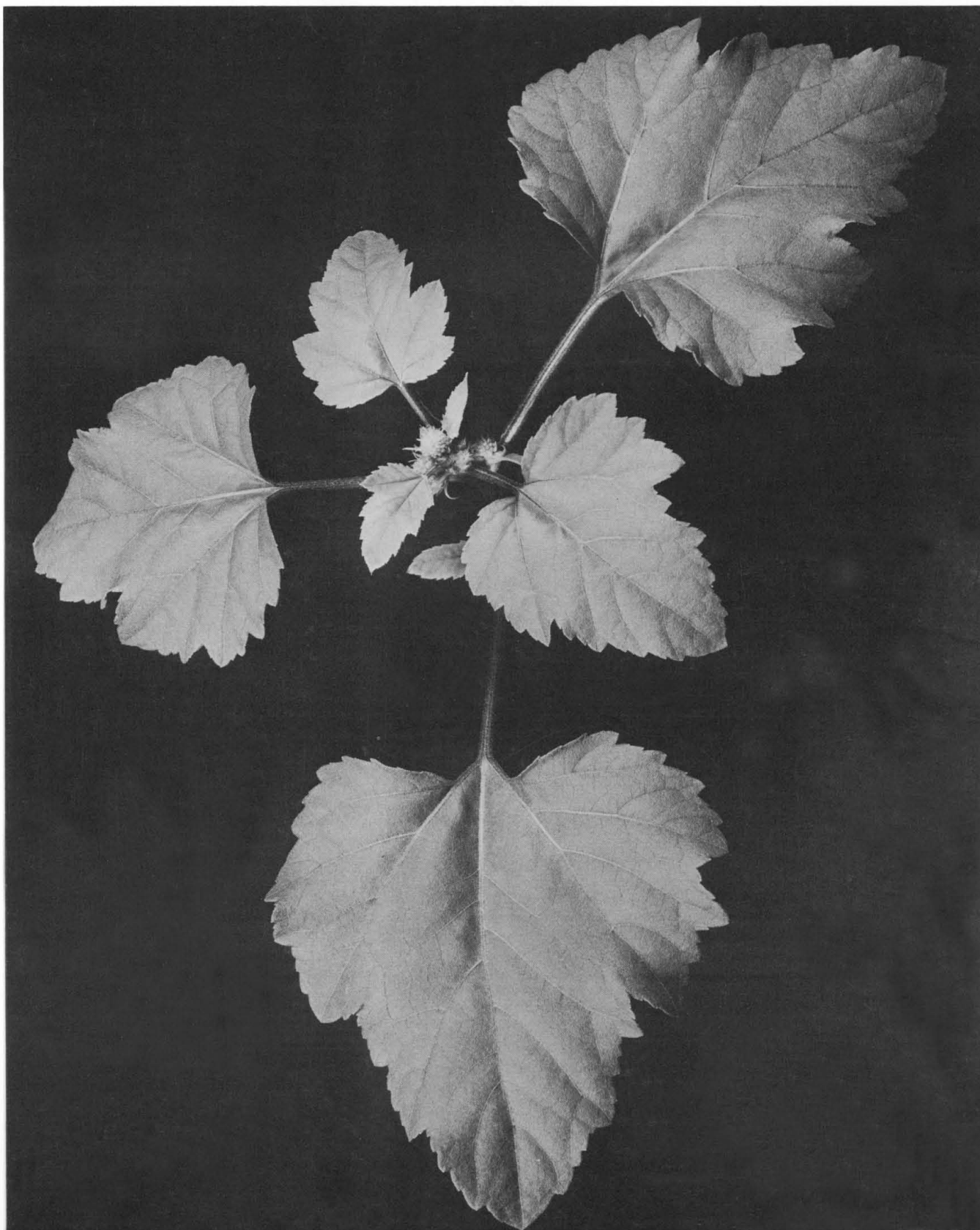


# SCIENCE

7 September 1962

Vol. 137, No. 3532

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

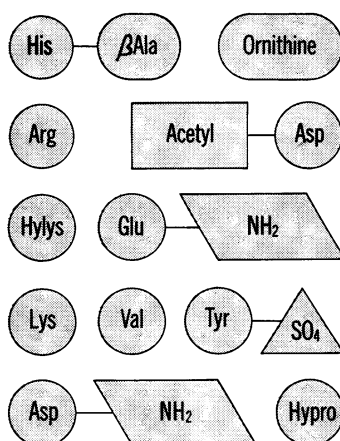


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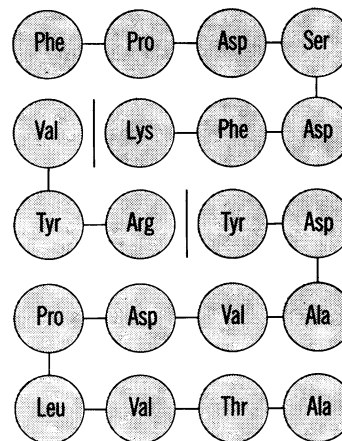
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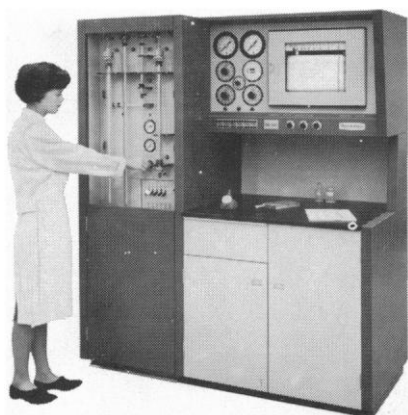
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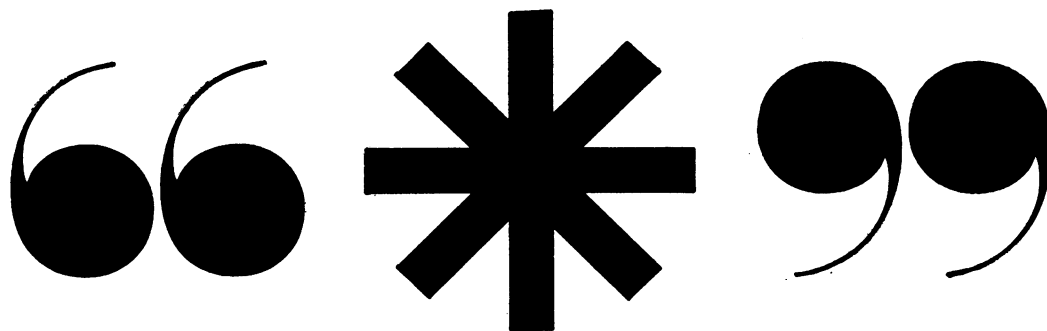
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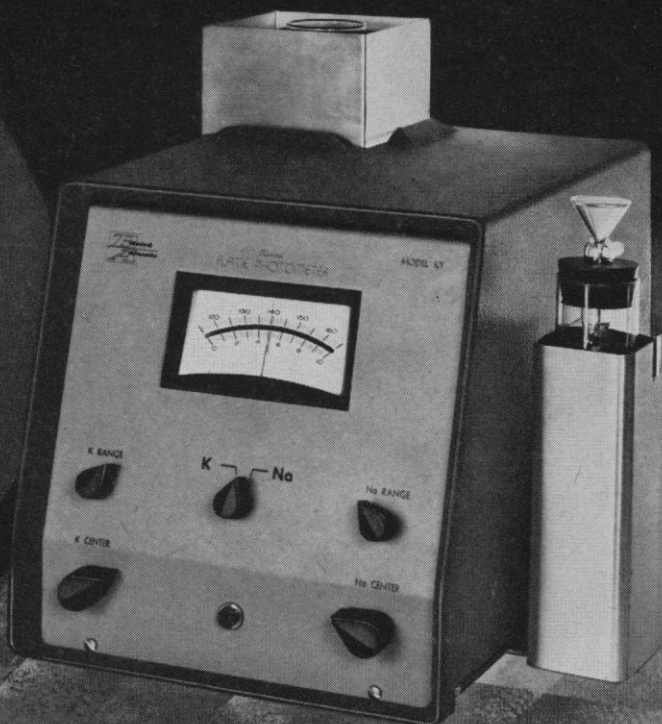
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<b>Editorial</b>	The Keeper of the Gate .....	721
<b>Articles</b>	Physiology of Flowering: <i>J. A. D. Zeevaart</i> .....	723
	Flowering is hormonally controlled, but the nature of the hormone remains to be elucidated.	
	Recoilless Nuclear Resonance Absorption of Gamma Radiation: <i>R. L. Mössbauer</i> ....	731
	A new principle yields gamma lines of extreme narrowness for measurements of unprecedented accuracy.	
<b>News and Comment</b>	Presidential Decree Boosts Arms Agency .....	738
<b>Book Reviews</b>	<i>Elements of Queuing Theory, Stochastic Service Systems, Queues, Introduction to the Theory of Queues</i> , reviewed by <i>P. M. Morse</i> ; other reviews .....	742
<b>Reports</b>	Origin of Tektites: <i>H. C. Urey</i> .....	746
	Lunar Synodical Period and Widespread Precipitation: <i>D. A. Bradley, M. A. Woodbury, G. W. Brier</i> .....	748
	Lunar Component in Precipitation Data: <i>E. E. Adderley</i> and <i>E. G. Bowen</i> .....	749
	Alveolar Epithelial Cell Mitochondria as Source of the Surface-Active Lung Lining: <i>M. Klaus</i> et al. ....	750
