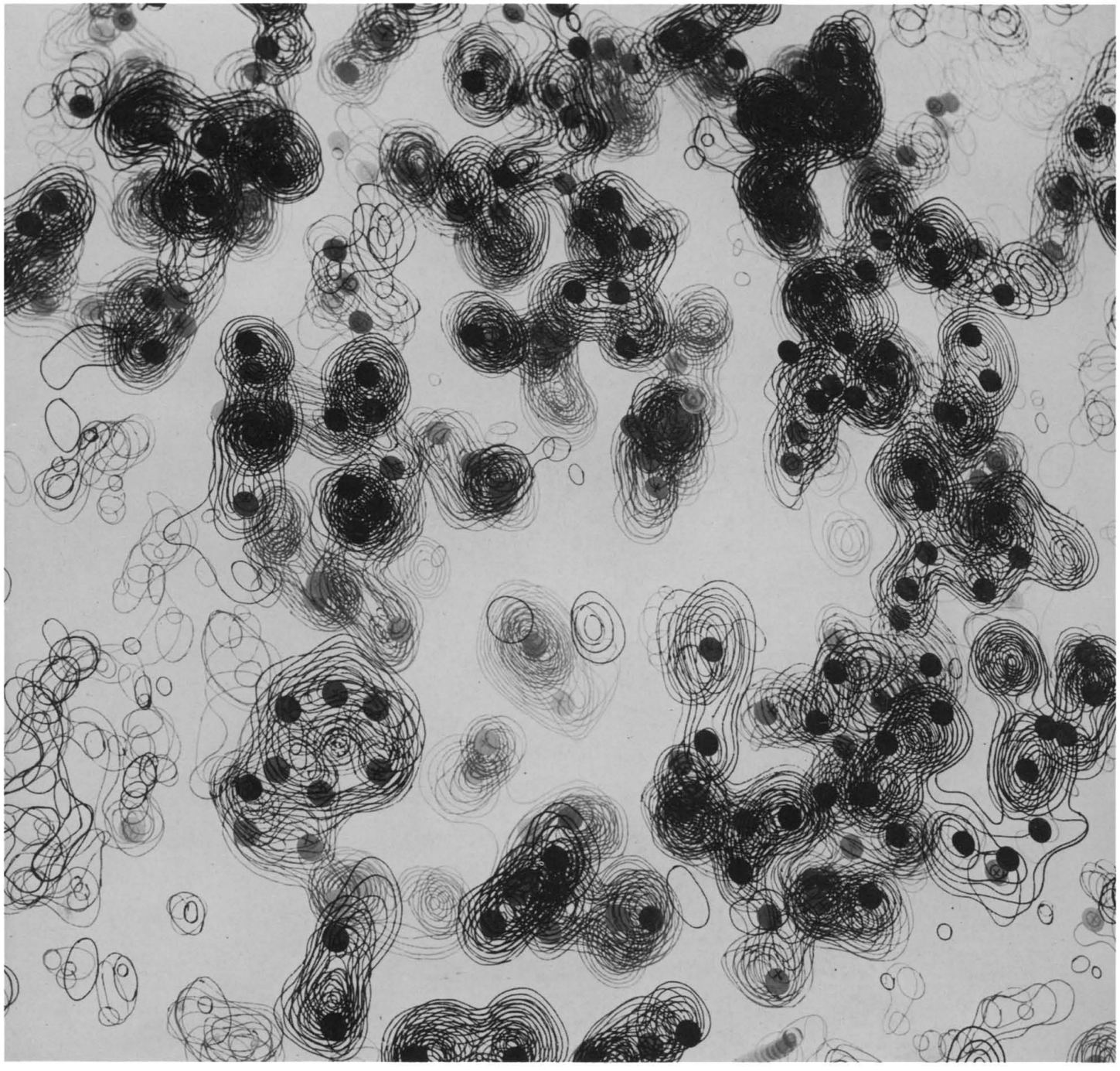
SCIENCE

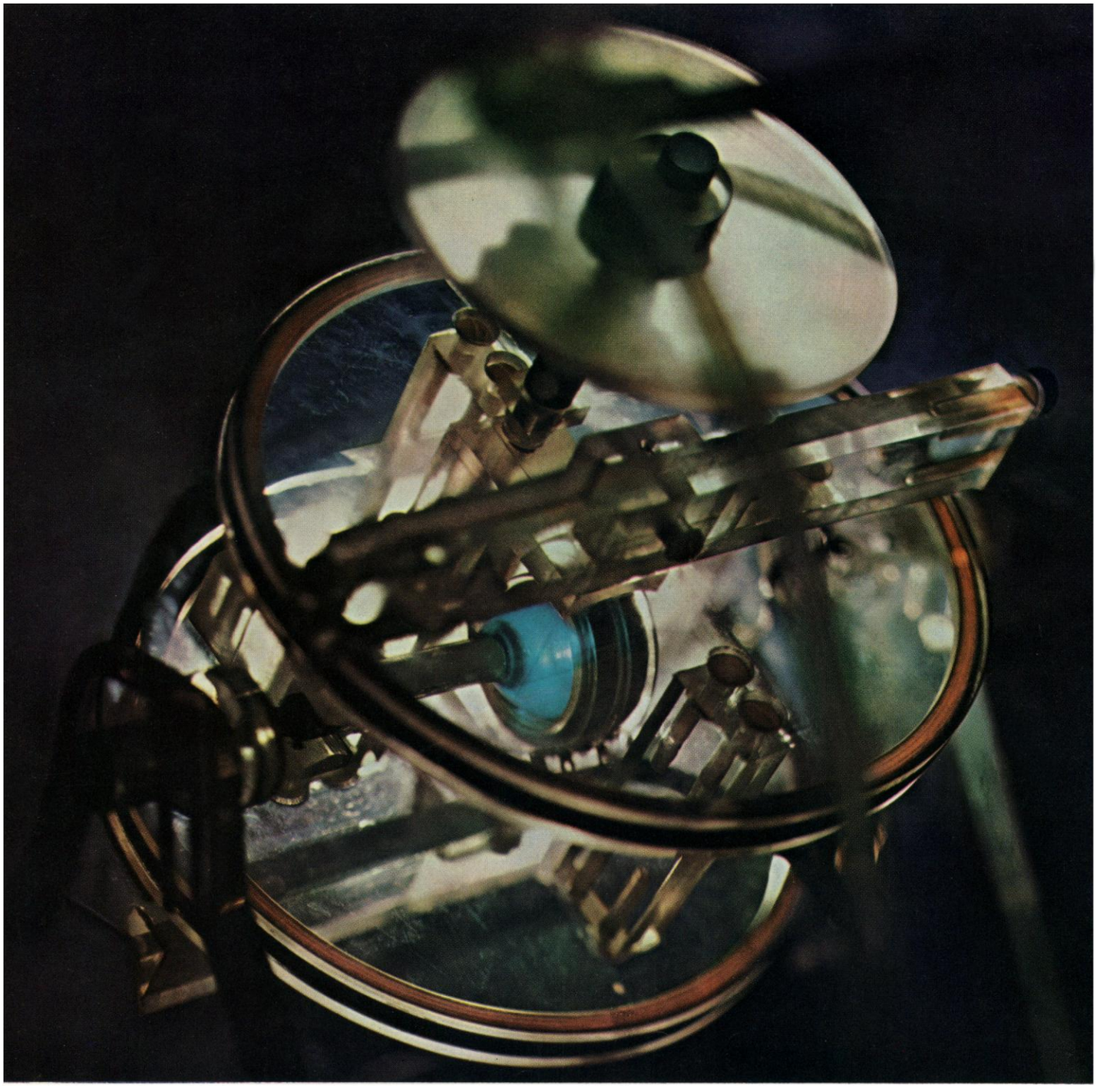
29 March 1963

Vol. 139, No. 3561

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



Index Issue



This is a gyroscope with no wheels, motors, gears, bearings, gimbals, rotors, springs or bushings.

