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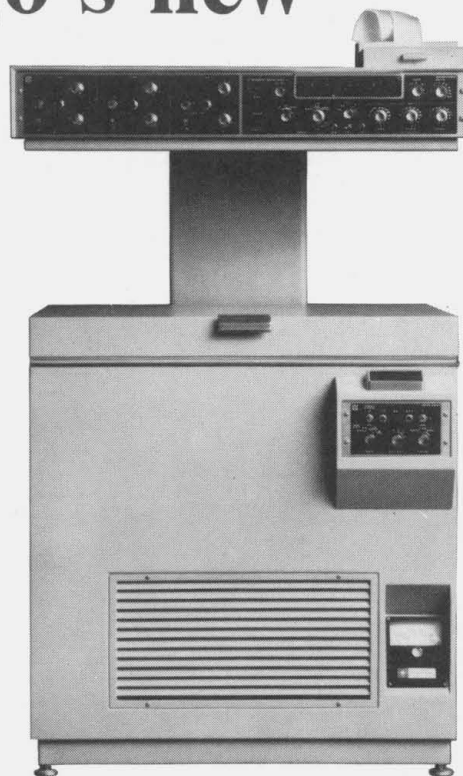
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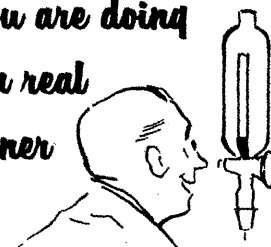
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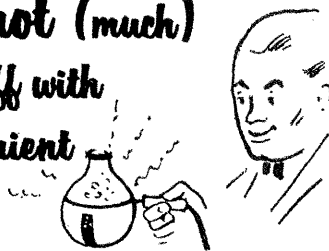
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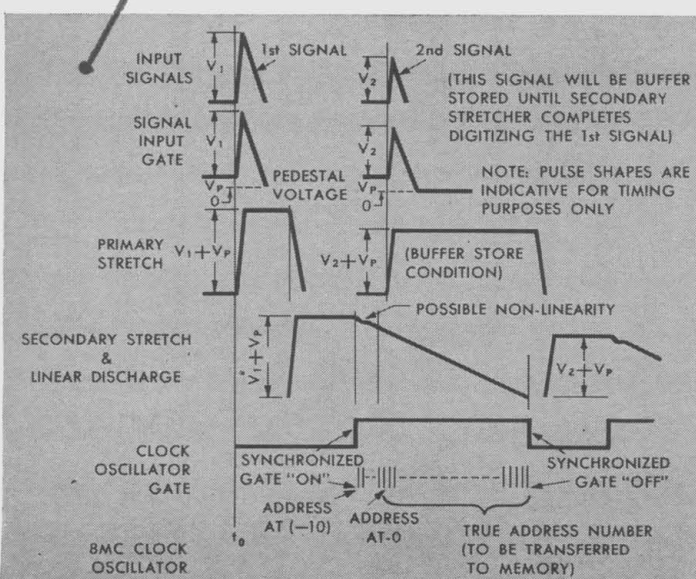