	Bedrock Geology of the Thiel Mountains, Antarctica: <i>A. B. Ford</i> and <i>J. M. Aaron</i> .....	751
	Electron Spin Resonance of Nitric Oxide-Hemoglobin Complexes in Solution: <i>K. M. Sancier, G. Freeman, J. S. Mills</i> .....	752
	Sterility in the Mexican Fruit Fly Caused by Chemicals: <i>J. G. Shaw</i> and <i>M. Sanchez Riviello</i> .....	754
	Effects of Perceptual Training at Three Age Levels: <i>D. Elkind, R. R. Koegler, E. Go</i> .....	755
	Nevada Test Fallout and Radioiodine in Milk: <i>R. E. Lapp</i> .....	756
	<i>Anopheles leucosphyrus</i> Identified as a Vector of Monkey Malaria in Malaya: <i>R. H. Wharton</i> et al. ....	758
	Male Sexual Behavior Induced by Intracranial Electrical Stimulation: <i>E. Vaughan</i> and <i>A. E. Fisher</i> .....	758
	Increase in Diffusible Auxin after Treatment with Gibberellin: <i>S. Kuraishi</i> and <i>R. M. Muir</i> .....	760
	<i>Salmonella</i> Species in Turtles: <i>J. A. Boycott</i> .....	761
	Mechanism of Tissue Reconstruction by Dissociated Cells, II: Time-Course of Events: <i>M. S. Steinberg</i> .....	762
	Utilization of Nitrogen Compounds by Unicellular Algae: <i>E. C. Birdsey</i> and <i>V. H. Lynch</i> .....	763
	Interaction of Olfactory and Other Environmental Stimuli on Implantation in the Deer Mouse: <i>B. E. Eleftheriou, F. H. Bronson, M. X. Zarrow</i> .....	764
	Contamination of Vegetation by Tetraethyl Lead: <i>H. L. Cannon</i> and <i>J. M. Bowles</i> .....	765
	Sorbitol Translocation in Apple: <i>K. L. Webb</i> and <i>J. W. A. Burley</i> .....	766
<b>Departments</b>	Meetings: International Biological Program; Forthcoming Events .....	768
	New Products .....	774
<b>Cover</b>	Cocklebur, <i>Xanthium pennsylvanicum</i> . See page 723. [James McClanahan, California Institute of Technology]	

