

SCIENCE

10 August 1973

Vol. 181, No. 4099

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



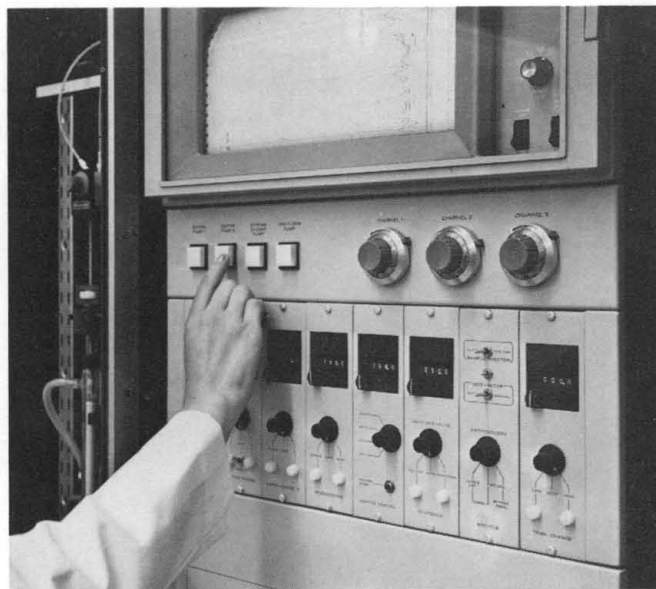
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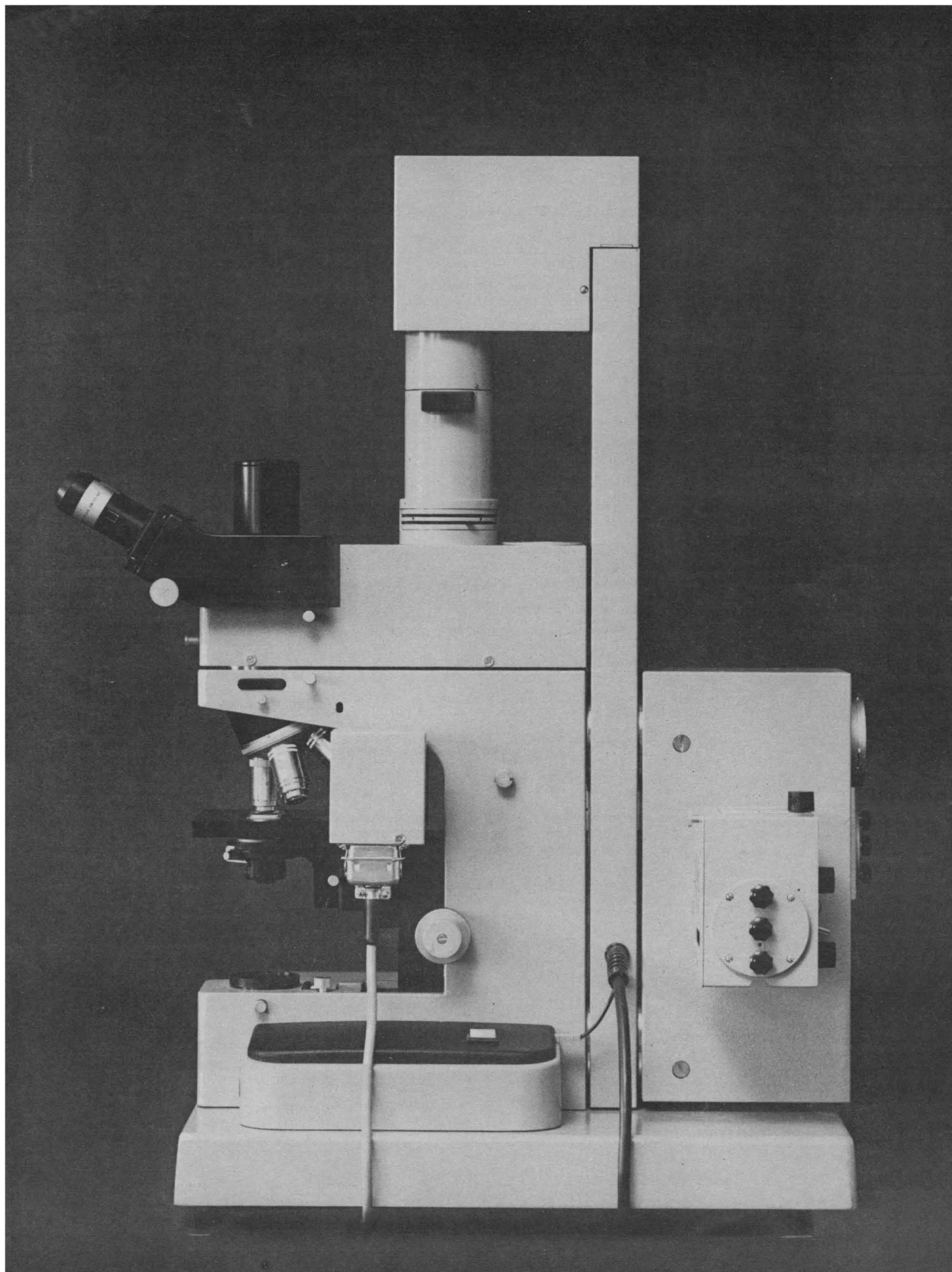
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COVER

Premature maternal deprivation affects many aspects of development in young rats. Some of these effects are reduced or prevented by rearing them in the presence of another adult male or female. A vasectomy procedure was developed for the adult males in order to prevent a second pregnancy in the mothers. See page 554. [Drawings by Bruce Stuart, Kirkwood, Illinois 61447]

The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.