The first magnetic induction nuclear gyroscope: a laboratory model, but functional enough to prove that the principle works. Its descendants are expected to be the most precise and dependable navigation instruments ever devised.

It has a heart of water, contained in a small glass sphere. Electrical coils around the sphere align the water's nuclear particles like bar magnets. When the gyro's orientation is changed, these particles are disturbed. They emit a faint current, which signals the change . . . with fanatical accuracy.

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The one above was built under Republic's independent research and development program, and tested under Bureau of Naval Weapons sponsorship.

Tomorrow its descendants will guide men who travel on the sea . . . under it . . . in the earth's atmosphere . . . and beyond.

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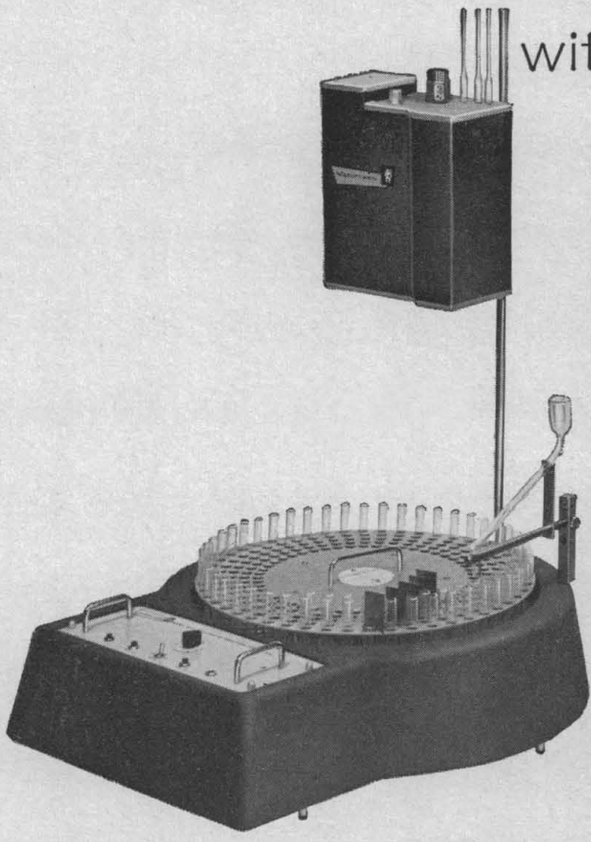
monitoring UV ...across the spectrum with just a turn of a **DIAL**



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Vol. 139, No. 3561

SCIENCE

SCIENCE is published weekly by the American Association for the Advancement of Science, 1515 Massachusetts Ave., N.W., Washington 5, D.C. Now combined with **The Scientific Monthly** ®. Second-class postage paid at Washington, D.C.

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COVER

Part of the Fourier synthesis (resolution 1.4 angstroms) of the structure of the myoglobin molecule. Left center, a tryptophan residue; to the left, a liquid region between two molecules. See page 1259.

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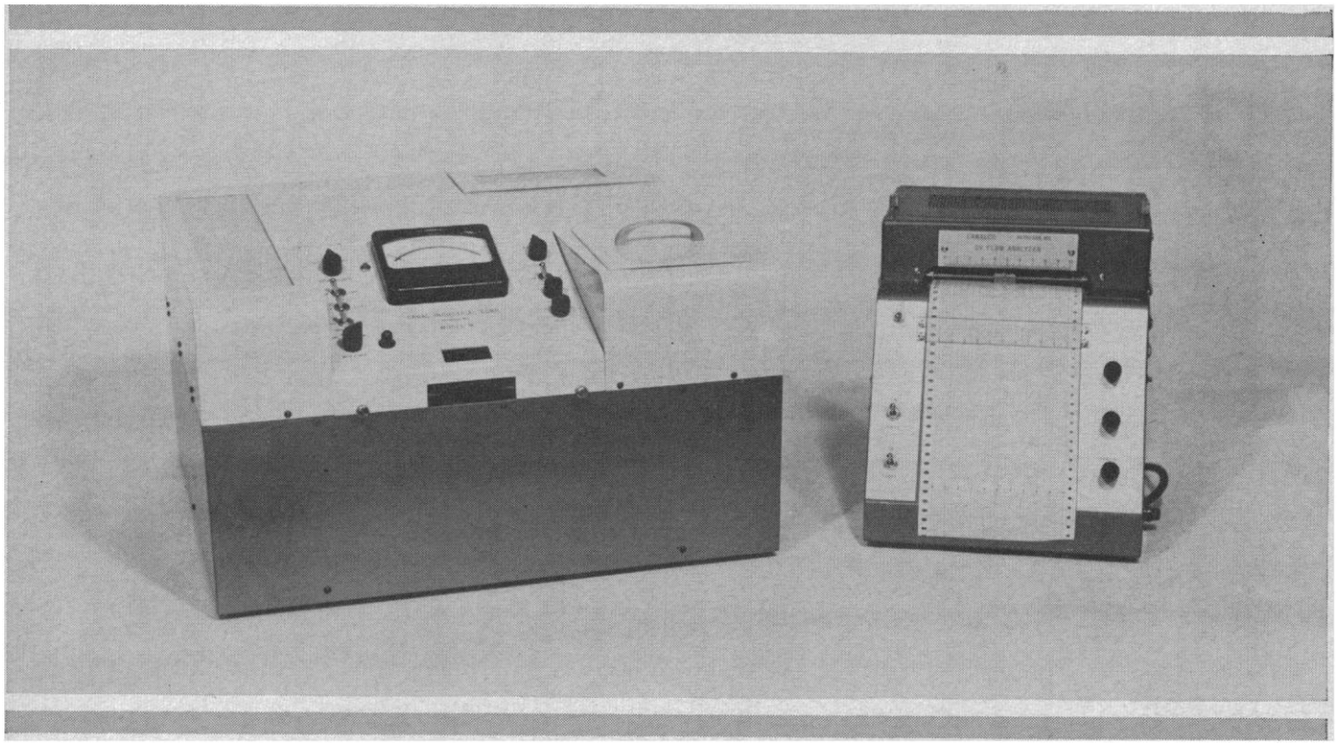

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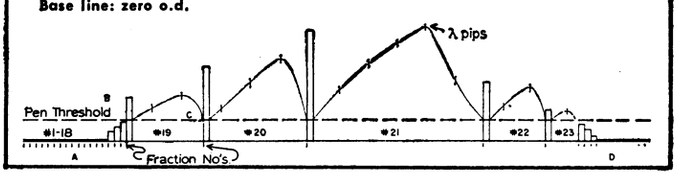