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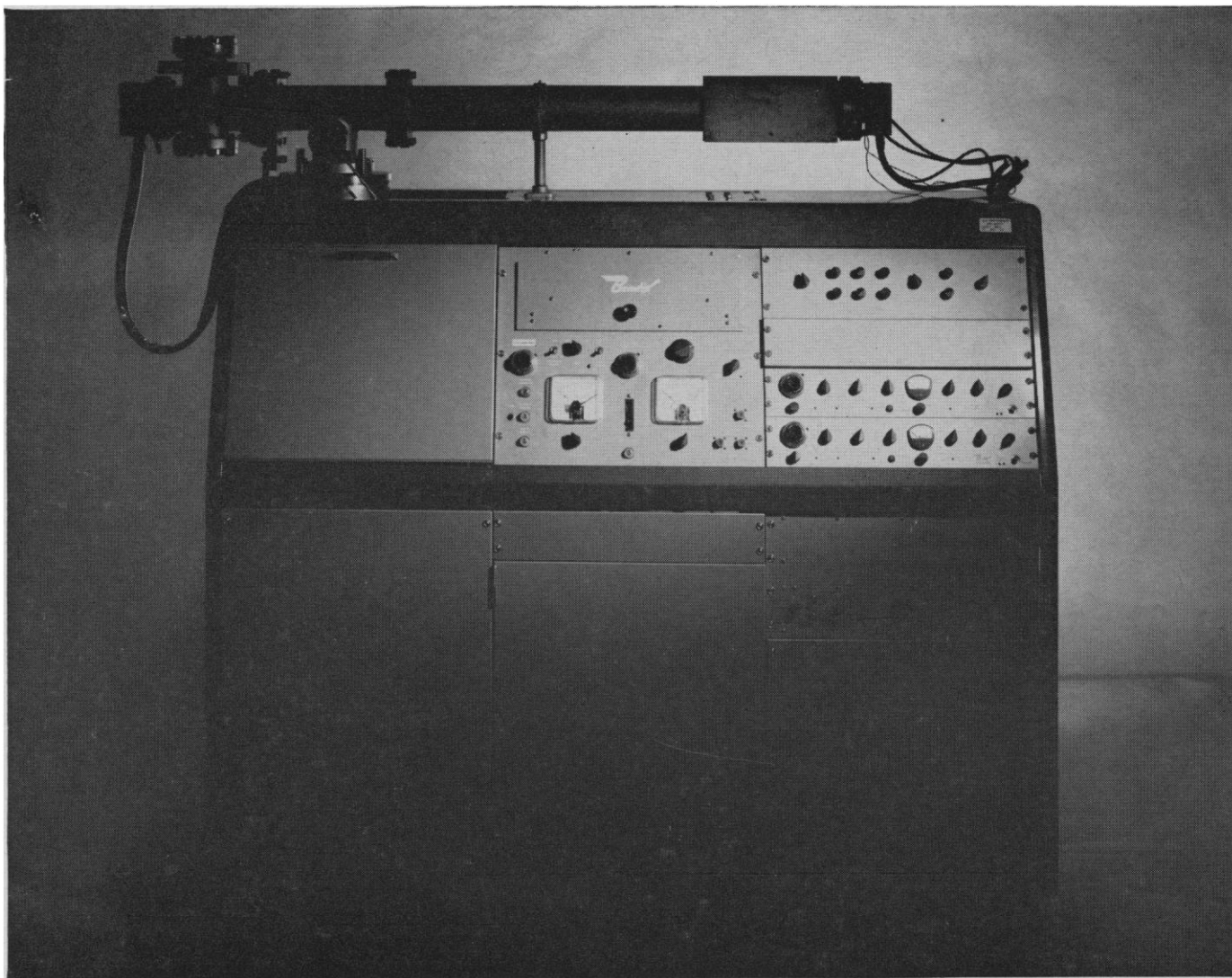