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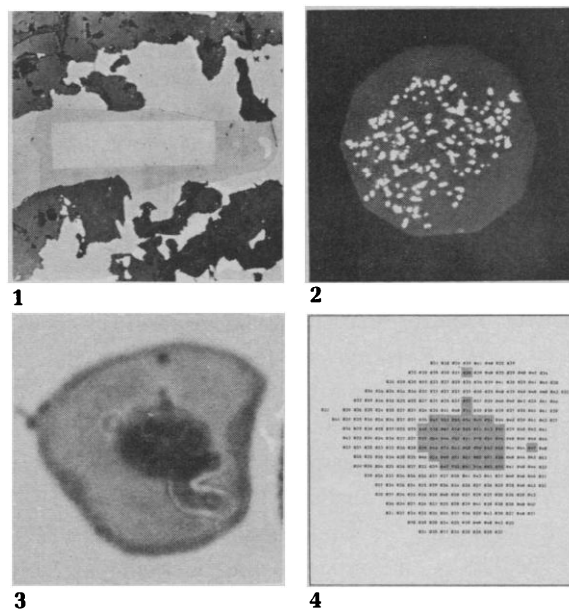
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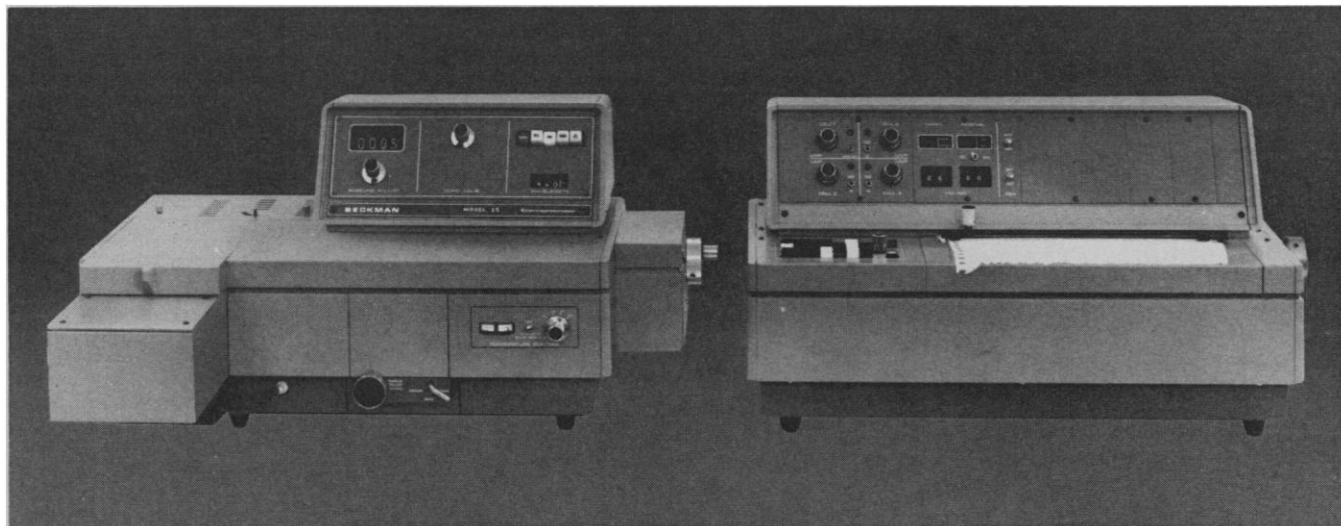
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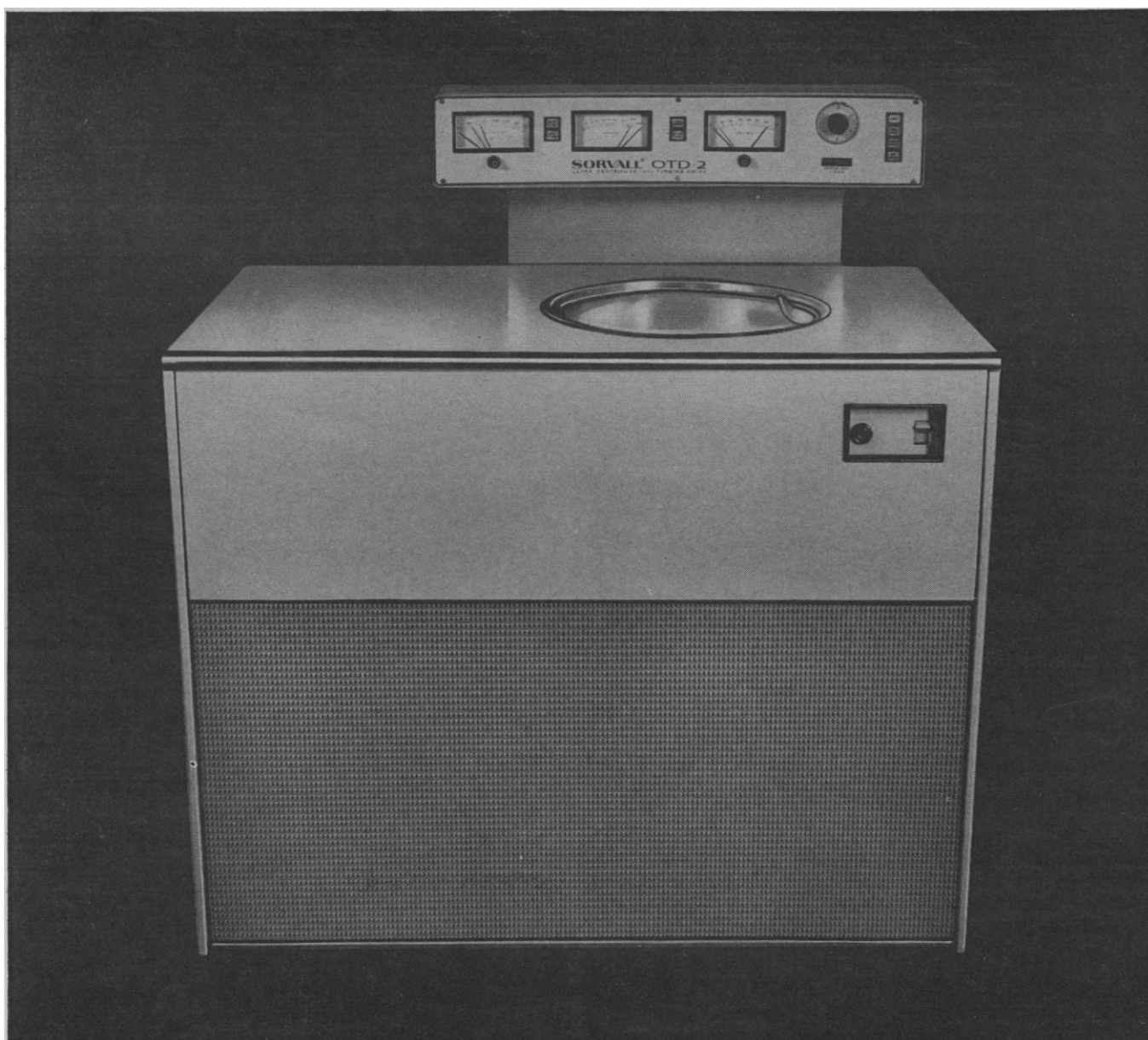
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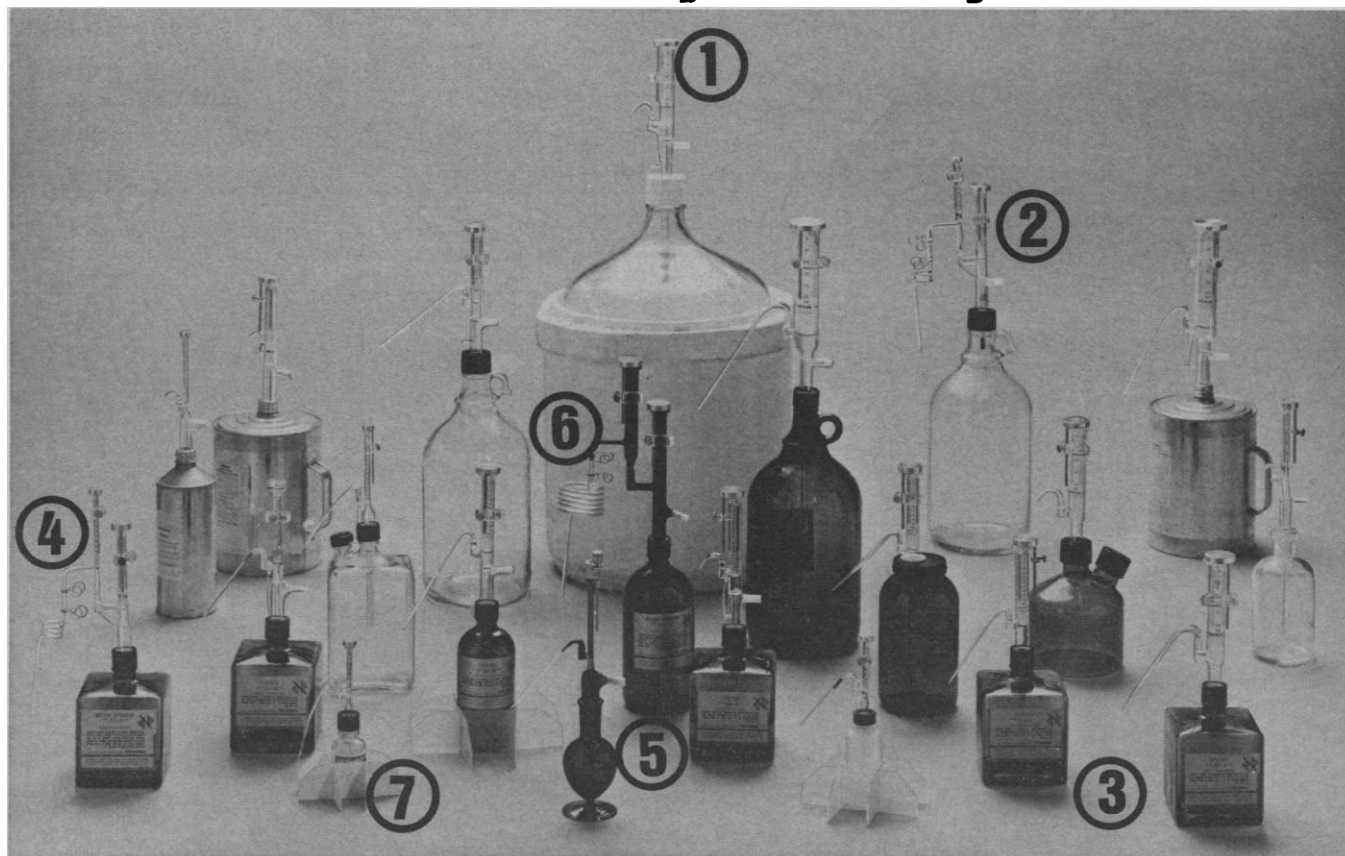
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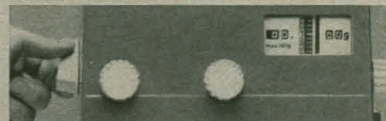


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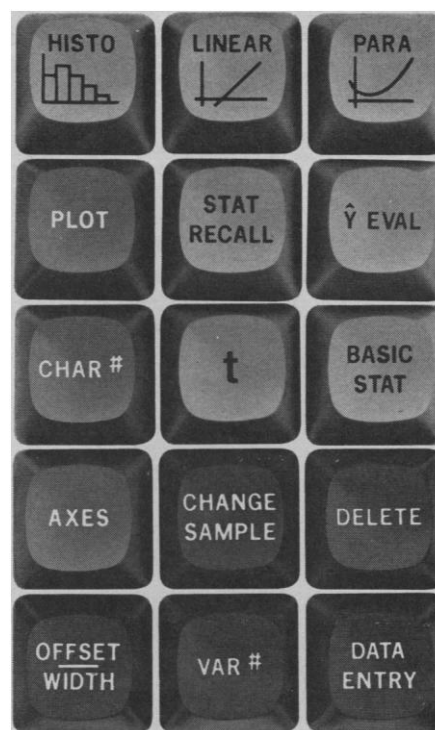