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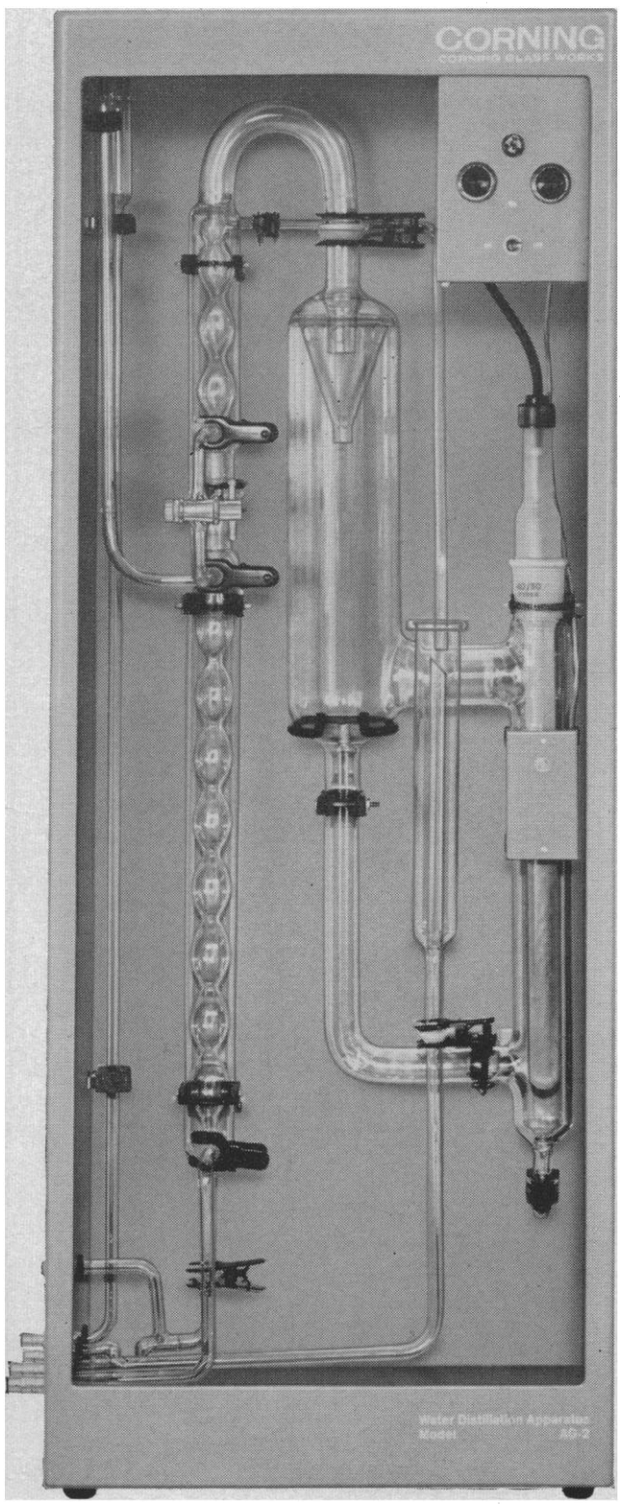

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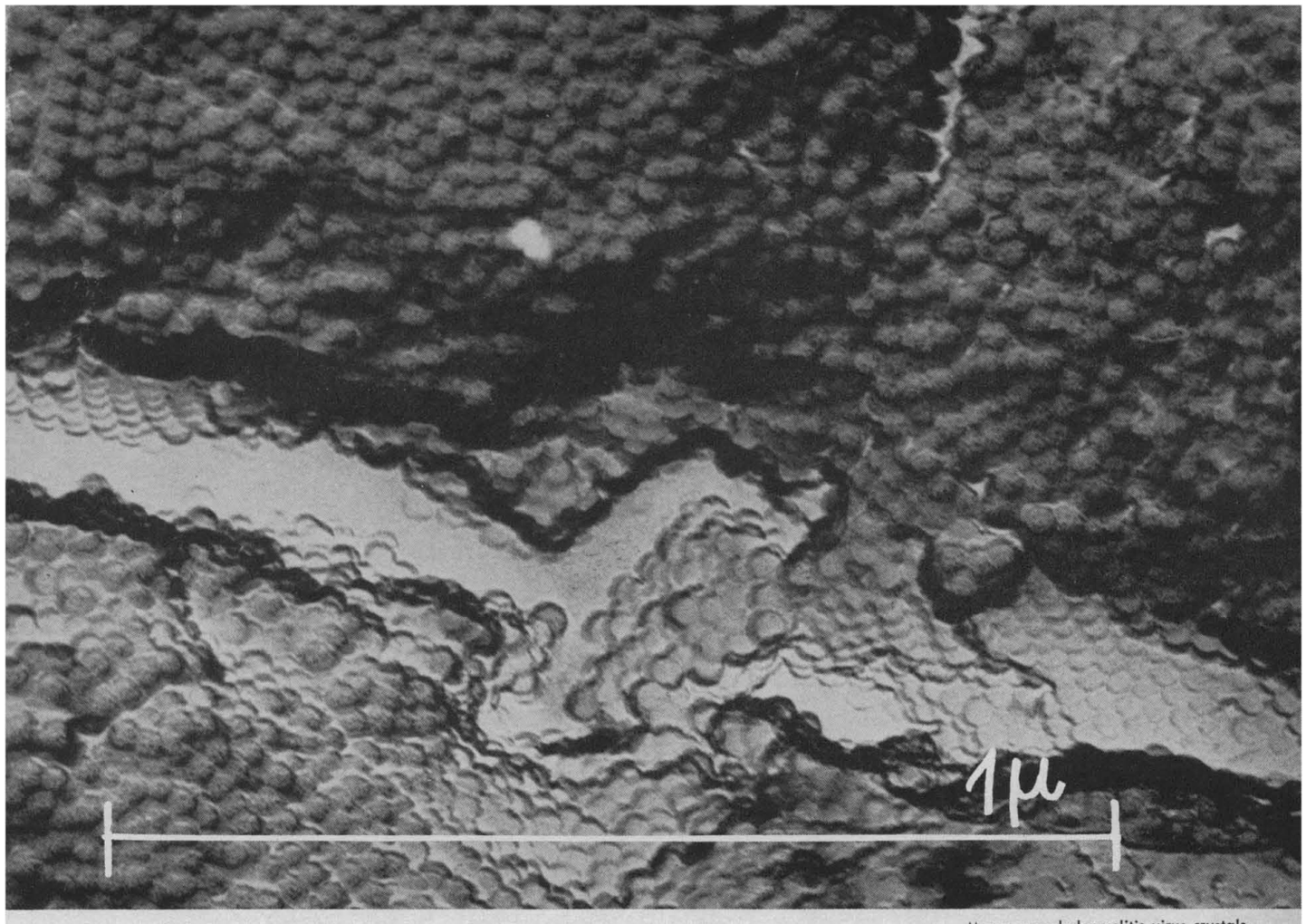

Mouse encephalomyelitis virus crystals.

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The new Carl Zeiss Electron Microscope EM-9 can easily be operated by the scientist or the technician. Everything has been done to safeguard against operational errors. The entire control system is set up so that every essential control for manipulating the instrument is right at hand. Two operators can sit comfortably and observe the image on the luminescent screen through any one of three windows. The screen image can also be viewed through a microscope having a magnification of 10x.

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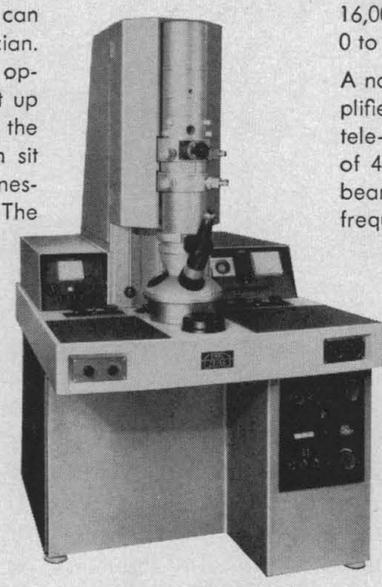
The image-forming system uses three electromagnetic-type electron lenses: the objective, intermediate lens and projector. The objective is equipped with an electrostatic correction system known as the "Stigmator." Distortion-free electron micrographs can be made in four fixed steps. 1500x, 5000x, 16,000x and 35,000x. Continuous magnification from 0 to 35,000x is also possible.



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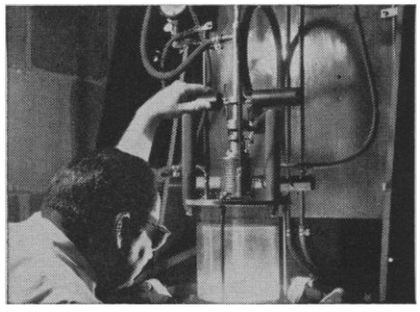
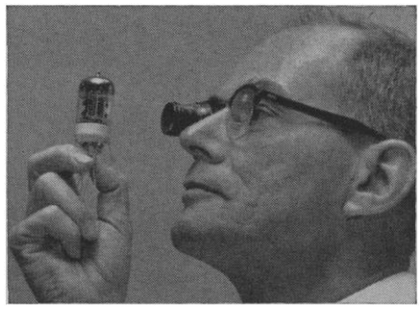


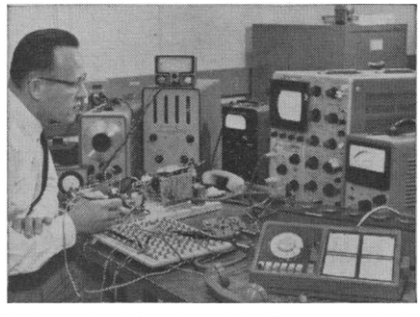
Murray Hill Laboratory, N. J. The search continued for new materials exhibiting superconductivity. Some of these materials have been used to produce very strong magnetic fields with the expenditure of very little electrical energy.