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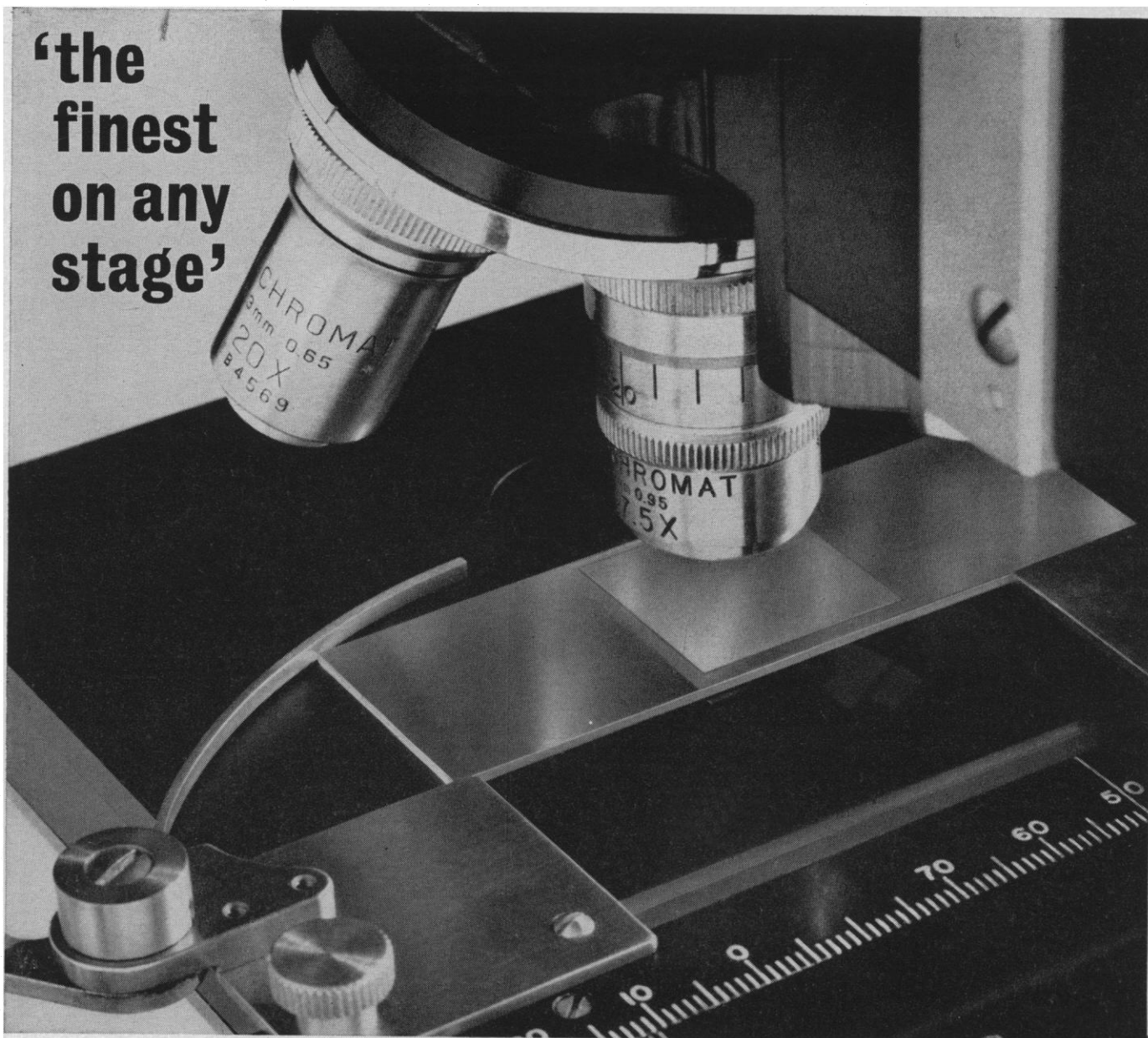
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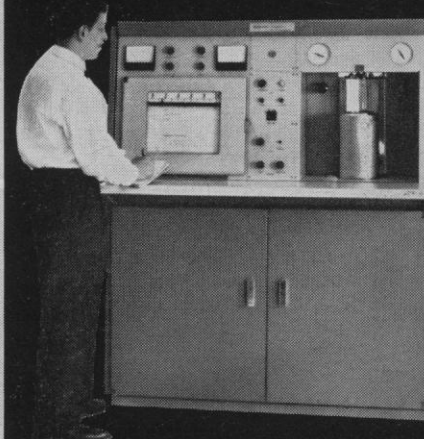
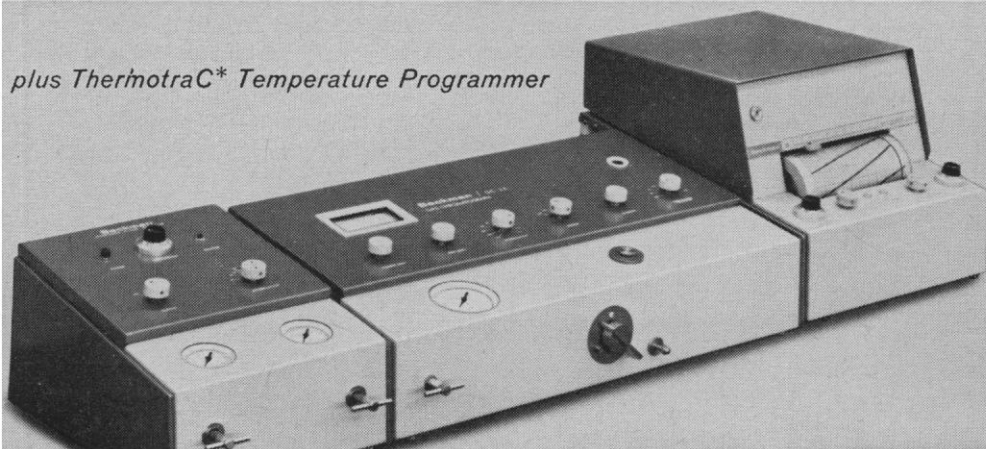
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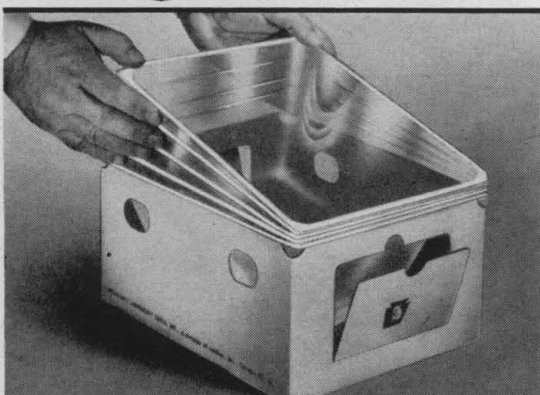
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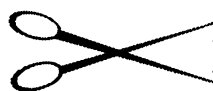
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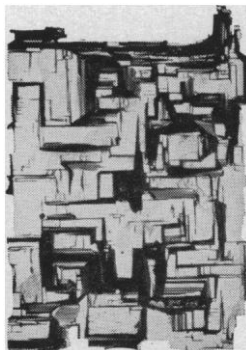
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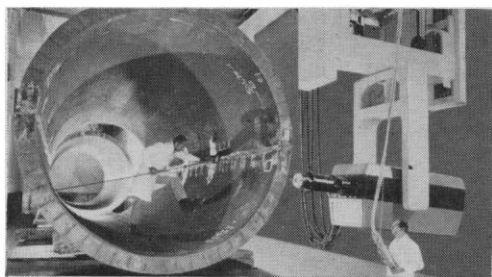
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## The Keeper of the Gate