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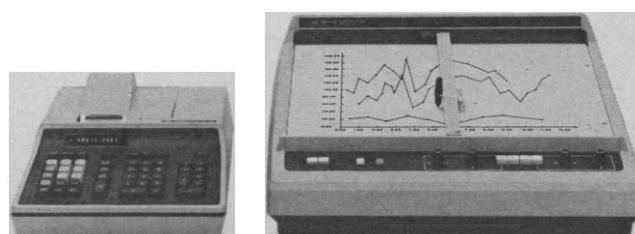
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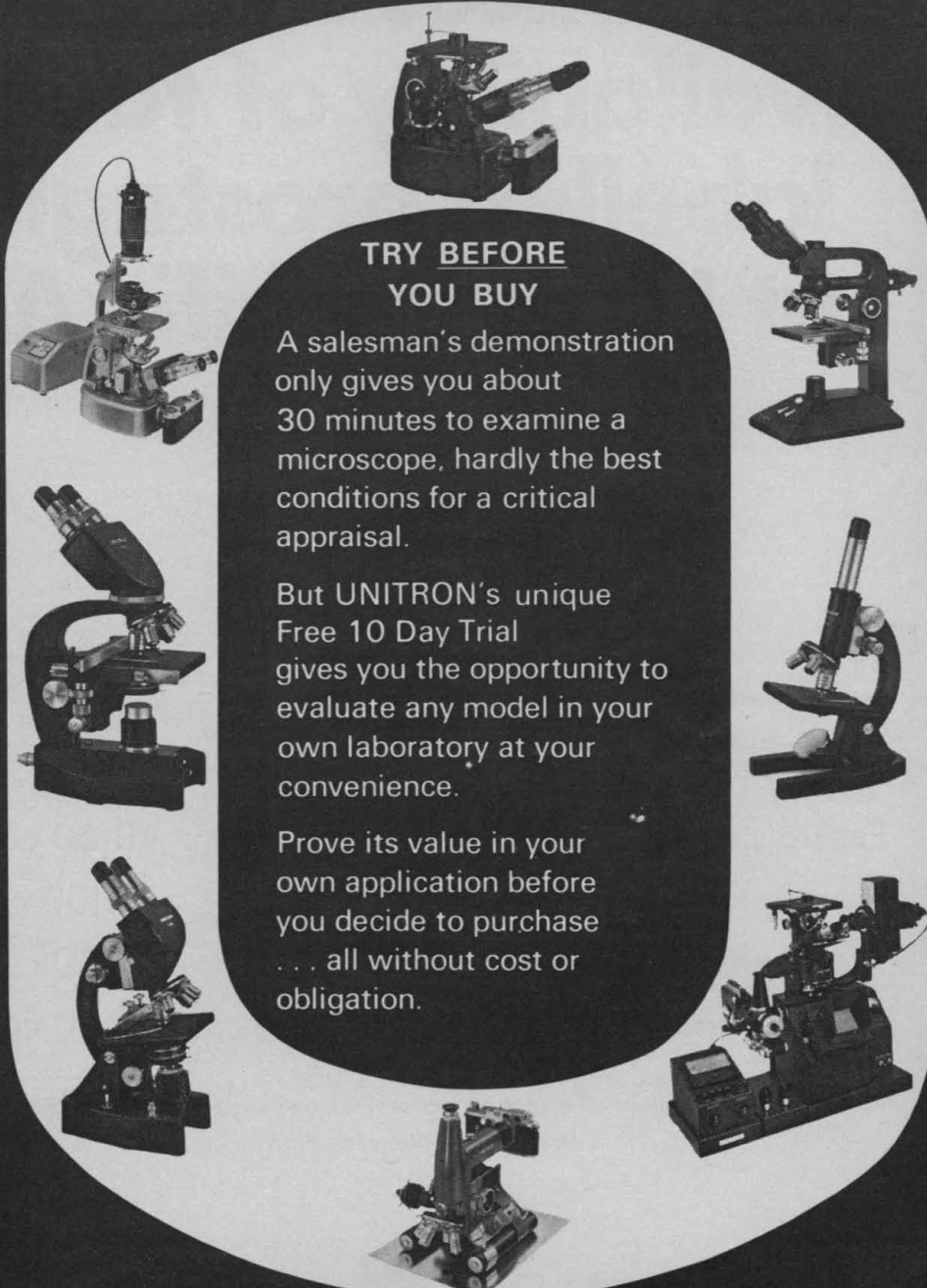
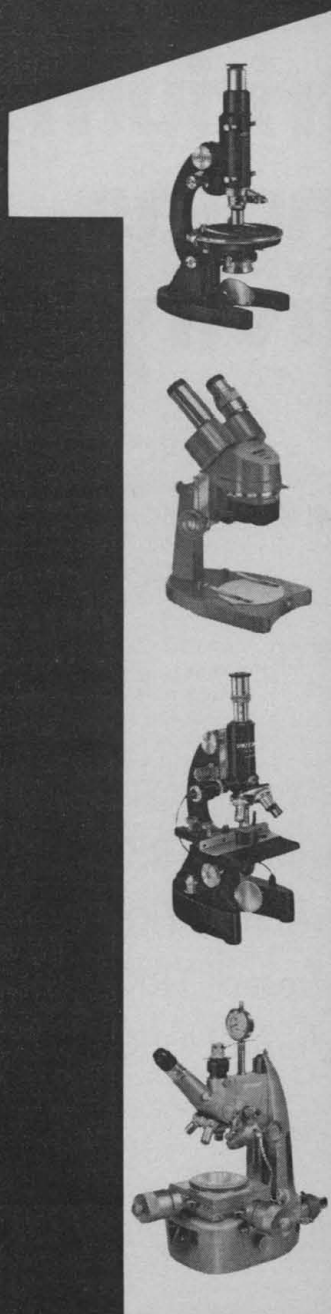
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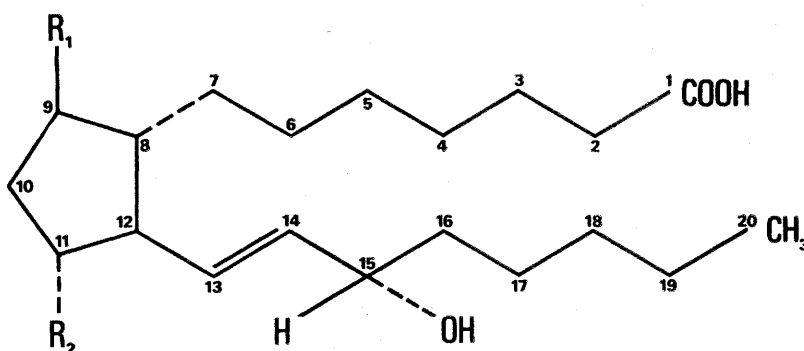
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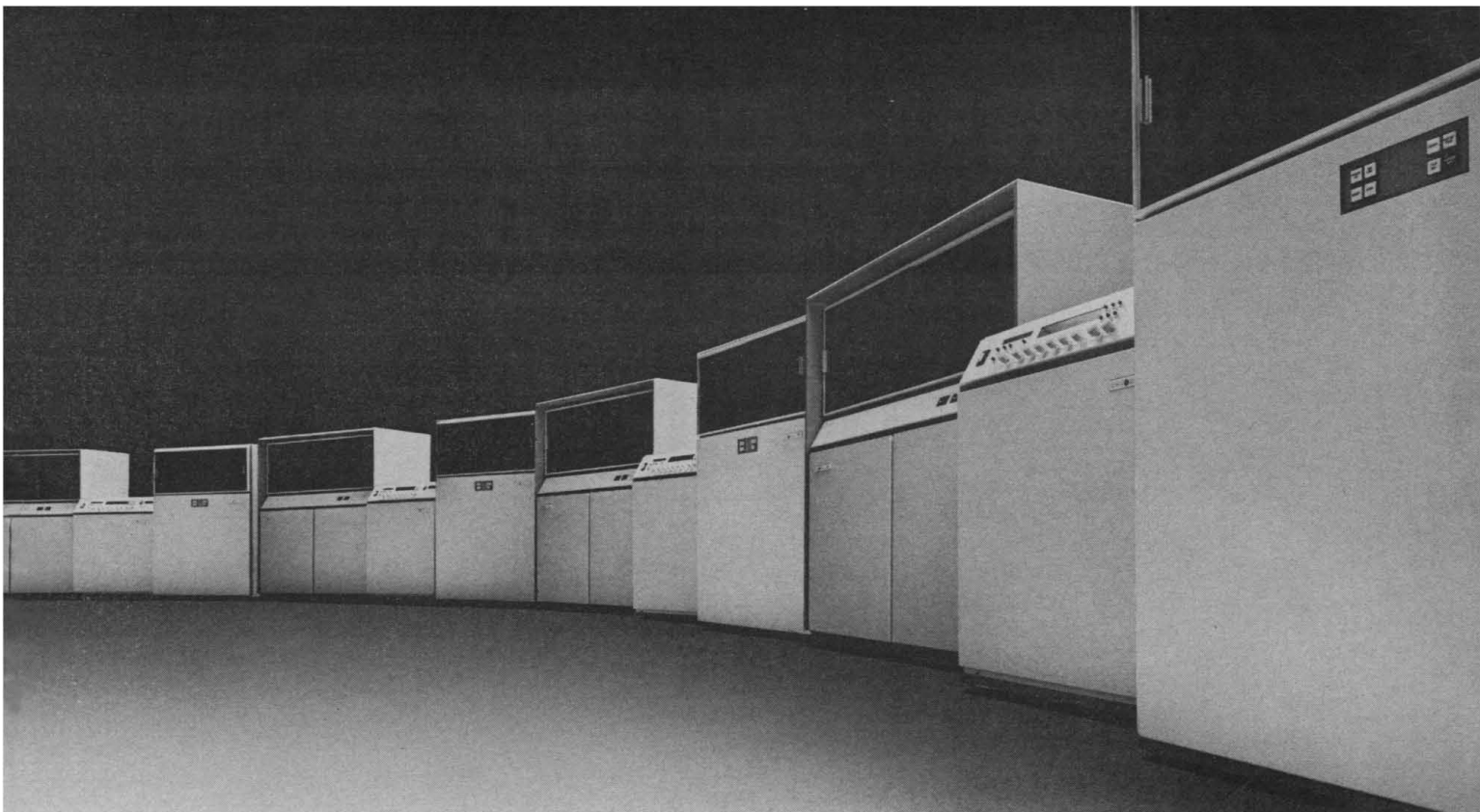
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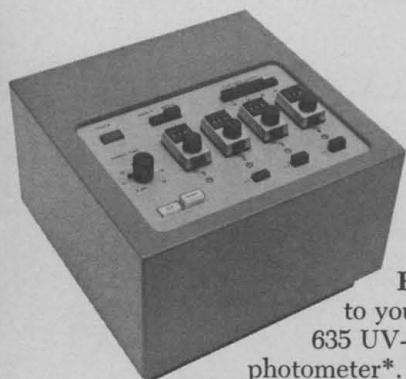
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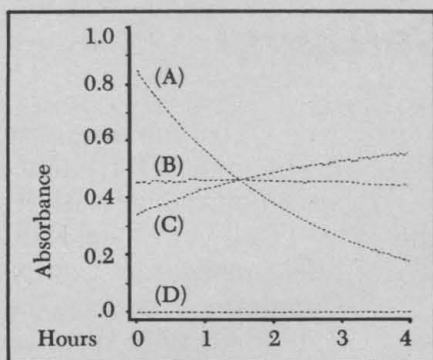
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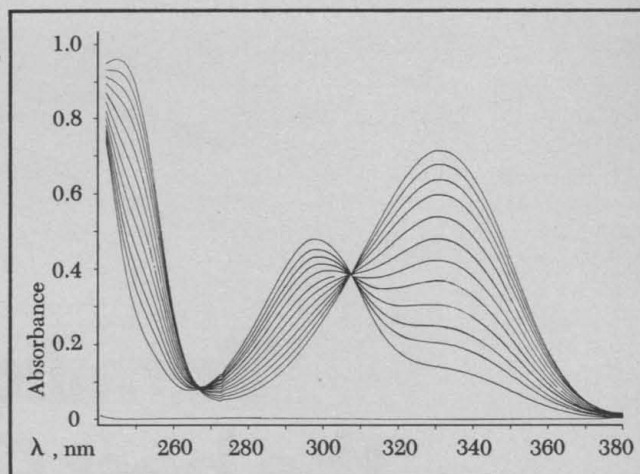
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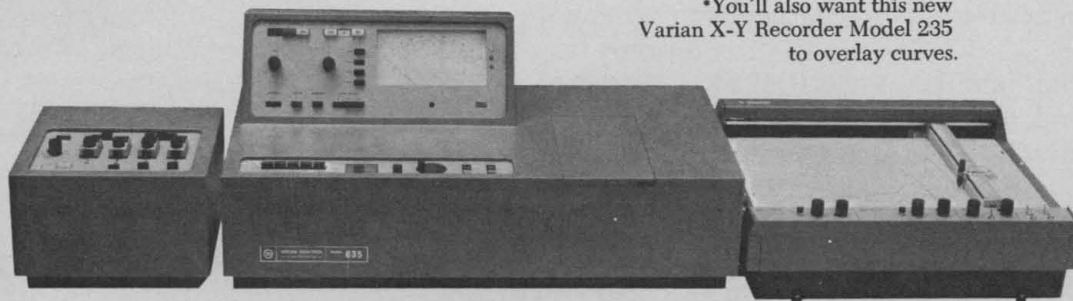
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with the task of producing reasonable and fair presentations of the contrasting sides of the issue.