Allentown Laboratory, Pa. We were working with engineers of Western Electric, manufacturing unit of the Bell System, on the manufacture of long-life electron tubes for a new deep sea cable system.

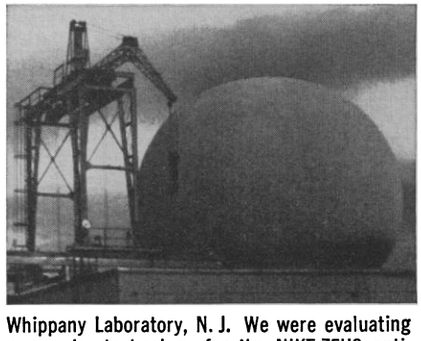
Merrimack Valley Laboratory, Mass. We were increasing the capabilities of a new microwave system designed for low-cost telephone and television communications over distances up to 200 miles. This system is based on advances in solid state technology.

Holmdel Laboratory, N. J. We were developing an electronic switching system using new solid state devices. It will bring telephone customers a whole new range of services.

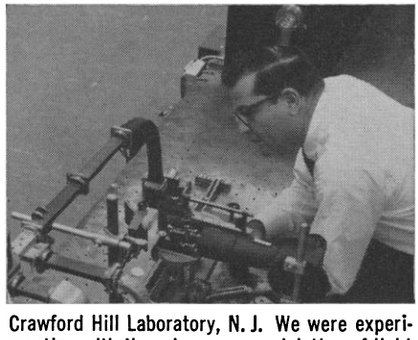


Indianapolis Laboratory, Ind. We were perfecting improved automatic dialer telephones. One model will permit the customer himself to record 50 frequently called names and numbers and then dial by simply selecting a name and pressing a button.

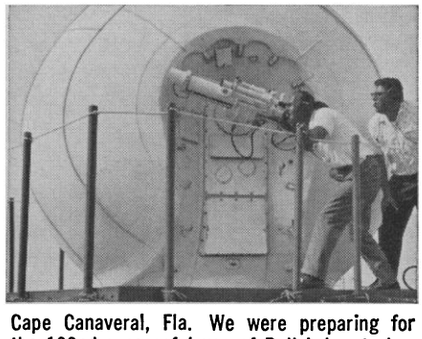
New York Laboratory, N. Y. We were studying the performance of a new data set which converts teletypewriter pulses into tones for transmission over regular voice circuits. Transmitting teletypewriter messages over voice circuits was introduced on August 31, 1962.



Whippany Laboratory, N. J. We were evaluating new radar technology for the NIKE-ZEUS antimissile missile system under development for the Army. Significant improvements are further tested at four other ZEUS test sites ranging halfway around the world.



Crawford Hill Laboratory, N. J. We were experimenting with the microwave modulation of light from a helium-neon gaseous optical maser. Modulated light may someday be used to carry large volumes of information.



Cape Canaveral, Fla. We were preparing for the 102nd successful use of Bell Laboratories-developed Radio Command Guidance System. On July 10, it was used in the NASA launching of the Bell System's Telstar. This guidance system was originally developed for the Air Force and is operational on the Titan I ICBM.

These were some of the highlights of one day. Engineers and scientists at Bell Laboratories work in every field that can benefit communications and further improve Bell System services. Their inquiries range from atomic physics to new telephone sets, from the tiny transistor to transcontinental radio systems, from the ocean floor to outer space.

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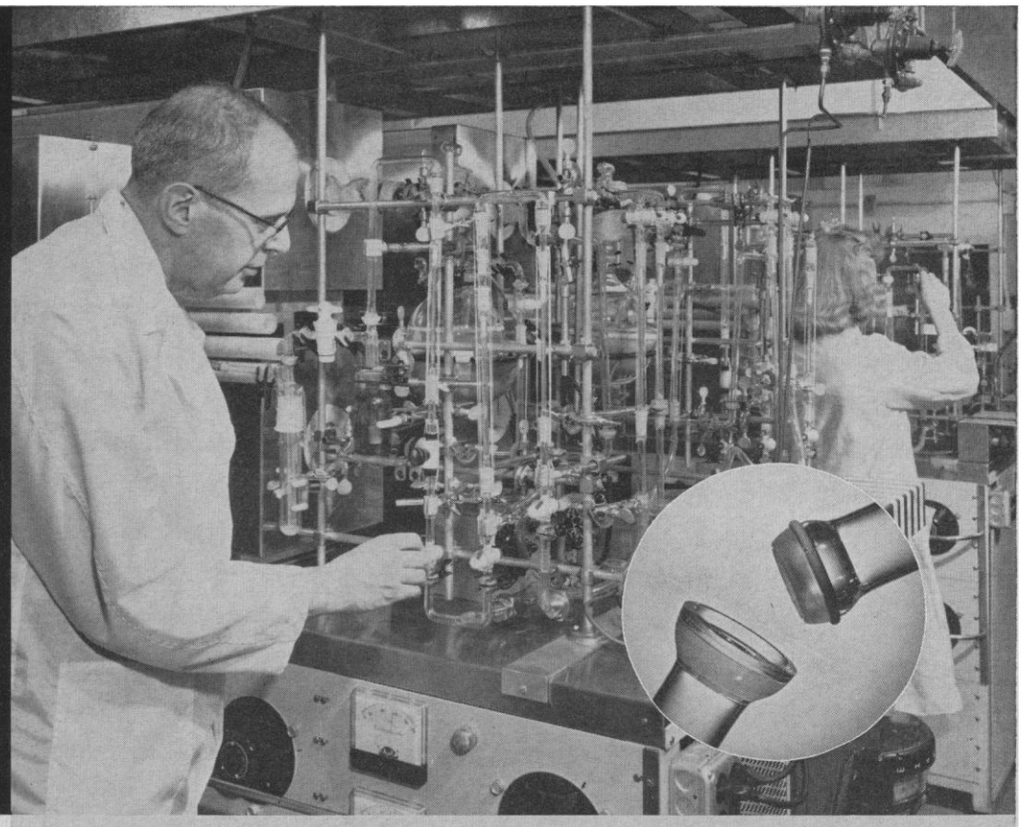

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*Patent Applied For †DuPont Trademark

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Ball, each	$2.09	$2.09	$1.76	$1.76	$1.82	$1.82
Socket, each	2.48	2.48	1.98	1.98	2.04	2.04
Complete	4.57	4.57	3.74	3.74	3.86	3.86

No.	28/12	28/15	35/20	35/25	50/30	65/40
Ball, each	$2.09	$2.09	$2.48	$2.48	$3.85	$6.33
Socket, each	2.31	2.31	2.70	2.70	4.24	6.44
Complete	4.40	4.40	5.18	5.18	8.09	12.77

JJ-3755X "HVS" JOINTS. Inner member supplied with "Buna-N" O-Ring. Please specify catalog number and size:

No.	10/18	12/18	14/20	19/22	24/25	29/26
Inner, each	$1.50	$1.50	$1.40	$1.50	$1.60	$1.80
Outer, each	1.70	1.70	1.65	1.75	1.85	2.00
Complete	3.20	3.20	3.05	3.25	3.45	3.80

No.	34/28	40/35	45/35	55/35	71/40
Inner, each	$2.25	$2.75	$3.45	$4.50	$6.15
Outer, each	2.50	3.30	3.85	5.10	7.00
Complete	4.75	6.05	7.30	9.60	13.15