All over the world students are knocking on university doors. All over the world universities are expanding. In some countries social policy calls for a reasonable balance between facilities and demands; thus efforts are being made to keep building apace with rising student demand. In other countries large numbers must be turned away, for the basic policy has been primarily one of exclusion. This problem is an old one. As long ago as the 5th century, the "professors who kept the gate" of Nalanda University in ancient India posed entrance examinations that excluded eight out of every ten candidates.

But increasingly the policy of exclusion is giving way to the idea of selection, for whether the most immediately pressing problem be one of a great excess of candidates, one of properly steering applicants to the most appropriate institutions, or one of improving the methods of selection, admission officers know that the policies that determine who has access to higher education also determine who can gain entrance to the professions and to many positions of government, industrial, and social leadership. The admissions process is a great filter that, in selecting students, is also in large measure determining the nation's future.

General recognition of this role of university admissions, plus worldwide increases in emphasis on education and numbers of university applicants, has resulted in an international study that is sponsored or supported by UNESCO, the International Association of Universities, the Carnegie Corporation, and the College Entrance Examination Board. Educational statistics routinely supplied by most countries to UNESCO, supplemented by detailed and analytical studies of countries selected to represent widely different regions and conditions, provide the basis for considering such questions as: Who has access to the university? What educational, cultural, economic, and political policies and practices control access to higher education? What measures are most useful in selecting the candidates of greatest ability? Should major decisions concerning eligibility be made early so that the elect can be especially prepared in secondary schools, or later so that a larger number can seek to qualify?

Nations differ so greatly in their educational traditions, in the percentage of an age group enrolled in school, and in their economic and cultural development that each must find its own answers to its own problems. But behind these differences and the differences in the mechanics of university admissions lie the world's educational and social problems. These have enough in common to make of the international study a venture that will help individual nations and educational institutions in considering their own problems and that will be of special value to the developing countries that know they must rely upon massive and rapid educational improvements to achieve their national goals.—D.W.





