc. of **Plant Physiologists**, Minneapolis, Minn. (W. H. Klein, Smithsonian Radiation Biology Lab., 12441 Parklawn Dr., Rockville, Md. 20852)

27–1. American Soc. of **Plant Taxonomists**, Minneapolis, Minn. (D. M. Porter, Missouri Botanical Garden, 2315 Tower Grove Ave., St. Louis 63110)

27–1. Society of **Protozoologists**, Minneapolis, Minn. (D. M. Hammond, Zoology Dept., Utah State Univ., Logan 84321)

27–1. World Congr. of **Rehabilitation** International, 12th intern., Sydney, Australia. (Rehabilitation International, 219 E. 44 St., New York 10017)

27–1. Society for the **Study of Evolution**, Minneapolis, Minn. (D. L. Jameson, Dept. of Biology, Univ. of Houston, Houston, Tex. 77004)

27–1. American Soc. of **Zoologists**, Minneapolis, Minn. (G. Sprugel, Jr., Illinois Natural History Survey, 179 Natural Resources Bldg., Urbana 61801)

27–2. International Soc. of **Electrochemistry**, 23rd congr., Stockholm, Sweden. (G. Wranglén, Royal Inst. of Technology, 100 44 Stockholm 70)

27–2. **Transfusion** Congr., American Assoc. of Blood Banks and Intern. Soc. of Blood Transfusions, Washington, D.C. (AABB, Suite 401, 915 19th St., NW, Washington, D.C. 20006)

28. American **Fern** Soc., Minneapolis, Minn. (R. L. Hauke, Dept. of Botany, Univ. of Rhode Island, Kingston 02881)

28–29. Use of **Tracers to Study Heterogeneous Catalysis**, intern. conf., New York Acad. of Sciences, New York, N.Y. (W. Likely, NYAS, 2 E. 63 St., New York 10021)

28–30. **Mathematical** Assoc. of America, Hanover, N.H. (H. Adler, Dept. of Mathematics, Univ. of California, Davis 95616)

28–31. American **Sociological** Assoc., New Orleans, La. (N. J. Demerath, ASA, 1001 Connecticut Ave., NW, Washington, D.C. 20036)

28–1. **Advances in Microbial Engineering**, 1st intern. symp., Mariánské Lázné, Czechoslovakia. (Microbiological Inst., Czechoslovak Acad. of Sciences, Budějovická 1083, Prague 4)

28–1. **Biochemistry of Lipids**, 15th intern. conf., The Hague, Netherlands. (B. H. Tritten, Unilever Research, P.O. Box 114, Vlaardingen, Netherlands)

28–1. **Cybernetic Modeling of Adaptive Organizations**, Science Committee, North Atlantic Treaty Organization, Porto, Portugal. (D. Howland, College of Administrative Science, Ohio State Univ., 1775 S. College Rd., Columbus 43210)

28–1. **Electron Microscopy** Soc. of America, Los Angeles, Calif. (G. C. Cocks, Olin Hall, Cornell Univ., Ithaca, N.Y. 14850)

28–2. **Antibiotics: Biosynthesis and Function**, EUCHEM conf., Aarhus, Denmark. (J. Hedegaard, Dept. of Microbiology, Polytechnical Univ., DK 2800 Lyngby, Copenhagen, Denmark)

28–3. **Phycological** Soc. of America, Minneapolis, Minn. (Miss P. L. Walne, Dept. of Botany, Univ. of Tennessee, Knoxville 37916)

29–1. **Discharges and Electrical Insulation in Vacuum**, 5th intern. symp., Poznan, Poland. (A. S. Denholm, Energy Sciences Inc., 111 Terrace Hall Ave., Burlington, Mass. 01803)

30–2. **Status of Physicians and Paramedical Staff**, intern. conf., Bratislava, Czechoslovakia. (Czechoslovak Medical Soc., Michiewiczova 18, Bratislava)

31–3. **High-Resolution Infrared Spectroscopy**, 2nd intern., Prague, Czechoslovakia. (Inst. of Physical Chemistry, Czechoslovak Acad. of Sciences, Máchova 7, Prague)

September

1–7. **Electroencephalography and Clinical Neurophysiology**, 8th intern. congr., Marseille, France. (Mme. G. C. Lairy, Laboratorie d'EEg, Hôpital Henri Rousselle, 1, rue Cabanis, Paris 14, France)

1–8. American **Psychological** Assoc., Honolulu, Hawaii. (K. B. Little, APA, 1200 17th St., NW, Washington, D.C.)