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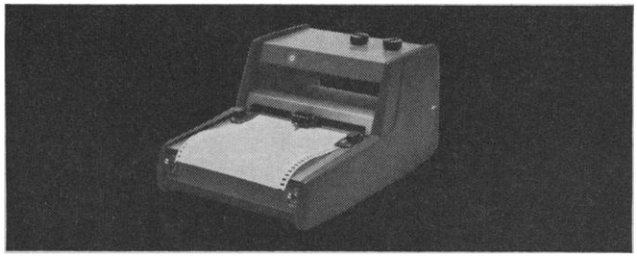
(the G-14) EVEN BETTER (by adding an integrator)

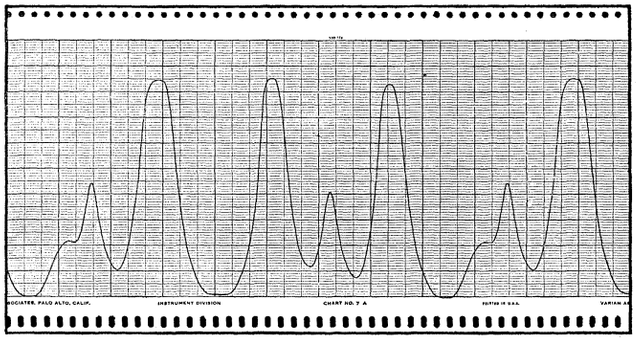


THIS IS THE GOOD RECORDER

Varian's newest graphic recorder, the G-14. It's a versatile, solid-state laboratory unit. It has some significant advancements covering a broad spectrum of recording applications: one-millivolt span, continuous electronic reference voltage, fully transistorized circuitry, excellent accuracy, fast pen speed, and freedom from effects of external transients.

Turn the G-14 on—it's ready to record. The chart may be manually advanced, instantly inspected, and easily marked and torn off. New chart rolls can be installed in 15 seconds. Unique pen design insures smooth performance at all writing speeds.

Dual chart speeds and four input ranges are standard. One full-scale width of true zero suppression is available in addition to the full-scale adjustment of the zero point. Optional equipment includes event markers and spare chart motor assemblies.



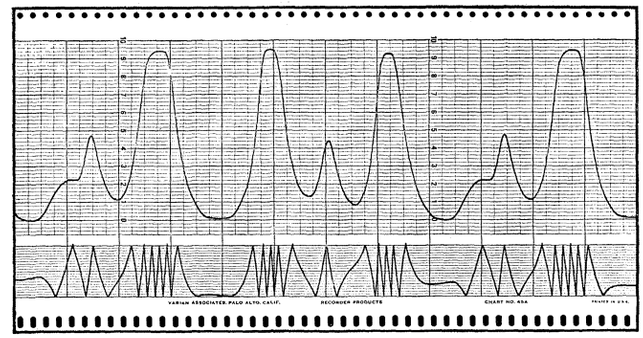
This is a sample of a standard five-inch chart from the G-14. Neat, clean, easy to read... tells the whole story. Accurately. Graphically. Varian's unique design and standard of excellence make the G-14 the most versatile solid-state recorder in the business. And that's very good.

G-14 SPECIFICATIONS	
Spans:	1, 10, 100 mv and 1v, instantly selectable
Accuracy:	1% on 1 mv span; ½% on other spans
Pen Speed:	0.6 seconds full scale
Chart Drive:	Dual speeds; 15 choices from 1" /hr to 16" /minute
Weight:	13 pounds; 15 pounds with integrator
Bench Space Required:	9⅜" x 13½"; 13⅜" x 13½" with the integrator
INTEGRATOR SPECIFICATIONS	
Accuracy:	± 0.1% of full scale
Count Rate:	1 to 30,000 counts per minute

G-14 Recorder with Disc Model 214 Integrator... Base Price.....$1295.00
Disc Model 214 Integrator, factory-installed on G-14 Recorders now in service... Base Price.....$ 660.00
G-14 Recorder alone... Base Price.....$ 685.00

NOW FOR THE BETTER PART

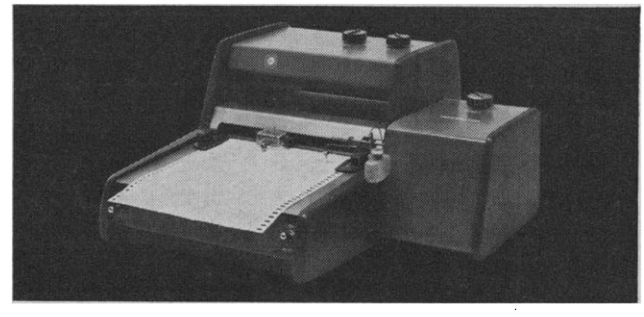
Look at this chart. It's different. It was made on the same model recorder equipped with a mechanical integrator made by Disc Instruments, Inc. and factory-installed by Varian. For accurately interpreting chart curves, this unit provides the important difference between a good close guess and the good measureable facts. With integrator, the G-14 automatically computes the area under a strip chart curve and presents this information continuously on the same chart. This means the G-14 can produce quantitative as well as qualitative records.



USEFUL APPLICATIONS: Gas Chromatography analysis • X-ray diffraction work • Flow measurement and integration • Temperature, sun radiation averaging • Averaging electric power • Weighing materials carried by conveyor belts • Measuring electrical charge (current integration) • Undoubtedly there are other applications unique to your laboratory's experimental work.

The G-14 is modified by externally mounting the integrating attachment on the right-hand side of the recorder. The attachment is housed in a metal cover which matches the G-14 case. The integrator readout pen covers 1" of the chart width on the right-hand side, with 3.5" of the chart available for a full-scale deflection of the main recording pen.

The integrator-equipped recorder meets all G-14 performance specifications with one exception: Pen travel is reduced from 5" to approximately 3.5" so that recorder range, zero adjustment, and pen response speeds apply to a 3.5" full scale width. The Disc Model 214 Integrator may be factory-installed on G-14 Recorders now in service. Write Recorder Products for complete specifications.



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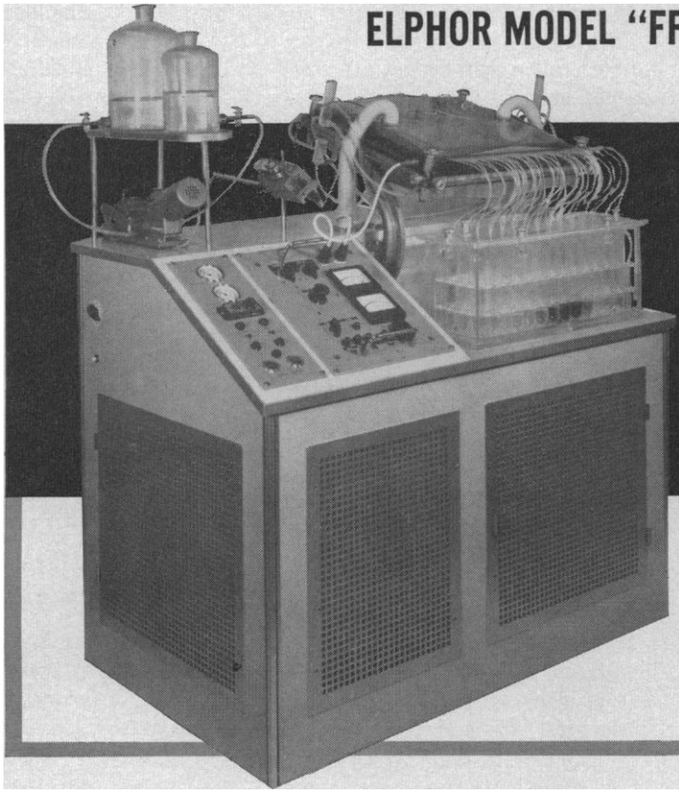
THE FIRST FREE FLOW ELECTROPHORETIC SEPARATOR

ELPHOR MODEL "FF" ELECTROPHORESIS APPARATUS



NOW SEPARATE 50* ML PER HOUR — 10 GRAMS DRY WEIGHT PER DAY

*Up to 100 ML per hour under optimum conditions.