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### Huntley with rope

Our principal business is the manufacture of photographic materials. Therefore we must tell the world that photography is very useful. The world, however, knows this already. When you tell somebody something he already knows, you run a risk of boring him. Fortunately, if he himself regards the message as a doctrine worth preaching, he will pay attention, will applaud, and will help round up an audience.

In this case, we assume that he has charge of photographic operations in a businesslike organization. We assume further that he is not lazy and would rather see those operations expand than diminish.

We have made him a 42-minute movie to show. Instead of spending all that time singing paeans, the movie tries to stimulate his colleagues and his bosses to think up functions for him that might not have occurred to them.



Mr. Chet Huntley, no paean singer, narrates. We take you inside a cake being baked in Dayton. We puzzle you with a monstrous camera intended to take pictures in Cincinnati without perspective. We show you how they test a new hydrofoil on Lake Washington and what nooks and crannies a camera can explore when fitted with fiber optics. We take you to lots of places, starting on a classy note with the hunt for anti-matter at Brookhaven.

If we create the impression that the great linear accelerator there is nothing but another camera accessory, do not conclude that perspective is being shunned in Rochester as well as in Cincinnati. Historians of science differentiate between the "low technology" that civili-

zations evolve over the millenia for hewing the wood and drawing the water of everyday life and the "high technology" that is called into existence by the demands of pure science and then very kindly lowers a rope to haul up the "low technology." Maybe 1520 feet of movie film narrated by Mr. Chet Huntley with music and color to dispel boredom is better than rope.

To book a showing of "Photography at work . . . a progress report," write Eastman Kodak Company, Professional Photographic Sales Division, Rochester 4, N. Y.

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Ask almost any camera shop for KODAK PHOTOPLAST Plates. If, now that you know, you want immediate action and can't wait while the dealer orders pamphlet P-34, it might be well to place a call to Rochester, Area Code 716, LO 2-6000, Ext. 2374.

The product has lately been revised to broaden latitude greatly. One can speak of latitude in an emulsion with a cliff-like density vs. log exposure curve because the cliff can be shifted parallel to itself by choice of development time. The development latitude gives exposure latitude (not in general but in this particular emulsion).

### TOPO in Milan

Pliny (who was born in 23, used no initials, and died in 79 so that his written permission is not required for the use of his name in paid advertising) gets credit for about 1900 years of priority on chromatography. He told how to use papyrus impregnated with gallnut extract for the detection of ferrous ion, although he didn't say it just that way and didn't call it chromatography. Today we need words like that. Otherwise if you are seen watching blots spread on blotting paper, people will question your right to earn a living by such activity.

Paper chromatography has made a leap forward. Don't think of it as a technique on which biochemists have some kind of exclusive contract. Biochemists took to it because it is a powerful and ridiculously simple way of separating closely similar components of a mixture when you don't have much of the mixture. It was known to be useful also for separating metal ions, but you heard less about that. Now you may hear more. TOPO (*Trioctylphosphine Oxide*) did it.

They love our TOPO in Milan and are impregnating filter paper with it (*Journal of Chromatography*, 7, 112). We had put it on the market in '57 after workers at the Oak Ridge National Laboratory, who had studied the solvent extraction merits of various phosphine oxides for 49 different elements, had picked TOPO for complexing hexavalent uranium.

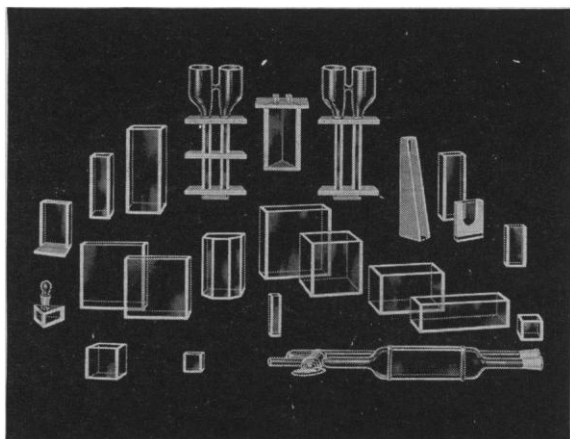
The Milanese appear to have fixed their attention on the wide and well-spaced *differences* in the affinity that TOPO displays toward various metal ions. For about 50 of them their paper gives curves of  $R_F$  against acidity of the eluent. A full set of curves is presented for each of the eluents HCl, HNO<sub>3</sub>, and H<sub>2</sub>SO<sub>4</sub>. Also operating procedures down to fine details.

*Bravo Milanese! Bravo TOPO!\* Bravo Oak Ridge! Want an abstract? Want any other of some 3900 EASTMAN Organic Chemicals? Ask Distillation Products Industries, Rochester 3, N.Y. (Division of Eastman Kodak Company).*

\*The word can be pronounced "EASTMAN 7440" to avoid the embarrassment of shouting in Italian "Hurray for the mouse!"