The academic environment, with its traditional dialogue and cooperative approach toward assessing the truth, should be a good setting for this task. It might help to transform the relationship between the public sector and corporate decision-makers from the present adversarial one "to one of joint decision-making and negotiation of differences in good faith," as Baram suggests. Our universities should make a joint effort to assess and plan the uses of technology.

The new citizen-feedback techniques mentioned by Baram could help to keep the universities in tune with the realities of the pervasive social impacts of technology, which are difficult to measure or quantify but are, as Baram states, "nevertheless real and should be as integral to decision-making as quantifiable technical and economic considerations."

Do we teach this in our university science and technology courses? We should.

JOHN C. CORR

University of Colorado Medical
Center, Denver 80220

Women Job Applicants

The biochemistry and botany departments at the University of British Columbia have recently advertised vacancies for assistant or associate professors. Since 10 to 20 percent of the Ph.D.'s in these two fields are awarded to women, one would expect about the same proportion among the applicants. Not so. Only 7 out of 140 applicants for the biochemistry position (5 percent) and 3 out of 90 applicants for the botany position (3 percent) were women.

It's no wonder that women make up such a small proportion of faculty if they don't apply for the jobs. This is one factor we can't blame on the men. It's a rare department chairman these days who isn't sensitive to the possibility of being criticized for not having enough women on (his) staff. Figures like these give them an excuse.

Come on, girls, let's not give up without trying. This is one aspect of our problem we can solve, ourselves, right now.

BEVERLEY R. GREEN

Department of Botany,
University of British Columbia,
Vancouver 8, Canada

Survey of Academic Job Applicants

In *Science* of 4 February 1972, we advertised vacancies for qualified faculty in several areas of biology. We received 465 applications from qualified candidates, and at the end of April 1972, the 459 unsuccessful persons were invited to complete and return a prepaid postcard stating the number of applications they had submitted, the number of interviews to which they had been invited, and the number of positions they had been offered. By the end of July 1972, we had received 246 usable replies which represent 54 percent of the survey.

The data show that the 246 candidates submitted a total of 17,431 applications, an average of 70 per candidate; 34 percent submitted 20 or less, 28 percent submitted between 21 and 50, 15 percent submitted between 51 and 90, and 23 percent submitted over 91 (including 8 over 300). The 246 candidates had a total of 367 interviews distributed between 162 persons; 34 percent had no interview, 25 percent had one, 21 percent had two, 14 percent had three or four, and 6 percent had between five and eight interviews. The 246 applicants received a total of 161 job offers distributed between 99 applicants; 60 percent received no offer, 23 percent received one, 12 percent received two, and 5 percent received between three and five offers.

The individual experiences of the candidates must have affected the likelihood of their responding to the questionnaire, but I have no way of knowing in which direction the bias operated.

It is possible that the rejection of excess job offers by some candidates provided openings for a few of those who indicated no offer at the time of response, and the appearance of the situation would be improved a little by including in the survey the six successful candidates hired by George Mason University. The inclusion of these raises the number of successful candidates to 105, that is, 42 percent of the responders.

No further analysis of the data has been undertaken, but I would be pleased to make the data available. We expect to hire at least four more biology faculty this year so any suggestions for a better-planned survey would be welcome.

MICHAEL G. EMSLEY

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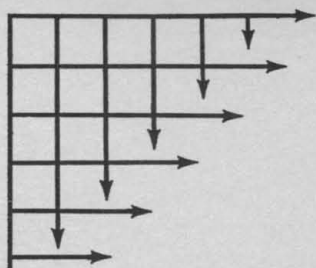
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Agricultural Research

Agricultural science has recently been featured in the News and Comment section of *Science*. This attention to corn, cows, and manure has perhaps been inspired by our dependence on the agriculture that enables us to eat better and to export more. The attention may also have been stimulated by a new style in studies by panels. The Secretary of Agriculture asked for an examination of agricultural research, and the Pound committee gave him a critical audit rather than a hackneyed pointing with pride and viewing (the budget) with alarm.

The News and Comment articles illuminated a paradox that the Pound committee found in scientific policy: some—even a lot—of agricultural science was ranked low by academic standards, but it nevertheless undergirds an efficient scientific agriculture. An additional paradox appears in the News and Comment pieces themselves. At one point it is stated that agricultural research is controlled by administrators rather than by peers in the laboratories, while at another it is said that the "central nervous system has only vestigial control."

A clue to resolving these paradoxes lies in the statement, "The agricultural research system is finely attuned to the immediate needs of its clients." The fine tuning is evident in the response of the system to the attack of corn blight in 1970. Within a year the blight was controlled, and corn and meat were saved. The credit is shared by farmers, seedsmen, and scientists. Confining myself to science, I have measured the response in terms of published research on the blight. In the 2 years before the epidemic, there were only six publications on the subject; in the year of the blight, there were 18; and in the 2 years since there have been 91 publications. In the short time since the epidemic, 62 percent of these reports have come from experiment stations using their own resources, and 22 percent more have come from the U.S. Department of Agriculture alone or with the experiment stations. Clearly the response of agricultural researchers to a problem of their clients and nation was effective. Not all systems are so well tuned. The Federal Council for Science and Technology lamented that in the mid-1960's, when state and local governments needed scientific help to solve problems from pollution to riots, they lacked scientific capability and that "such R & D capacity as developed within their borders was characterized by extra-territoriality of funding." The council also said, "It is instructive to look at one example of a federal . . . program in a specific field that has a proven record of achievement, state and local involvement, and political durability; the Agriculture Department's Extension Service, Cooperative State Research Service, and land-grant university system. . . . The functions of identifying problems, planning research and development, evaluating new knowledge, and disseminating and applying it in the field are well integrated."

This system is not organized in the way that, for example, a factory in the early Industrial Revolution was; messages are not required to pass only up and down vertical channels. Instead, it is a functional system, as factories are today; when the lights go out, the janitor can screw in a fuse instead of calling the front office. It is likely that the tuning of the agricultural research system to its clients' needs makes it highly effective despite some shortcomings, and it is an instructive example for other scientific policy-makers. How fortunate for our dinners that the separate experiment stations are attuned to the needs of the citizen clients rather than those of the central planners. The planners in the District of Columbia grow little corn, while the clients grow a lot.