The model "FF" is the most efficient continuous flow electrophoretic separator because it is based on the unique principle of separation in a free-flowing buffer film between two glass plates which form the chamber and without other carrier medium — no paper, starch, gel or glass beads.

MAJOR ADVANTAGES INCLUDE:

- Greater throughput volume than any similar system
- Separations of all molecular weights, which are limited or impossible with similar apparatus can be handled, including viruses, dissolved protein fibers, bacterial suspensions and others
- 48 or 96 collection tubes
- 100% recovery of sample; permits use of very small samples
- No interaction between carrier and sample
- Extremely uniform field potential eliminates diffusion problems.
- Faster changeover—ten minutes for sample; thirty minutes for buffer wash
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- Unmatched reproducibility and control of operating conditions by cooling of chamber, dosaging and collection systems through integrated refrigeration circuit.

For further information and complete descriptive literature on the Elphor "FF" contact:

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BRINKMANN INSTRUMENTS, INC., 115 CUTTER MILL ROAD, GREAT NECK, N.Y.

29 March 1963, Volume 139, Number 3561 **SCIENCE**

The Roots of Scientific Integrity

Part of the strength of science is that it has tended to attract individuals who love knowledge and the creation of it. Just as important to the integrity of science have been the unwritten rules of the game. These provide recognition and approbation for work which is imaginative and accurate and apathy or criticism for the trivial and inaccurate.

The scientist can find many satisfactions from a new discovery. First there is growing recognition of a new truth. This is the most exciting and personally rewarding period. In contrast, the necessary confirmatory work is likely to be drudgery. Another reward can be the approbation which may attend revealing the new truth to professional colleagues. Later comes publication, followed by requests for reprints. To receive a note of appreciation from an unknown reader half-way around the world is a warming experience. Ultimately it is possible to see the truth incorporated in textbooks as a fully recognized part of the intellectual treasure of mankind.

The rewards have added significance insofar as they are in contrast to the punishments for failure. If success in research comes after a period of barrenness, the accomplishment seems even more exciting. If one has given a talk which has drawn half-hearted response or overt criticism, he values good response more highly. After a manuscript has received a scorching review, smooth acceptance on another occasion seems worth a celebration. Those who have published work rightfully castigated for inaccuracies not only experience acute discomfort but serve as a warning example to others.

The quiet personal satisfactions of work in the laboratory are important to the individual. Research, however, is just a pleasant hobby unless its results are evaluated and incorporated into the total body of knowledge. Thus it is the communication process which is at the core of the vitality and integrity of science.

Scientific meetings are often thought of as means of learning of new developments. There is another aspect fully as important which usually is overlooked. That is the effect of a verbal presentation on the speaker himself. If the event is definitely scheduled some time in advance, the impending occasion can act as a tremendous stimulus. It can cause the investigator to focus more sharply on a particular area. As the time approaches he tends to devote his waking hours either to research or to thinking about his topic. He is likely to consider very deeply the limits and certainty of his knowledge, to tighten his self-discipline, and to do crucial experiments which he has not thought of before or has only considered half-heartedly.

A similar series of effects accompanies the writing of a scientific paper. The author quickly discovers how little he knows, the gaps which must be filled.

The system of rewards and punishments tends to make honest, vigorous, conscientious, hard-working scholars out of people who have human tendencies of slothfulness and no more rectitude than the law requires.

When the game is played under different rules in an arena such as politics, it should not be surprising that the performance of scientists sometimes leaves something to be desired.—P.H.A.

Precise measurement of radioactivity in gas chromatography effluents

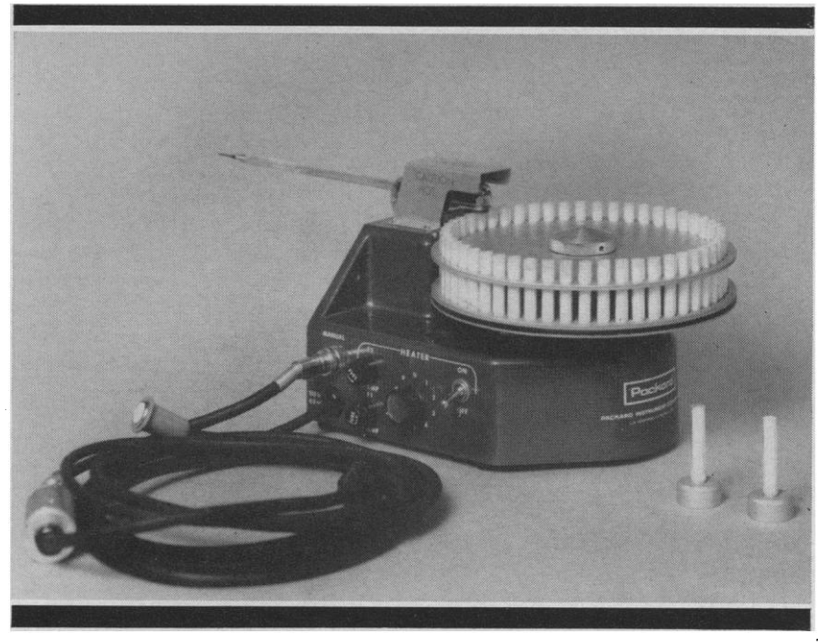
The Packard Model 830 Tri-Carb® Gas Fraction Collector enables quantitative collection of the individual organic components in a gas chromatographic effluent stream. It is suitable for use with any gas chromatograph using a non-destructive mass detector. Precise measurement of the radioactivity in component peaks can be made after collection.

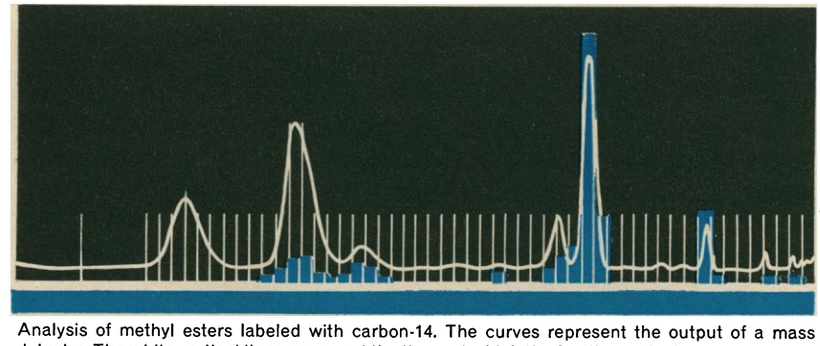
An 8″ diameter turntable holds up to 50 Tri-Carb Cartridges, each packed with silicone-coated scintillation crystals. Vapors leaving the gas chromatography mass detector pass through the heated gas injection nozzle of the collector and condense on the coated surfaces of the scintillation crystals. Cartridges may be changed by actuating a pushbutton or automatically according to a preset time. Changing takes only a fraction of a second.

After sample collection, the cartridges are counted in an Automatic Tri-Carb Liquid Scintillation Spectrometer. No sample preparation is necessary.

Counting efficiency for C^{14} is over 50% and backgrounds are extremely low. Consequently, even peaks with very low activity can be accurately measured in short counting periods.

For more information call your local Packard Sales Engineer—or write for descriptive literature.





Analysis of methyl esters labeled with carbon-14. The curves represent the output of a mass detector. The white vertical lines represent the times at which the fraction collector was actuated. The bar graph represents the radioactivity in each fraction in counts per minute, determined by a 10-minute count. *(Ref.: Journal of Lipid Research 3, No. 1, 44, January, 1962)*

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Meetings

Ethnic Minorities around the World

Discrimination, segregation, and persecution and the groups affected by such actions were the timely topics discussed at the two-part symposium of the Anthropology Section (H) at the Philadelphia AAAS meetings (27 December).