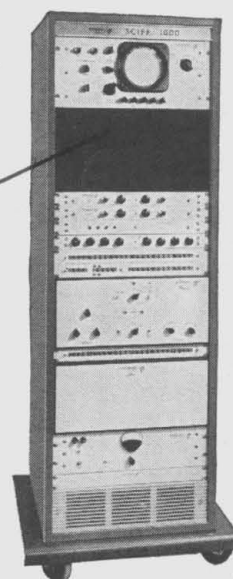
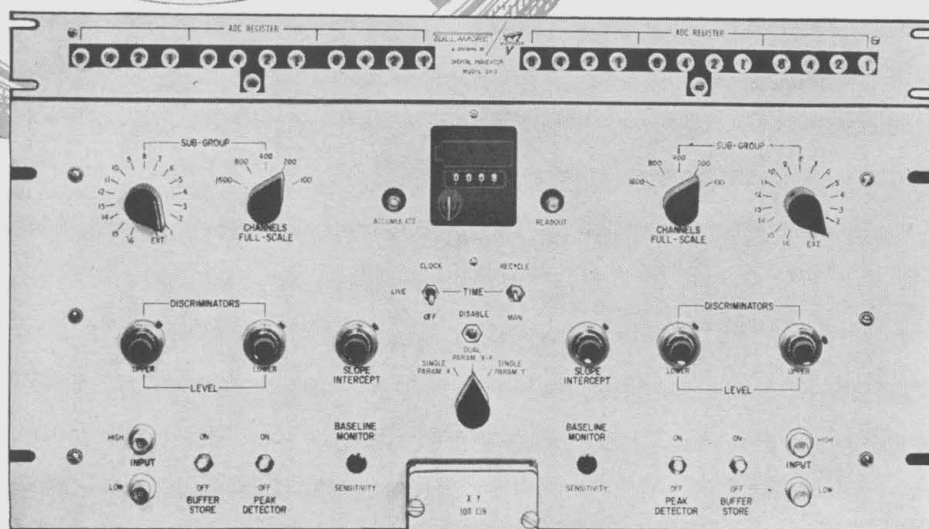
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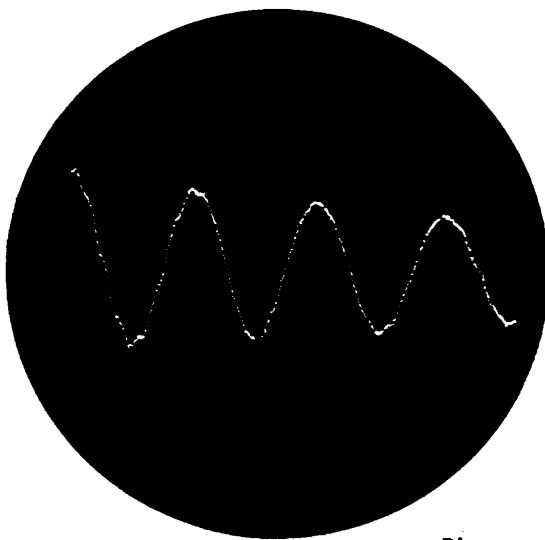
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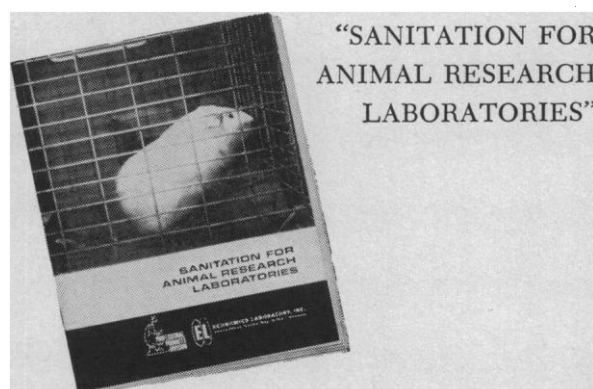
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INPUT IMPEDANCE (to common)  $> 10^{12} \Omega$

CURRENT NOISE ....  $< 10^{-13}$  amp.