—PAUL E. WAGGONER, *Connecticut Agricultural Experiment Station, Box 1106, 123 Huntington Street, New Haven, Connecticut 06504*

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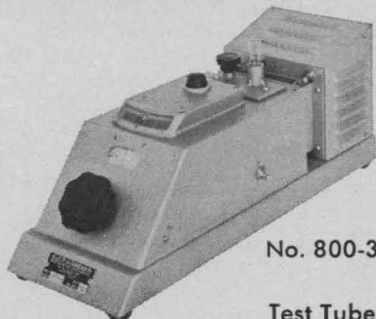
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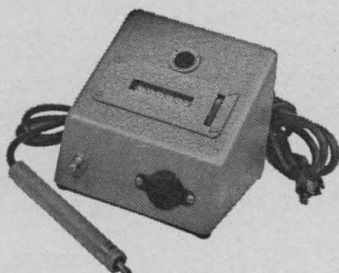


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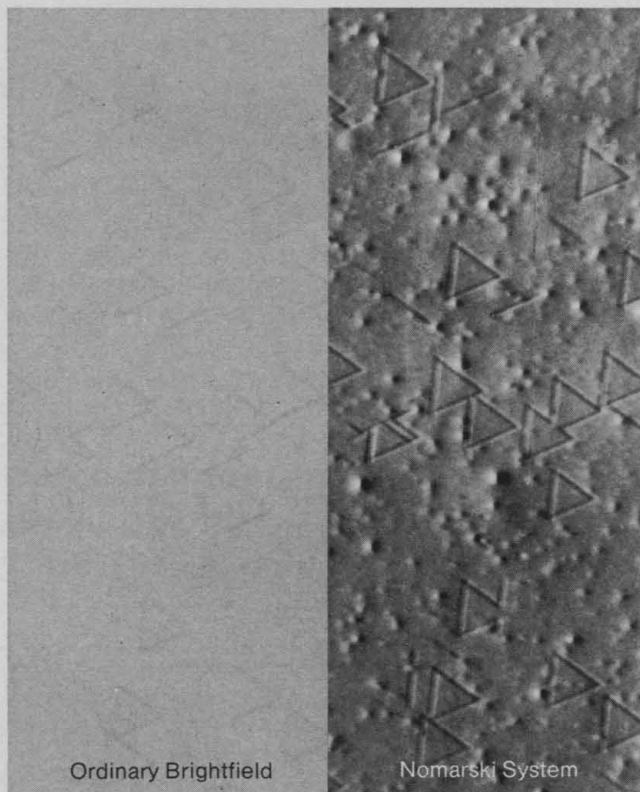
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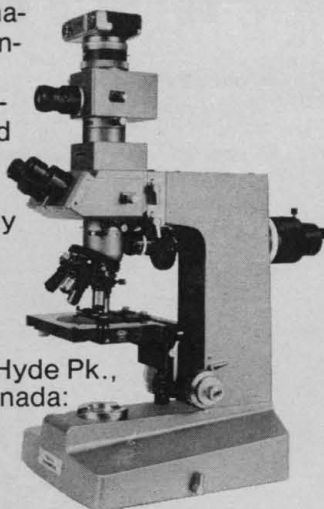
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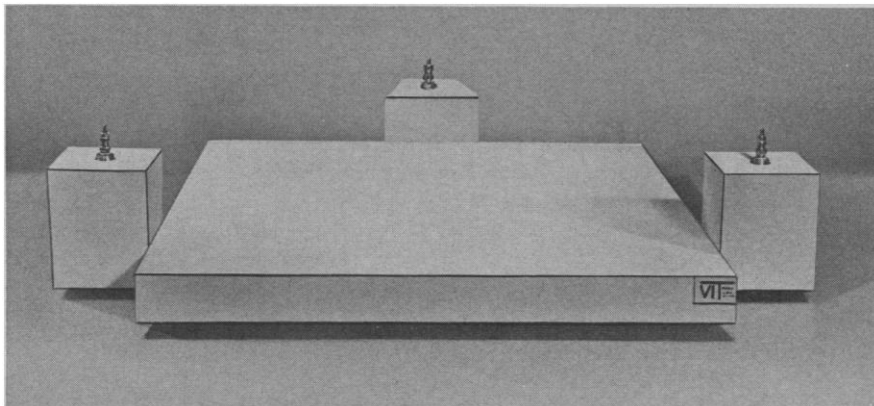
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16-21. **International Assoc. for Comparative Research on Leukemia and Related Diseases**, 11th, Nagoya, Ise-Shima, Japan. (R. M. Dutcher, IACRLRD, 1530 E. Jefferson St., Rockville, Md. 20852)

16-22. **Colloquium Spectroscopicum Intern.**, 17th, Italian Metallurgical Assoc., Florence. (J. R. Ferraro, Chemistry Div., Argonne Natl. Lab., 9700 S. Cass Ave., Argonne, Ill. 60439)

17-20. **Power Generation Conf.**, American Soc. of Mechanical Engineers and Inst. of Electrical and Electronics Engineers, New Orleans, La. (M. Jones, ASME, 345 E. 47 St., New York 10017)

19-20. **Conference on Environmental Engineering in Industrialized and Developing Countries**, World Federation of Engineering Organizations, New York, N.Y. (M. Herrick, Inst. of Electrical and Electronics Engineers, 345 E. 47 St., New York 10017)

19-21. **International Congr. of Aerosols in Medicine**, Vienna, Austria. (Mrs. E. Weidenhaus, Wiener Medizinische Akademie, Stadiongasse 6-8, A-1010 Vienna)

19-22. **American Ceramic Soc.** (Structural Clay Products Div.), Salt Lake City, Utah. (F. P. Reid, ACS, 4055 N. High St., Columbus, Ohio 43214)

20-24. **American Mathematical Soc.**, Missoula, Mont. (G. L. Walker, AMS, P.O. Box 6248, Providence, R.I. 02994)

20-4. **Alliance for Engineering in Medicine and Biology**, 26th annual conf., Minneapolis, Minn. (J. Busser, Suite N-300, 3900 Wisconsin Ave., NW, Washington, D.C. 20016)

23-24. **Society for Pediatric Radiology**, Montreal, P.Q., Canada. (J. L. Gwinn, Childrens Hospital 4650 Sunset Blvd., Los Angeles, Calif. 90027)

23-25. **Chemical Marketing Research Assoc.**, Hershey, Pa. C. C. Harvey, Ethyl Corp., 451 Florida St., Baton Rouge, La. 70801)

23-26. **American Ceramic Soc.** (Basic Science and Ceramic-Metal Systems Divs.), Pittsburgh, Pa. (F. P. Reid, ACS, 4055 N. High St., Columbus, Ohio 43214)

23-26. **National Forum on Growth with Environmental Quality**, jointly by the Natl. Science Foundation, Metropolitan Tulsa Chamber of Commerce, and the Midcontinent Environmental Center Assoc., Tulsa, Okla. (B. Carnett, Metropolitan Tulsa Chamber of Commerce, Tulsa 74119)

23-27. **Society of American Foresters**, Portland, Ore. (H. R. Glascock, Jr., SAF, 1010 16 St., NW, Washington, D.C. 20036)

24-28. **International Acad. of Legal Medicine Congr.**, Rome, Italy. (C. Gerin, Inst. of Legal Medicine, Via Regina Elena 336, Rome)

24-28. **Noble Gases Symp.**, jointly by

SCIENCE, VOL. 181

U.S. Environmental Protection Agency, Natl. Environmental Research Center, and Univ. of Nevada, Las Vegas. (D. S. Barth, NERC, P.O. Box 15027, Las Vegas 89114)

24-28. International Tuberculosis Conf., 22nd, Japan Antituberculosis Assoc., Tokyo. (M. Yamaguchi, JAA, Kanka Misaki-cho, Chiyod-ky, Tokyo)

25-28. Engineering in the Ocean Environment, 4th intern. conf., Inst. of Electrical and Electronics Engineers, Seattle, Wash. (G. Raudsep, Marine Systems Center, Honeywell Inc., 5303 Shilshole Ave., NW, Seattle 98107)

25-28. American Roentgen Ray Soc., Montreal, P.Q., Canada. (T. E. Leigh, Emory Univ. Clinic, Atlanta, Ga. 30322)

26-27. International Symp. on Vitamin E, Minneapolis, Minn. (M. K. Horwitt, Dept. of Biochemistry, St. Louis Univ. Medical School, St. Louis, Mo. 63104)

26-29. American Ceramic Soc. (Materials and Equipment and White Wares Divs.), Bedford, Pa. (F. P. Reid, ACS, 4055 N. High St., Columbus, Ohio 43214)

26-30. International Symp. on Underground Waste Management and Artificial Recharge, jointly by the American Assoc. of Petroleum Geologists, U.S. Geological Survey, and the Intern. Assoc. of Hydrological Sciences, New Orleans, La. (L. Bowling, 1417 NBC Bldg., New Orleans 70112)

27-29. Cancer of the Colon and Rectum, 2nd natl. conf., American Cancer Soc., Bal Harbour, Fla. (S. L. Arje, ACS, 219 E. 42 St., New York 10017)

30-3. Society of Research Administrators, 7th, New Orleans, La. (Mrs. L. Lasker, New York Medical College, 106th St. and Fifth Ave., New York 10029)