With the possible exception of Kenneth Clark, the panelists agreed that the predominant external variables controlling most ethnic minority situations are not psychological or even cultural, in the ideological sense, but are factors based upon concrete economic and political conditions. Clark, however, preferred to view the Negro-white situation in the United States primarily as a clash between American values and social realities. This clash he regards as rooted in the historical situation which produced the contemporary white population of the United States as a collection of minorities, many of whom immigrated to this country to escape persecution or to seek a better economic status. Despite its ideals of equality, Clark feels that American society is rigorously class divided; intense competition between social segments provides a special role for Negroes, whose outcast status automatically supplies the larger hierarchical society with a "bottom rung" but in so doing does so at the terrible and mounting cost of total alienation of the Negro population.

Although they did not discuss the subject, the participants implicitly accepted a definition, proposed by Wagley and Harris, which regards a minority as an endogamous descent group whose members are subject to persecution, segregation, or other discriminatory action; its size may vary from a few members to a mathematical majority, as in Mozambique. Most of the minorities considered at this session were comprised of impoverished, economically marginal populations, such as the aboriginal Australians, represented by the Tiwi; the Canadian Eskimo; and the American Indian, represented by the Winnebago. The last group presents an interesting case because it is beginning to achieve effective political combination which is enabling it to press its demands. However, half a world away, in Portuguese Africa, the growing political awareness of the people of Mozambique and Angola is not leading to amelioration of the conditions of colonial rule, but, if anything, is leading to increased repression and further limiting of opportunities for the members of the numerically dominant but politically and economically weak minority. Mondlane, in presenting this information, corrected the widely held view that Portuguese colonial relations are different and special. Though frequently couched in nonracial terms, discriminatory conditions prevail which are comparable to the worst offered by South Africa. This general theme was also treated by Harris, who has done research both in Mozambique and Brazil. Addressing himself to the latter, he showed that race relations could be readily subsumed under the rubric of class relations. One of the most interesting of his points has to do with the contrast between the estimation of race in the United States and Brazil. This country is fairly rigorous in applying the rule of descent; the child of one Negro parent, whatever the race of the other parent, is always considered basically a Negro. In Brazil racial identification is made on the basis of a combination of criteria, some having to do with individual phenotype and others with cultural characteristics, such as occupation. In the United States we are accustomed to think that siblings must be of the same race. Harris showed that in Brazil it is quite possible for two brothers to be considered of different race, even by the people among whom they were born and raised.

The question of the relationship between minority group status and racial discreteness (visibility) is often obscured because many of the most dramatic minority-majority situations feature clear-cut physical differences between the populations. Donaghue is studying this problem under conditions which enable us to begin to hold constant the fact of obvious racial difference. He showed that the 2 to 3 million Japanese who are known as Eta, and who are physically indistinguishable from non-Eta Japanese, are subjected to discrimination of a distinctly racist kind; they are depicted in the larger society by stereotypes and myths resembling nothing so much as the racial stereotypes in the United States. Cases such as those of the Eta and the Chinese in Southeast Asia, where "racism" exists in the absence of racial differences, throw doubt on the notion

that physical differences are in any sense the cause of discrimination and prejudice.

Skinner noted certain kinds of minorities whose positions in society are rather different from most of those mentioned or implied so far. These comprise enclaves of alien ethnic population, the major portion of whom are involved in commerce or industry and many of whom fare well economically though they are rarely able to translate this success into political security or power. Such groups include some of the overseas Chinese in Southeast Asia and groups of Africans living in West African cities amid dominant populations of different ethnicity. The similarity of the social problems faced by these widely separated groups was noted. At the root of their presently exacerbated situation is the ending of colonial rule. When the new nations attain independence, there frequently develops a parallel attempt to build up an indigenous commercial and industrial group slated to replace the older population which performed these functions—a population that was often an alien minority developed and maintained by the colonial forces. However, in lieu of complete replacement of such groups, the new government seeks to obtain their loyalty; for the alien group this often means forswearing old identities and allegiances and adopting new citizenship.

MORTON H. FRIED
Columbia University

Forthcoming Events

April

27. American Soc. for **Experimental Pathology**, Atlantic City, N.J. (K. M. Brinkhous, Dept. of Pathology, Univ. of North Carolina, Chapel Hill)

27. Clinical and Diagnostic Aspects of **Enzyme Multiplicity**, colloquium, Ghent, Belgium. (R. J. Wieme, Laboratory of the Medical Clinic, Pasteurdreef 2, Ghent)

27–28. American **Psychosomatic** Soc., 20th, Atlantic City, N.J. (APS, 265 Nassau Rd., Roosevelt, N.Y.)

27–2. American **Ceramic** Soc., Pittsburgh, Pa. (C. S. Pearce, ACS, 4055 N. High St., Columbus 14, Ohio)

28–3. American Assoc. of **Cereal Chemists**, Minneapolis, Minn. (C. L. Brooke, Merck & Co., Rahway, N.J.)

28–29. **Electron Beam Technology**, 5th intern. symp., Boston, Mass. (J. R. Morley, Alloyd Electronics Corp., 35 Cambridge Pkwy., Cambridge 42, Mass.)

29–30. **Combustion** Inst., Western States Div., San Diego, Calif. (G. S. Bahn, 16902 Bollinger Dr., Pacific Palisades, Calif.)

29–1. International Acad. of **Pathology**, 52nd, Cincinnati, Ohio. (F. K. Mostofi, Armed Forces Inst. of Pathology, Washington 25)

29–2. U.S. Natl. Committee, Intern. **Scientific Radio** Union, annual, Washington, D.C. (Miss J. Hannaum, Natl. Acad. of Sciences, 2101 Constitution Ave., NW, Washington 25)

29–3. Society of **Photographic Scientists and Engineers**, annual, Atlantic City, N.J. (D. L. Castellini, 98 Leland Terrace, New Shrewsbury, N.J.)

May

1–3. American Assoc. for **Contamination Control**, natl., Boston, Mass. (AACC, 6 Beacon St., Suite 626, Boston 8)

1–3. **Mechanics**, 8th midwestern conf., Cleveland, Ohio. (S. Ostrach, Case Inst. of Technology, University Circle, Cleveland 6)

1–3. **Polymer** Science and Technology, conf., London, England. (J. N. Radcliffe, Plastics Inst., 6 Mandeville Pl., London, W.1)

1–4. American **Film Festival**, New York, N.Y. (Educational Film Library Assoc., 250 W. 57 St., New York 19)

2–3. **Human Factors in Electronics**, 4th annual symp., Washington, D.C. (F. Chernikoff, U.S. Naval Research Laboratory, Code 5124, Washington 25)

2–4. Kansas **Acad. of Science**, Lawrence. (G. A. Leisman, Dept. of Biology, Kansas State Teachers College, Emporia)

2–4. American **Philosophical** Assoc., Western Div., Columbus, Ohio. (L. E. Hahn, Washington Univ., St. Louis 30, Mo.)

2–4. Virginia **Acad. of Science**, Roanoke. (P. M. Patterson, Hollins College, Hollins College, Va.)

2–5. Council of Long Island **Technical Societies**, exposition of technology and industry, West Hempstead, N.Y. (CLITS, Route 110, Farmingdale, N.Y.)