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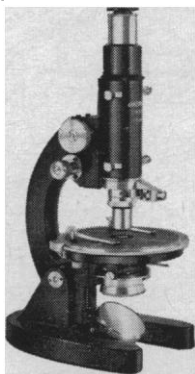
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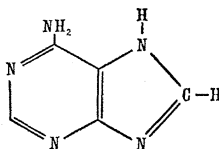
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program for the conservation of natural communities throughout the world, the International Union for the Conservation of Nature (IUCN) acted as host for the conference, which was held at its headquarters, Les Uttins, at Morges. The IUCN was represented at the conference by Jean Baer, its president, and by two consultants, E. M. Nicholson (London) and E. H. Graham (Washington, D.C.). Its fine hospitality and the stimulating atmosphere which it provided gave great impetus to the work of the Planning Committee.

At the conclusion of the session, G. Laclavère, treasurer of ICSU, discussed with the conference members his experiences with the planning stages of the International Geophysical Year and made many helpful comments on procedure. He expressed great satisfaction with the work accomplished by the committee.

G. LEDYARD STEBBINS

Department of Genetics,  
University of California, Davis

## Forthcoming Events

### October

7-10. Society of Petroleum Engineers, Los Angeles, Calif. (SPF, 345 E. 47 St., New York 17)

7-13. Cardiology, intern. congr., Mexico City, Mexico. (I. Costero, Instituto Nacional de Cardiologia, Ave. Cuauhtemac 300, Mexico 7, D.F.)

8-10. Electronics, natl. conf., Chicago, Ill. (National Electronics Conf., 228 N. La Salle St., Chicago 1)

8-11. Allergy, congr., Basel, Switzerland. (R. Schuppli, c/o Dermatologische Universitäts-Klinik, Basel)

8-11. Infectious Pathology, intern. congr., Bucharest, Rumania. (N. Cajal, Str. Dumbrava, Rossie 23, Bucharest)

8-11. Otorhinolaryngology, congr., Paris, France. (H. Guillon, French Soc. of Otorhinolaryngology, 6 Avenue MacMahon, Paris 17°)

8-11. Water Pollution Control Federation, annual, Toronto, Canada. (R. E. Fuhrman, Executive Secretary, WPCF, 4435 Wisconsin Ave., NW, Washington 16, D.C.)

8-12. American Soc. of Civil Engineers, Detroit, Mich. (W. H. Wisely, 345 E. 47 St., New York 17)

8-12. Industrial Forestry, seminar, St. Paul, Minn. (Z. W. White, Yale School of Forestry, 205 Prospect St., New Haven 11, Conn.)

8-12. Instruments and Research Equipment, symp. and exhibit, Bethesda, Md. (L. Heiss, American Instrument Co., Inc., 8030 Georgia Ave., Silver Spring, Md.)

8-12. Lead and Radiation Shielding Problems, intern. conf., London, England. (J. Oldroyd, Lead Development Assoc., 34 Berkeley Square, London, W.1)

8-13. Treatment and Storage of High-

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Level Radioactive Wastes, symp., Vienna, Austria. (Intern. Atomic Energy Agency, 11 Kärntner Ring, Vienna 1)

8-20. **Statistical Forecasting**, training seminar, Paris, France. (World Meteorological Organization, 41 Avenue Giuseppe Motta, Geneva, Switzerland)

9-11. **Analytical Chemistry in Nuclear Reactor Technology**, Gatlinburg, Tenn. (C. D. Susano, Oak Ridge Natl. Laboratory, P.O. Box X, Oak Ridge, Tenn.)

9-11. **International Assoc. of Food Analysts**, symp., Bordeaux, France. (L. de Saint Rat, 18 Avenue de Villars, Paris 7<sup>e</sup>, France)

9-11. **Nuclear Reactor Chemistry**, conf., Gatlinburg, Tenn. (W. R. Grimes, Oak Ridge Natl. Laboratory, P.O. Box X, Oak Ridge, Tenn.)

9-12. **American Dietetic Assoc.**, annual, Miami Beach, Fla. (V. F. Harger, Dept. of Home Economics, Ohio State Univ., Columbus 10)

9-12. **Scientific Soc. for Aviation**, annual, Brunswick, Germany. (Wissenschaftliche Gesellschaft für Luftfahrt, Martinstr. 40-42, Cologne, Germany)

10-12. **Comparative Medicine**, intern. symp., New York, N.Y. (J. D. Bech, Animal Medical Center, 350 Lafayette St., New York 12)

12. **Biochemical Aspects of Hormone Action**, symp., St. Louis, Mo. (A. B. Eisenstein, Jewish Hospital of St. Louis, 216 S. Kingshighway Blvd., St. Louis 10)

12-13. **American Medical Writers' Assoc.**, Washington, D.C. (S. O. Waife, P.O. Box 1796, Indianapolis 6, Ind.)

12-13. **Photography of Electronic Display**, symp., Washington, D.C. (Soc. of Photographic Scientists and Engineers, P.O. Box 1609, Washington, D.C.)