30-3. Soil Conservation Soc. of America, 28th, Hot Springs, Ark. (H. W. Pritchard, SCSA, 7515 NE Ankeny Rd., Ankeny, Iowa 50021)

30-4. Engineering in Medicine and Biology, 26th conf., Alliance for Engineering in Medicine and Biology, Minneapolis, Minn. (A. Kahn, AEMB, 3055 Old Highway Eight, Minneapolis 55418)

30-5. Penrose Conf. on Earth Sciences and the Environment Planned, Geological Soc. of America, Vail, Colo. (B. B. Hanshaw, U.S. Geological Survey, Federal Center, Lakewood, Colo. 80225)

October

1-3. Hanford Biology Symp., 13th, sponsored by U.S. Atomic Energy Commission and Battelle Memorial Inst., Richland, Wash. (J. A. Harrison, Biology Dept., Battelle Pacific Northwest Labs., Richland 99352)

1-3. International Conf. on Land for Waste Management, Canadian Soc. of Soil Science, Ottawa, Ont. (M. K. Ward, Natl. Research Council, Ottawa, Ont. K1A 0R6)

1-4. American Acad. of Family Physicians, Denver, Colo. (R. Tusken, AAFP, Volker Blvd. at Brookside, Kansas City, Mo. 64112)

1-4. American Soc. for Metals, Chicago, Ill. (A. R. Putnam, ASM, Metals Park, Ohio 44073)

1-5. American Assoc. for Laboratory Animal Science, 24th annual, Miami

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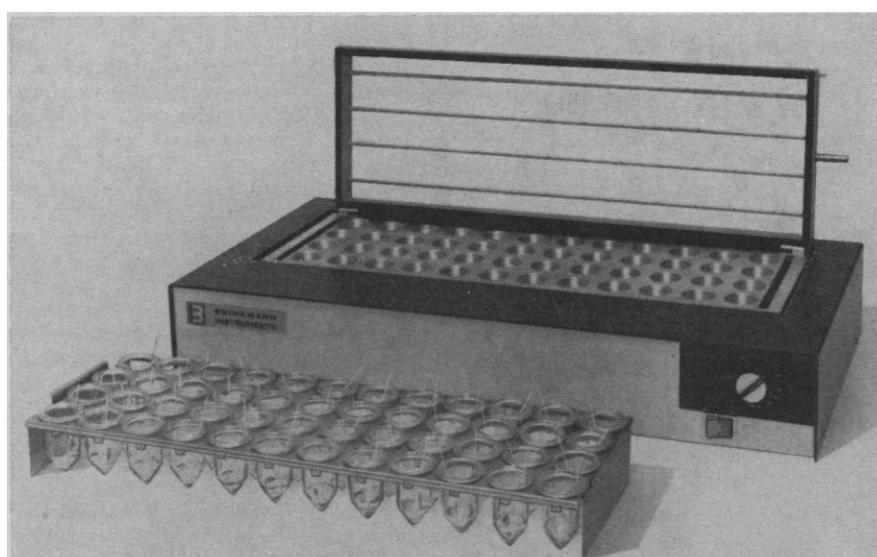
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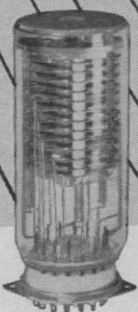
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1-5. Symposium on **Remote Sensing in Oceanography**, American Soc. of Photogrammetry, Orlando (Disney World), Fla. (J. S. Beazley, 330 Ponce St., Tallahassee, Fla. 32303)

1-6. International Congr. of **Rheumatology**, 13th, Kyoto, Japan. (S. Sasaki, Japan Rheumatism Assoc., Shimbunkaikan 63, 3-8-4 Ginza, Chuo-ku, Tokyo, Japan)

3-5. **Clinical Orthopedic Soc.**, Cleveland, Ohio. (M. L. Clayton, COS, 2045 Franklin St., Denver 80205)

4-6. Refractories Div., **American Ceramic Soc.**, Bedford, Pa. (F. P. Reid, ACS, 4055 N. High St., Columbus, Ohio 43214)

4-10. **Chemistry of Sea/Air Particulate Exchange Processes**, intern. symp., Intern. Assoc. for the Physical Sciences of the Ocean, Intern. Union of Geodesy and Geophysics, Nice, France. (R. A. Duce, Dept. of Oceanography, Univ. of Rhode Island, Kingston 02881)

5-6. **Southeastern Cancer Research Assoc.**, Atlanta, Ga. (W. E. Criss, Dept. of Obstetrics and Gynecology, Univ. of Florida College of Medicine, Gainesville 32601)

5-6. **Psychopharmacology Symp.**, World Psychiatric Assoc., Wroclaw, Poland. (A. Bukowczyk, Kraszewskiego 25, Wroclaw)

5-9. **Sigma Xi**, Fontana, Wis. (T. T. Holme, SX, 345 Whitney Ave., New Haven, Conn. 06510)

6-12. **American Concrete Inst.**, Ottawa, Ont., Canada. (ACI, Box 4754, Redford Stat., 22400 W. Seven Mile Rd., Detroit, Mich. 48219)

6-13. **World Federation for Mental Health**, 25th congr., Sydney, Australia. (A. Stoller, Mental Health Authority, 300 Queen St., Melbourne C1, Australia)

7-11. **Clay Minerals Soc.** (10th mtg.) and **Clay Minerals Conf.** (22nd), Banff, Alta., Canada. (J. E. Gillott, Dept. of Civil Engineering, Univ. of Calgary, Calgary 44, Alberta)

7-11. **International Iron and Steel Inst.**, 7th annual conf., Johannesburg, South Africa. (IISI, 5 Place du Champ de Mars, 1050 Brussels, Belgium)

7-11. **Life Assurance Medicine**, 11th intern. congr., Mexico City, Mexico. (J. Rendon, Edificio Bancomer, Aptdo Postal M-7817, Mexico, D.F.)

7-12. **Electrochemical Soc.**, 144th natl., Boston, Mass. (E. G. Enck, ES, P.O. Box 2071, Princeton, N.J. 08540)

7-13. **Neurological Surgery**, 8th intern. congr., Tokyo, Japan. (S. Ishii, Dept. of Neurosurgery, Juntendo Univ. Hospital, Hongo, Bunkyo-ku, Tokyo)

7-20. **Institute on Terrestrial and Extraterrestrial Volcanology**, Italian Natl. Research, Regional Sicilian Government, and the Italian Ministry of Public Education, Erice, Trapani, Sicily. (F. Cuttitta, U.S. Geological Survey, Geologic Div., Washington, D.C. 20244), or (M. Carapezza, Istituto di Mineralogia, Via Archirafi 36, 90123 Palermo, Italy)

8-10. **National Electronics Conf. and Exhibition**, 29th, Chicago, Ill. (NEC, Inc., Oakbrook Executive Pl. No. 2, 1211 W. 22 St., Oak Brook, Ill. 60521)

8-10. **Society for Industrial and Applied Mathematics**, Iowa City, Iowa. (J. K.

Cullum, IBM-T. J. Watson Research Center, Yorktown Heights, N.Y. 10598)

8-12. **International Drivers' Behaviour Research Assoc.**, Zurich, Switzerland. (T. E. A. Benjamin, Room 9C27, 10, quai Paul Doumer, F-92 Courbevoie, France)

8-12. **Symposium on Experience from Operating and Fueling of Nuclear Power Plants**, Intern. Atomic Energy Agency, Vienna, Austria (J. H. Kane, Office of Information Services, U.S. Atomic Energy Commission, Washington, D.C. 20545)

9-12. **Association of Official Analytical Chemists**, 87th, Washington, D.C. (L. G. Enslinger, AOAC, Box 540, Benjamin Franklin Sta., Washington, D.C. 20044)

9-12. **Optical Soc. of America**, 58th annual, Rochester, N.Y. (J. W. Quinn, OSA, 2100 Pennsylvania Ave., NW, Washington, D.C. 20037)

9-12. **American Vacuum Soc.**, 20th natl. symp., New York, N.Y. (R. B. Marcus, Bell Telephone Labs., Murray Hill, N.J. 07974)

10. **Avian Energetic Symp.**, 91st (Nutall Ornithological Club), American Ornithologists' Union, Provincetown, Cape Cod, Mass. (R. A. Paynter, Museum of Comparative Zoology, Harvard Univ., Cambridge, Mass. 02138)

10-12. **Glass Div., American Ceramic Soc.**, Bedford, Pa. (F. P. Reid, ACS, 4055 N. High St., Columbus, Ohio 43214)

10-12. **American Council on Education**, 56th annual, Washington, D.C. (F. Skinner, ACE, 1 Dupont Circle, NW, Washington, D.C. 20036)

10-16. **American Speech and Hearing Assoc.**, Detroit, Mich. (K. O. Johnson, 9030 Old Georgetown Rd., Washington, D.C. 20014)

11-12. **Chemical and Physical Processes in Combustion**, 7th technical mtg., Eastern Section, Combustion Inst., Montreal, P.Q., Canada. (F. J. Wright, Corporate Research Labs., Esso Research and Engineering Co., P.O. Box 45, Linden, N.J. 07036)

11-13. **American Soc. for Colposcopy and Colpomicroscopy**, 6th clinical, Key Biscayne, Fla. (A. C. Corzo, Symposia Intern., P.O. Box 580, Tujunga, Calif. 91042)