2–5. Cytoplasmic Streaming, Cell Movement, and Saltatory Motion of **Subcellular Particles**, symp. Princeton, N.J. (R. D. Allen, Dept. of Biology, Princeton Univ., Box 704, Princeton)

3. **Astronomy and the Peaceful Uses of Space**, Evanston, Ill. (J. A. Hynek, Astronomy Dept., Northwestern Univ., Evanston)

3–4. Colorado-Wyoming **Acad. of Science**, Fort Collins, Colo. (R. G. Beidleman, Dept. of Zoology, Colorado College, Colorado Springs)

3–4. **Endocrinology**, 2nd intern. congr., London, England. (A. S. Mason, London Hospital, Whitechapel, London, E.1)

3–4. Minnesota **Acad. of Science**, St. Paul. (M. R. Boudrye, 1821 University Ave., St. Paul 4)

3–4. Nebraska **Acad. of Sciences**, Lincoln. (C. B. Schultz, 101 Morrill Hall, Univ. of Nebraska, Lincoln 8)

3–4. North Dakota **Acad. of Science**, Grand Forks. (B. G. Gustafson, University Station, Grand Forks)

3–5. **Protides of the Biological Fluids**, 11th colloquium, Bruges, Belgium. (H. Peeters, St. Jans Hospital, Bruges)

3–5. Wisconsin **Acad. of Sciences, Arts and Letters**, Milwaukee. (T. J. McLaughlin, Univ. of Wisconsin, Milwaukee 11)

3–6. American **Psychoanalytic** Assoc., St. Louis, Mo. (H. Kohut, 664 N. Michigan Ave., Chicago 11, Ill.)

4–5. International Soc. of **Craniofacial Biology**, annual, Miami Beach, Fla. (S. Pruzansky, Univ. of Illinois, 808 Wood St., Chicago 12)

4–5. Academy of **Psychoanalysis**, annual, St. Louis, Mo. (A. H. Rifkin, 125 E. 65 St., New York 21)

5–7. **Biometric** Soc., eastern North American regional, Cambridge, Mass. (J. Cornfield, School of Public Health, Johns Hopkins Univ., Baltimore, Md.)

5–8. American Inst. of **Chemical Engineers**, Buffalo, N.Y. (F. J. Van Antwerpen, American Inst. of Chemical Engineers, 345 E. 47 St., New York, N.Y.)

5–8. Physical Processes in **Radiation Biology**, intern. symp., East Lansing, Mich. (B. Alderman, Room 24, Kellogg Center, Michigan State Univ., East Lansing)

5–9. American Soc. for **Microbiology**, Cleveland, Ohio. (R. W. Sarber, 115 Huron View Blvd., Ann Arbor, Mich.)

5–9. **Orthodontists**, inter-American meeting, Miami, Fla. (J. A. Salzman, American Assoc. of Orthodontists, 654 Madison Ave., New York 21)

6–10. **Atmospheric and Space Electricity**, 3rd intern. conf., Montreux, Switzerland. (H. R. Byers, Dept. of Geophysical Sciences, University of Chicago, Chicago 37, Ill.)

6–10. American **Industrial Hygiene** Assoc., conf., Cincinnati, Ohio. (G. D. Clayton, 14125 Prevost, Detroit 27, Mich.)

6–10. American **Psychiatric** Assoc., 119th annual, St. Louis, Mo. (R. L. Robinson, APA, 1700 18th St., NW, Washington 9)

7–8. **Histochemical** Soc., 14th annual, Washington, D.C. (M. Wachstein, Dept. of Pathology, St. Catherine's Hospital, Brooklyn 6, N.Y.)

7–9. American Soc. of **Lubrication Engineers**, Chicago, Ill. (M. M. Gurgo, Humble Oil Co., P.O. Box 2180, Houston 1, Tex.)

7–9. **Electronic Components** Conf., Washington, D.C. (Inst. of Radio Engineers, 1 E. 79 St., New York 21)

7–11. East-West **Diabetic Workshop**, 2nd intern., Chicago, Ill. (R. B. Hearst, 55 E. Washington, Chicago 2)

7–27. **World Health** Assembly, 16th, Moscow, U.S.S.R. (WHO, Palais des Nations, Geneva, Switzerland)

8–10. American Inst. of **Chemists**, Philadelphia, Pa. (J. Kotrady, American Inst. of Chemists, 60 E. 42 St., New York 17)

8–12. National **Science Education** Exposition, New Mexico Acad. of Science, Albuquerque. (The Academy, 5900 Domingo Rd., NE, Albuquerque)

9–11. **Aluminum** Conf., Hungarian Mining and Metallurgical Assoc., Budapest. (Hungarian Mining and Metallurgical Assoc., Szabadsag ter 17, III/307, Budapest 5)

9–11. American Inst. of **Industrial Engineers**, natl. meeting, Denver, Colo. (R. Hammond, 345 E. 47 St., New York, N.Y.)

10–11. North Carolina **Acad. of Science**, Greenville. (J. A. Yarbrough, Meredith College, Raleigh, N.C.)

12. American **Pharmaceutical** Assoc., Miami Beach, Fla. (W. S. Apple, 2215 Constitution Ave., NW, Washington, D.C.)

12–13. **Biology** Colloquium, 24th annual, Oregon State Univ., Corvallis. (F. A. Gilfillan, School of Science, Oregon State Univ., Corvallis)

12–14. **Excerpta Medica** Foundation, Amsterdam, Netherlands. (Headquarters, 111, Kalverstraat, Amsterdam)

12–17. American Soc. of **Hospital Pharmacists**, Miami Beach, Fla. (J. A. Oddis, 2215 Constitution Ave., NW, Washington, D.C.)

13–14. National Assoc. of **Boards of Pharmacy**, Miami Beach, Fla. (F. T. Mahaffey, 77 W. Washington St., Chicago 2, Ill.)

13–16. **Histochemistry**, intern. symp., Warsaw, Poland. (H. G. Godlewski, Inst. of Exptl. Pathology, Polish Acad. of Sciences, Dworkowa 3, Warsaw 12)

13–17. American Soc. of **Civil Engineers**, Milwaukee, Wis. (W. H. Wisely, ASCE, 345 E. 47 St., New York 17)

13–17. National League for **Nursing**, Atlantic City, N.J. (NLN, 10 Columbus Circle, New York 19)

13–18. **Condensation Nuclei**, 5th intern. symp., Clermond-Ferrand and Toulouse, France. (H. Dessens, Laboratoire de Physique du Globe, Faculté des Sciences, Univ. de Toulouse, Toulouse)

14–19. **Mass Spectroscopy**, 11th conf., San Francisco, Calif. (N. D. Coggeshall, Gulf Research and Development Co., P.O. Drawer 2038, Pittsburgh 30, Pa.)

15–17. **Transplutonium Elements**, symp., Argonne, Ill. (D. C. Stewart, Chemistry Div., Argonne Natl. Laboratory, 9700 S. Cass Ave., Argonne)

15–18. **Acoustical** Soc. of America, New York, N.Y. (W. Waterfall, American Inst. of Physics, 335 E. 45 St., New York 17)

16–17. **Aromatic Biosynthesis and Metabolism**, Saskatoon, Canada. (A. J. Finlayson, Prairie Regional Laboratory, National Research Council, Saskatoon)

16–17. Metallurgical Problems in **Electronic Technology**, New England regional conf., Boston, Mass. (Metallurgical Soc. of the American Inst. of Mining, Metallurgical, and Petroleum Engineers, 345 E. 47 St., New York 17)

16–18. International Assoc. for **Bronchology**, 13th congr., Zurich, Switzerland. (E. Steinmann, Tödstr. 36, Zurich 2)

16–18. **Diabetology**, 4th, Paris, France. (M. Rathery, Hotel-Dieu, Place du Parvis Notre Dame, Paris 4)

17–18. **Surface Physics**, symp., Pullman, Wash. (E. E. Donaldson, Dept. of Physics, Washington State Univ., Pullman)

18. Southern California **Academy of Sciences**, Los Angeles. (G. Sibley, Los Angeles County Museum, 900 Exposition Blvd., Los Angeles 7)

19–24. **Mass Spectrometry** and Allied Topics, 11th annual conf., San Francisco, Calif. (N. D. Goggeshall, Gulf Research & Development Co., P.O. Drawer 2038, Pittsburgh 30, Pa.)

20–22. Institute of Radio Engineers, Professional Group on **Microwave Theory and Techniques**, symp., Santa Monica, Calif. (I. Kaufman, Space Technology Laboratories, Inc., 1 Space Park, Redondo Beach, Calif.)

20–23. **Humidity and Moisture**—Mea-