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DELIVERY ..... From Stock

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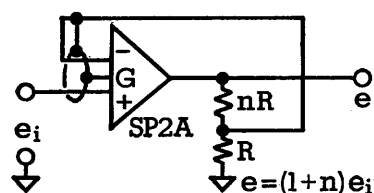
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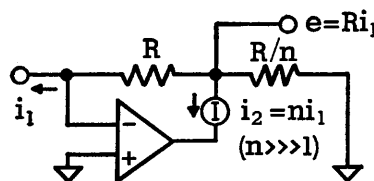
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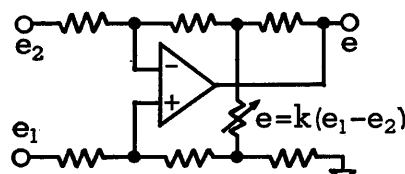
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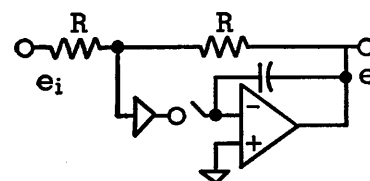
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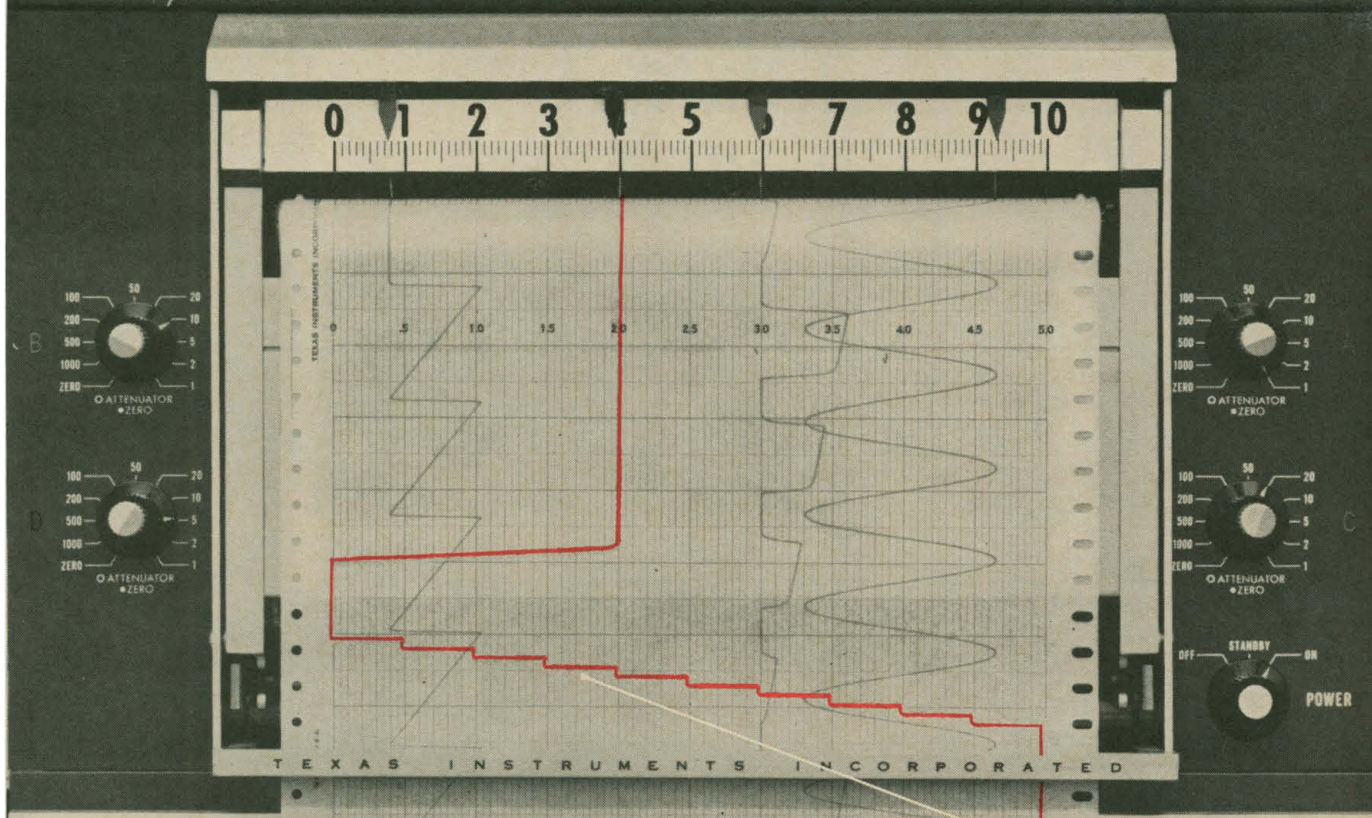


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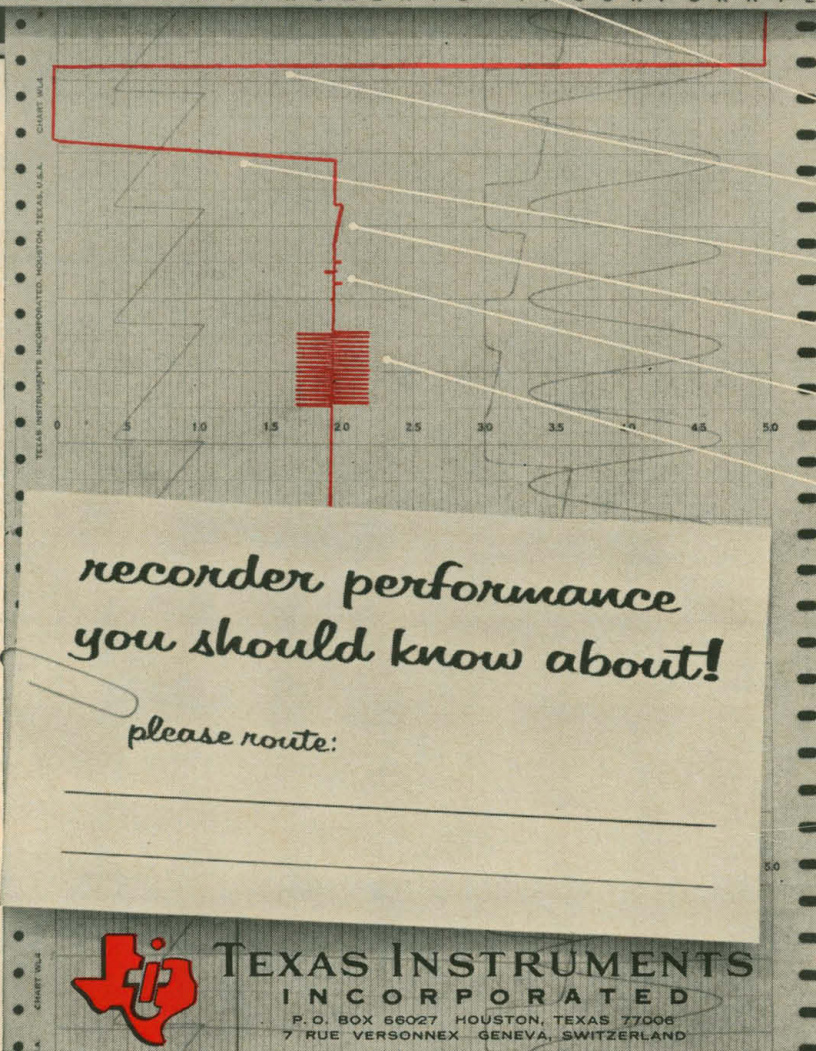
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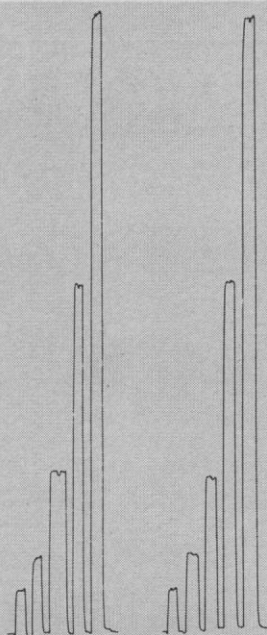