11-13. **American Assoc. for the Surgery of Trauma**, Chicago, Ill. (J. A. Boswick, AAST, 4200 E. Ninth Ave., Denver, Colo. 80220)

12-13. **Electronic Physics of Organic Materials Symp.**, New York State Section, American Physical Soc., Troy, N.Y. (W. Eppenstein, Dept. of Physics, Rensselaer Polytechnic Inst., Troy 12181)

12-14. **National Assoc. of Biology Teachers**, St. Louis, Mo. (J. P. Lightner, NABT, 1420 N St., NW, Washington, D.C. 20005)

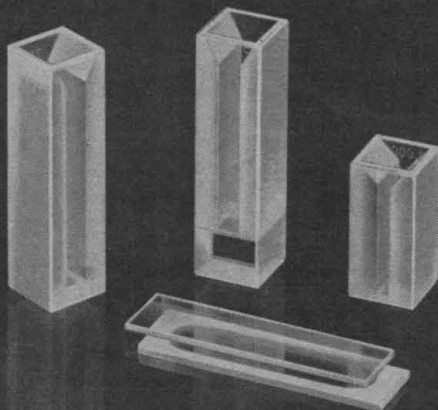
12-14. **Association for Women in Psychology**, Fort Wayne, Ind. (C. Adamsky, Dept. of Psychological Sciences, Purdue Univ., Fort Wayne 46805)

12-20. **American Soc. of Clinical Pathologists**, Chicago, Ill. (M. Damron, ASCP, 710 S. Wolcott Ave., Chicago 60612)

14-17. **American Chemical Soc.**, 5th Northeast regional, Rochester, N.Y. (P. Tingué, Bldg. 81, Room 254, Research Labs., Eastman Kodak Co., Rochester 14650)

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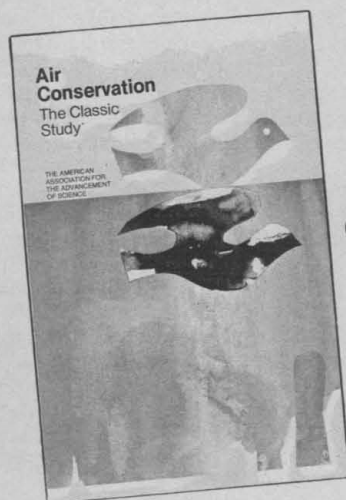
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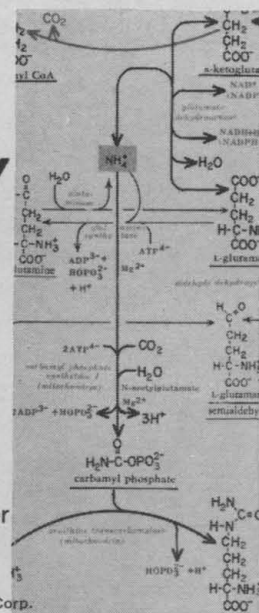
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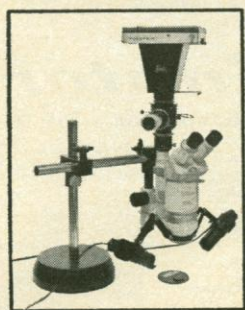
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14-17. Association of Life Insurance Medical Directors, New York, N.Y. (A. E. Brown, ALIMD, 501 Boylston St., Boston, Mass. 02117)

14-18. American Inst. of Ultrasound in Medicine, Ann Arbor, Mich. (M. A. Wainstock, Dept. of Ophthalmology, Univ. of Michigan Medical Center, Ann Arbor)

14-19. Society of Motion Picture and Television Engineers, New York, N.Y. (D. A. Courtney, SMPTE, 9 E. 41 St., New York 10017)

14-20. Allergology, 8th intern. congr., Tokyo, Japan. (Japanese Soc. of Allergology, c/o Dept. of Microbiology and Immunology, Nippon Medical School, 1-1 Sendagi, Bunkyo-ku, Tokyo)

14-20. World Medical Assoc., Munich, Germany. (A. Z. Romualdez, WMA, 10 Columbus Circle, New York 10019)

14-21. International Congr. on Tropical Medicine and Malaria, 9th, Hellenic Ministry of Social Services and Hellenic Ministry of Culture and Sciences, Athens, Greece. (J. Papavassiliou, ICTMM, P.O. Box 1373, Athens)

15-16. Environmental Geologic Mapping Colloquium, Austin, Tex. (E. G. Wermund, Bureau of Economic Geology, Univ. of Texas, Box X, University Station, Austin 78712)

15-17. National Electronics Conf., Inst. of Electrical and Electronics Engineers, Chicago, Ill. (IEEE, 345 E. 47 St., New York 10017)

15-17. Energy Resources Symp., Royal Soc. of Canada, Ottawa, Ont. (Executive Secretary, RSC, 395 Wellington, Ottawa, K1A0 N4)

15-17. National Noise Control Engineering Conf., Washington, D.C. (R. Cohen, Ray W. Herrick Labs., School of Mechanical Engineering, Purdue Univ., Lafayette, Ind. 47907)

15-17. Soil Microcommunities Conf., 3rd, Syracuse, N.Y. (D. L. Dindal, Dept. of Zoology, College of Environmental Sciences and Forestry, State Univ. of New York, Syracuse 13210)

15-18. Estuarine Research Federation, 2nd intern. conf., cosponsored by American Soc. of Limnology and Oceanography, Myrtle Beach, S.C. (A. B. Williams, Systematics Lab., Natl. Marine Fisheries Service, U.S. Natl. Museum, 10th and Constitution Ave., NW, Washington, D.C. 20560)

15-18. Instrument Soc. of America 28th mtg., Houston, Tex. (H. S. Kindler, ISA, 400 Stanwix St., Pittsburgh, Pa. 15222)

15-18. Lubrication Conf., American Soc. of Mechanical Engineers and American Soc. of Lubrication Engineers, Atlanta, Ga. (ASME, United Engineering Center, 345 E. 47 St., New York 10017)

15-18. American Inst. of Ultrasound in Medicine, 18th annual, Detroit, Mich. (M. Wainstock, Dept. of Ophthalmology, Univ. of Michigan Medical School, Ann Arbor)

15-19. American College of Surgeons, 59th annual clinical congr., Chicago, Ill. (E. W. Gerrish, ACS, 55 E. Erie St., Chicago 60611)

15-19. Youth in a World of Change, World Psychiatric Assoc. and Australian

and New Zealand College of Psychiatrists, Sydney, Australia. (Congress Secretary, Box 475, G.P.O., Sydney, New South Wales 2001)

15-20. International Soc. of **Radiology** Congr., 13th, Madrid, Spain. (J. Bonmati, ISRC, Lagasca 27, Madrid 1)

16-18. Society of **Automotive Engineers**, aerospace engineering and manufacturing mtg., Los Angeles, Calif. (A. J. Favata, SAE, 2 Pennsylvania Plaza, New York 10001)

16-19. American **Chemical** Soc., rubber chemistry mtg., Denver, Colo. (F. M. O'Connor, Harwick Standard Chemical Co., 60 S. Seiberling St., Akron, Ohio 44305)

16-19. Society for **Experimental Stress Analysis**, Indianapolis, Ind. (B. E. Rossi, SESA, 21 Bridge Sq., Westport, Conn. 06880)

16-19. **Human Factors** Soc., Washington, D.C. (M. G. Knowles, HFS, P.O. Box 1369, Santa Monica, Calif. 90406)

16-20. American Assoc. of **Stratigraphic Palynologists**, 6th annual, Anaheim, Calif. (K. N. Piel, Union Oil Research, P.O. Box 76, Brea, Calif. 92621)

16-21. American Soc. of **Clinical Hypnosis**, 16th annual, Toronto, Ont., Canada. F. D. Nowlin, ASCH, 800 Washington Ave., SE, Minneapolis, Minn. 55414)

17-20. American Soc. of **Human Genetics**, Atlanta, Ga. (W. E. Nance, Medical Genetics, Univ. of Indiana, 1100 W. Michigan St., Indianapolis 46202)

18-19. Oklahoma **Education** Assoc., 83rd annual, Oklahoma City. (M. Leyerle, OEA, 323 East Madison, Oklahoma City 73105)

18-19. **Endocrinology and Metabolism**, 9th Midwest conf., Columbia, Mo. (A. D. Kenny, Dalton Research Center, Univ. of Missouri, Columbia 65201)

18-20. Central **Neuropsychiatric** Assoc., Chicago, Ill. (D. W. Sprague, CNA, 1417 Marlowe Ave., Lakewood, Ohio 44107)

18-20. Central Assoc. of **Obstetricians and Gynecologists**, Scottsdale, Ariz. (C. P. Goplerud, University Hospitals, Iowa City 52240)

18-21. American Acad. of **Child Psychiatry**, Washington, D.C. (E. Bogan, AACP, 1700 18th St., NW, Washington, D.C. 20009)

18-21. **Phi Delta Kappa**, Houston, Tex. (L. C. Rose, PDK, 8th and Union Sts., P.O. Box 789, Bloomington, Ind. 47401)

19. American **Pharmaceutical** Assoc., 13th annual Eastern regional (Industrial Pharmacy section), Morristown, N.J. (A. J. Scarpone, Pharmaceutical Product Development Dept., Lederle Labs., American Cyanamid Co., Pearl River, N.Y. 10965)