12-14. **Phosphorylated Glucides**, intern. symp., Milan, Italy. (Segreteria del Comitato Organizzatore del Symposium Internazionale sui Glucidi Fosforilati, Via Modica 6, Milano)

13. **Metabolic and Structural Alterations in Pre-Diabetes**, symp., New York, N.Y. (R. Levine, New York Diabetes Assoc., 104 E. 40 St., New York 16)

13-14. **Fundamental Nature of Living Matter**, symp., Cleveland, Ohio. (Dedication Committee Office, Allen Memorial Library, 11000 Euclid Ave., Cleveland 6, Ohio)

13-14. **International Federation of Surgical Colleges**, annual, Atlantic City, N.J. (I. S. Ravdin, American College of Surgeons, 3400 Spruce St., Philadelphia 4, Pa.)

13-14. **Society for Psychophysiological Research**, annual, Denver, Colo. (S. G. Margolin, Dept. of Psychophysiology, Univ. of Colorado, Denver 20)

13-14. **Unfinished Tasks in the Behavioral Sciences**, symp., Chicago, Ill. (A. Abrams, Div. of Behavioral Sciences, Chicago Medical School Research Institute, 2020 W. Ogden Ave., Chicago 12)

14-17. **Electrical Insulation**, conf., Hershey, Pa. (L. J. Frisco, Div. of Engineering and Industrial Research, Natl. Acad. of Sciences, 2101 Constitution Ave., Washington 25)

14-19. **Dentistry Teaching**, seminar, Bogota, Colombia. (Pan American Sanitary Bureau, Washington 6)

14-19. **Pulp and Paper Engineering**,

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15-26. **Statistics**, Inter-American conf., Washington, D.C. (Inter-American Statistical Inst., Pan American Union, Washington 6)

16. Oak Ridge Inst. of **Nuclear Studies**, Oak Ridge, Tenn. (W. G. Pollard, ORINS, Oak Ridge)

16-18. **Lubrication**, conf., Pittsburgh, Pa. (American Soc. of Mechanical Engineers, 29 W. 39 St., New York 18)

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16-19. **Textile Materials**, New York, N.Y. (American Soc. for Testing and Materials, 1916 Race St., Philadelphia 3, Pa.)

17-20. **Insect Pathology and Microbial Control**, intern. colloquium, Paris, France. [Secretariat, Intern. Committee for Biological Control, c/o Laboratoire du Lutte Biologique, La Minière (Seine-et-Oise), France]

18. **Bibliographical Soc. of America**, Cambridge, Mass. (F. R. Goff, Rare Book

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18-19. **Applied Spectroscopy and Analytical Chemistry**, annual Pacific regional meeting, Pasadena, Calif. (W. F. Ulrich, Scientific and Process Instruments Div., Beckman Instruments, Fullerton, Calif.)

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18-19. German Soc. for **Operations Research**, annual, Bonn, Germany. W. Krelle, GSOR, c/o Universität, Liebfrauenweg 5, Bonn)

18-20. **Indiana Acad. of Science**, Evansville. (W. W. Bloom, Valparaiso Univ., Valparaiso, Ind.)

18-21. Central Assoc. of **Electroencephalographers**, annual, Rochester, Minn. (D. W. Klass, Mayo Clinic, Rochester)

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21-24. **Fundamental Research**, symp., Chicopee, Mass. (Technical Assoc. of the Pulp and Paper Industry, 360 Lexington Ave., New York 17)

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22-24. **Aerospace and Navigational Electronics**, conf., Baltimore, Md. (Inst. of Radio Engineers, Office of the Technical Secretary, 1 E. 79 St., New York 21)

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22-26. **Diabetes**, Buenos Aires, Argentina. (C. A. Campos, Sociedad Argentina de Diabetes, Santa Fe 1171, Buenos Aires)

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23-25. **Occupational Therapists**, intern. congr., Philadelphia, Pa. (M. T. Cardwell, 963 Avenue Rd., Toronto 7, Ont., Canada)

23-27. American Soc. of **Oral Surgeons**, New Orleans, La. (L. W. Peterson, 117 N. Meramec St., Clayton 5, Mo.)

23-1. **Care of Children in Institutions**, Geneva, Switzerland. (World Health Organization, Palais des Nations, Geneva)

24-25. **Computer Applications**, symp., Chicago, Ill. (R. S. Hollitch, Armour Research Foundation, Illinois Inst. of Technology, 35 W. 33 St., Chicago 16)

24-26. Design of Experiments in **Army Research**, Development, and Testing, Washington, D.C. (by invitation only). (F. G. Dressel, Army Research Office, Box CM, Duke Station, Durham, N.C.)

24-26. Society for **Experimental Stress Analysis**, annual, Milwaukee, Wis. (B. E. Rossi, 21 Bridge Square, Westport, Conn.)

24-27. International Assoc. of **Milk and Food Sanitarians**, annual, Philadelphia, Pa. (H. L. Thomasson, Box 437, Shelbyville, Ind.)

24-28. **Angiology**, intern. conf., Darmstadt, Germany. (Sekretariat, c/o Medizinische Klinik, Bismarckstr. 28, Darmstadt)

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