1–8. **Psychometric** Soc., Honolulu, Hawaii. (W. B. Schrader, Educational Testing Service, Princeton, N.J. 08540)

1–13. **Participation of Less Industrialized Countries in World-Wide Documentation Activities and Information Exchange**, 36th conf., Intern. Congr. of the International Federation for Documentation, Budapest, Hungary. (FID-IDLA Congr. Bureau, Budapest 8, POB 12, or Office of Documentation, Natl. Acad. of Sciences, 2101 Constitution Ave., NW, Washington, D.C. 20418)

2–9. **History of Medicine**, 23rd intern. congr., London, England. (Intern. Congr. Office, Wellcome Inst. of the History of Medicine, 183 Euston Rd., London N.W. 1)

3–5. **Parapsychological** Assoc., 15th annual, Edinburgh, Scotland. (J. G. Pratt, P.O. Box 152, Univ. of Virginia Hospital, Charlottesville 22901)

3–9. International Union of **Nutritional Sciences** Congr., Mexico City, Mexico. (A. Chavez, IUNSC, Viaducto Tlalpan Y San Fernando, Mexico 22, D.F.)

4–8. International Committee on **Rheology**, 6th intern. congr., Lyon, France. (C. Smadja, VI^e Congr. Intern. de Rheologie, Boite Postalen 1, 69 Lyon-Mouche)

4–8. **Physical Organic Chemistry**, 1st conf., Union of Pure and Applied Chemistry and Swiss Chemical Soc., Crans sur Sierre, Switzerland. (H. Zollinger, Dept. of Industrial and Engineering Chemistry, Swiss Federal Inst. of Technology, 6 Universitätstrasse, CH-8006 Zurich, Switzerland)

4–9. International Council on **Alcohol and Drug Addictions**, 30th intern. congr., Amsterdam, Netherlands. (Case postale 140, 1001 Lausanne, Switzerland)

4–9. International Congr. of **Pharmaceutical Sciences**, 24th general assembly, Lisbon, Portugal. (Organizing Committee, Sindicato National dos Farmaceuticos, 18 rua da Sociedade Farmaceutica, Lisbon 1)

4–10. European Soc. of **Hematologists**, 11th intern. symp., Reading, England. (N. G. M. Hague, Univ. of Reading, Bldg. 1, Spur J, Earley Gate, Whiteknights Rd., Reading RG6, 2AR)

4–10. **World Future Research** Conf., 3rd, Bucharest, Romania. (Romanian Organizing Commission of the Third World Future Research Conf., Bucharest I, Calea Victoriei 125)

5–7. **Occupational Safety and Health of Young Workers**, intern. symp., Belgrade, Yugoslavia. (L. Parmeggiani, Occupational Safety and Health Branch, International Labour Office, CH 1211, Geneva 22, Switzerland)

5–8. Conference on **In Situ Composites**, Naval Air Systems Command, Office of Naval Research and Natl. Materials Advisory Board, Lakeville, Conn. (F. D. Lemkey, United Aircraft Research Labs., East Hartford, Conn. 06108)

5–8. International Soc. of **Internal Medicine**, 12th intern. congr., Boston, Mass. (H. Ludwig, Burgenspital, Basle, Switzerland)

5–8. **Metrology**, Intern. Measurement Confederation, intern. symp., Bratislava, Czechoslovakia. (Insymet '72, Organizing Committee, Dom techniky SVTS, Kocel'ova 17, Bratislava)

5–8. **New Developments in Reactor Physics**, Kiamesha Lake, N.Y. (N. C. Francis, 2311 Plum St., Schenectady, N.Y. 12309)

5–8. American **Political Science** Assoc., Washington, D.C. (E. M. Kirkpatrick, APSA, 1527 New Hampshire Ave., NW, Washington, D.C. 20036)