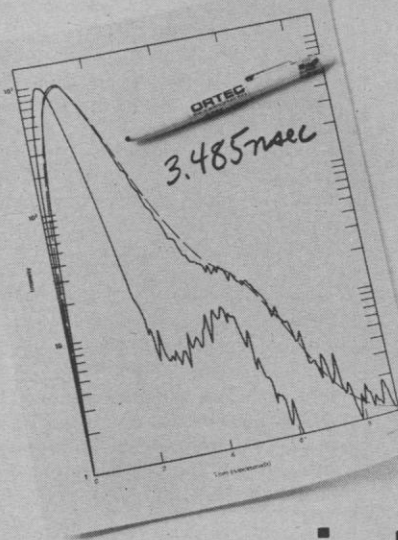
20-23. Institute of **Electrical and Electronics Engineers**, electron devices mtg., Washington, D.C. (Office of the Technical Activities Board, IEEE, 345 E. 47 St., New York 10017)

20-24. American Acad. of **Pediatrics**, 42nd annual, Chicago, Ill. (E. Kittrell, AAP, 1801 Hinman Ave., Evanston, Ill. 60204)

21-24. American College of **Apothecaries**, White Sulphur Springs, W.Va. (D. C. Huffman, Jr., 5291 Rock Ridge Rd., Memphis, Tenn. 38128)

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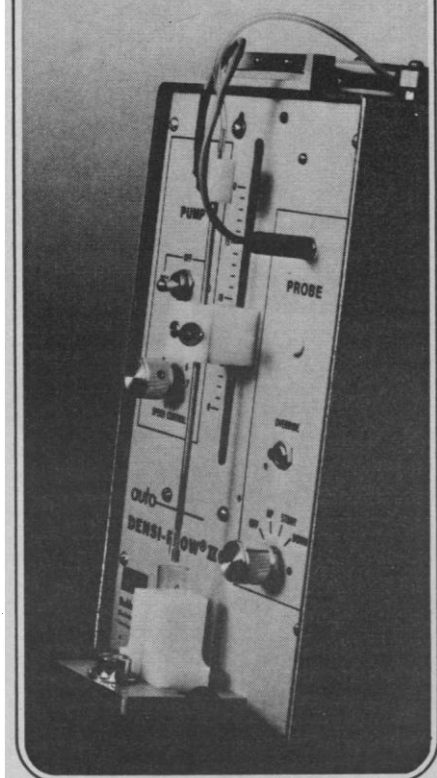
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21-25. American College of **Chest Physicians**, 39th fall scientific assembly, Toronto, Ont., Canada. (A. Soffer, ACCP, 112 E. Chestnut St., Chicago, Ill. 60611)

21-25. Society of **Exploration Geophysicists**, Mexico City, Mexico (H. Breck, P.O. Box 3098, Tulsa, Okla. 74101)

21-25. American Soc. for **Information Science**, Los Angeles, Calif. (H. R. Koller, ASIS, 1140 Connecticut Ave., NW, Washington, D.C. 20036)

21-26. Association of **Engineering Geologists**, 16th annual, North Hollywood, Calif. (C. A. Yelverton, AEG, Suite 506, 201 S. Lake Ave., Pasadena, Calif. 91101)

21-26. American Assoc. for **Hand Surgery**, Hollywood, Fla. (K. K. Lie, 27500 Hoover Rd., Warren, Mich. 48093)

21-26. American Soc. of **Plastic and Reconstructive Surgeons**, Hollywood, Fla. (D. F. Whaley, ASPRS, 29 E. Madison, Chicago, Ill. 60602)

21-26. American Congr. of **Rehabilitation Medicine**, Washington, D.C. (C. C. Herold, 30 N. Michigan Ave., Chicago, Ill. 60602)

21-26. American **Water Resources Assoc.**, 9th, Seattle, Wash. (S. P. Gessel, Dean of the College of Forestry, University of Washington, Seattle 98105)

21-27. American College of **Gastroenterology**, Los Angeles, Calif. (D. Weiss, ACG, 299 Broadway, New York 10007)

22-24. International **Pollution Engineering Congr.**, 2nd, Philadelphia, Pa. (Clapp & Poliak, Inc., 245 Park Ave., New York 10017)

22-25. **Civil Aviation Medical Assoc.**, Guadalajara, Mexico. (A. Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044)

22-26. American **Dietetic Assoc.**, Denver, Colo. (R. M. Yakel, ADA, 620 N. Michigan Ave., Chicago, Ill.)

22-26. Symposium on **Effects on Neutron Irradiation upon Cell Function**, Intern. Atomic Energy Agency, Neuherberg near Munich, Federal Republic of Germany. (L. B. Sztanyik, Radiation Biology Section, Div. of Life Sciences, IAEA, Karntrernring 11-13, P.O. Box 590, A-1011 Vienna, Austria)

23-25. American College of **Emergency Physicians**, 5th scientific assembly, Dallas, Tex. (ACEP, 241 E. Saginaw, East Lansing, Mich. 48823)

23-25. International Symp. on **Immunoglobulin A System**, 25th, Birmingham, Ala. (F. W. Kraus, Box 103, University Station, Birmingham 35294)

23-26. International Conf. on **Environmental Health**, American Medical Assoc., Primosten, Yugoslavia. (Dept. of Environmental, Public and Occupational Health, AMA, 535 N. Dearborn St., Chicago 60610)

24-25. International Technico-Economical Symp. on **Environmental Chemistry**, Intern. Business Contact Club, Brussels, Belgium. (IBCC, Nieuwelaan, 65, B-1820-Strombeek, Belgium)

24-25. International Symp. on **Gonorrhea**, Health Protection Branch, Dept. of Natl. Health and Welfare, Ottawa, Ont., Canada. (J. R. Renaud, Food and Drug Bldg., Room 105, Health Protection Branch, NHW, Tunney's Pasture, Ottawa, K1A 0L2)

24-27. American Soc. of **Human Gene-**

tics, Atlanta, Ga. (W. E. Nance, Dept. of Medical Genetics., Indiana Univ. Medical Center, Indianapolis 46202)

25-26. **Vehicle Emission Control Programs Conf.**, Madison, Wis. (K. Sparks, Engineering Dept., Univ. of Wisconsin-Extension, 432 N. Lake St., Madison 53706)

25-27. Indiana **Acad. of Science**, Indianapolis. (J. J. Nisbet, Biology Dept., Ball State Univ., Muncie, Ind. 47306)

25-27. Academy of **General Dentistry**, Houston, Tex. (R. G. O'Donnell, AGD, 211 E. Chicago Ave., Chicago, Ill. 60611)

25-28. **Atherosclerosis**, 3rd intern. symp., West-Berlin, Germany. (G. Schettler, Bergheimer Str. 58, D69 Heidelberg, Germany)

25-28. Society for **Psychophysiological Research**, Galveston, Tex. (P. J. Lang, Dept. of Psychology, Univ. of Wisconsin, Madison 53706)

25-28. Society for the **Scientific Study of Religion**, San Francisco, Calif. (W. V. D'Antonio, SSSR, Box U68A, Univ. of Connecticut, Storrs 06268)

25-30. **Radiological Soc. of North America**, Chicago, Ill. (H. L. Baker, Jr., Room 604, 713 E. Genesee St., Syracuse, N.Y. 13210)

26. Utah **Acad. of Sciences, Arts, and Letters**, Ogden. H. Buchanan, Dept. of Botany, Weber State College, Ogden 84403)

27-28. American College of **Dentists**, Houston, Tex. (R. J. Nelsen, 7316 Wisconsin Ave., Bethesda, Md. 20014)

28-1. American **Dental Assoc.**, Houston, Tex. (C. G. Watson, ADA, 211 E. Chicago Ave., Chicago, Ill. 60611)

29-31. **Electrical Insulation and Dielectric Phenomena Conf.**, National Acad. of Sciences, Varennes, P.Q., Canada. (N. T. Grisamore, NAS, 2101 Constitution Ave., NW, Washington, D.C. 20418)

29-2. International Conf. on **Atomic Spectroscopy**, 4th, Toronto, Ont., Canada. (C. L. Chakrabarti, Dept. of Chemistry, Carleton Univ., Ottawa K1A 5B6, Ont., Canada)

29-2. American Soc. of **Civil Engineers**, New York, N.Y. (E. Zwayer, ASCE, 345 E. 47 St., New York 10017)

30-1. American Assoc. for the **Study of Liver Diseases**, Chicago, Ill. (F. Schaffner, Mount Sinai Hospital, Fifth Ave. and 100th St., New York 10029)

30-2. **Acoustical Soc. of America**, Los Angeles, Calif. (B. H. Goodfriend, ASA, 335 E. 45 St., New York 10017)

30-2. American **Ceramic Soc.**, Nuclear Div., 26th, San Francisco, Calif. (J. M. Leitnaker, Bldg. 4500-S, Room A-156, Oak Ridge Natl. Lab., Oak Ridge, Tenn. 37830)

30-4. American **Physical Soc.** plasma physics div., Philadelphia, Pa. (W. W. Havens, Jr., 335 E. 45 St., New York 10017)

November

1. American **Pancreatic Study Group**, Chicago, Ill. (P. D. Webster, Dept. of Medicine, Medical College of Georgia, Augusta 30902)

1-3. Association for **Academic Surgery**, Rochester, N.Y. (J. Cerilli, Ohio State Univ. Hospital, 410 W. Tenth Ave., Columbus, Ohio 43210)