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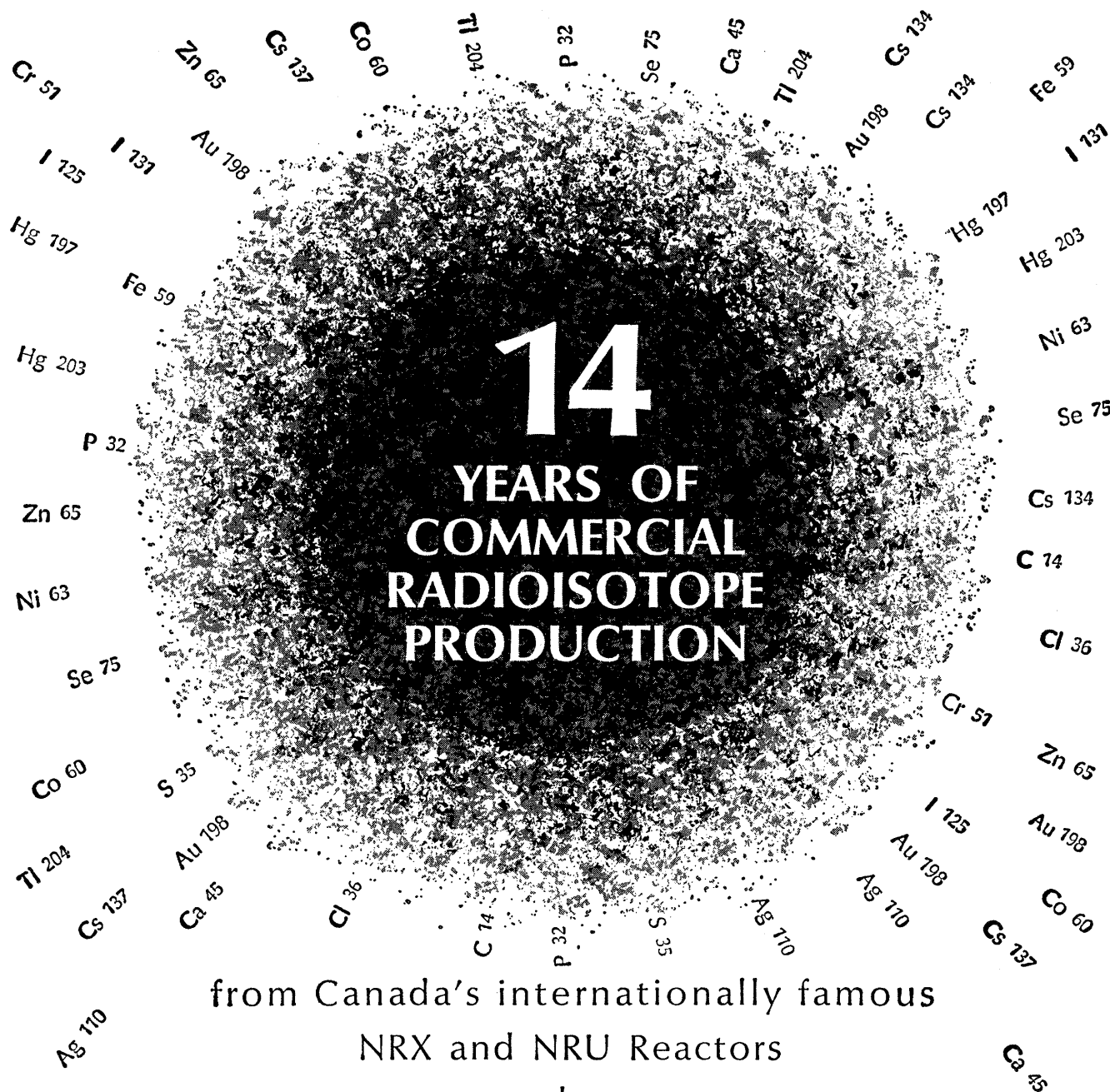
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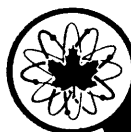


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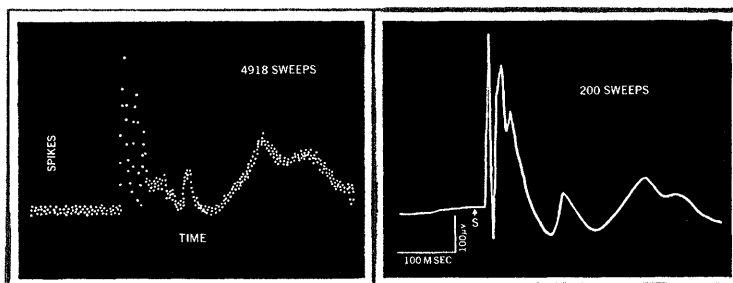
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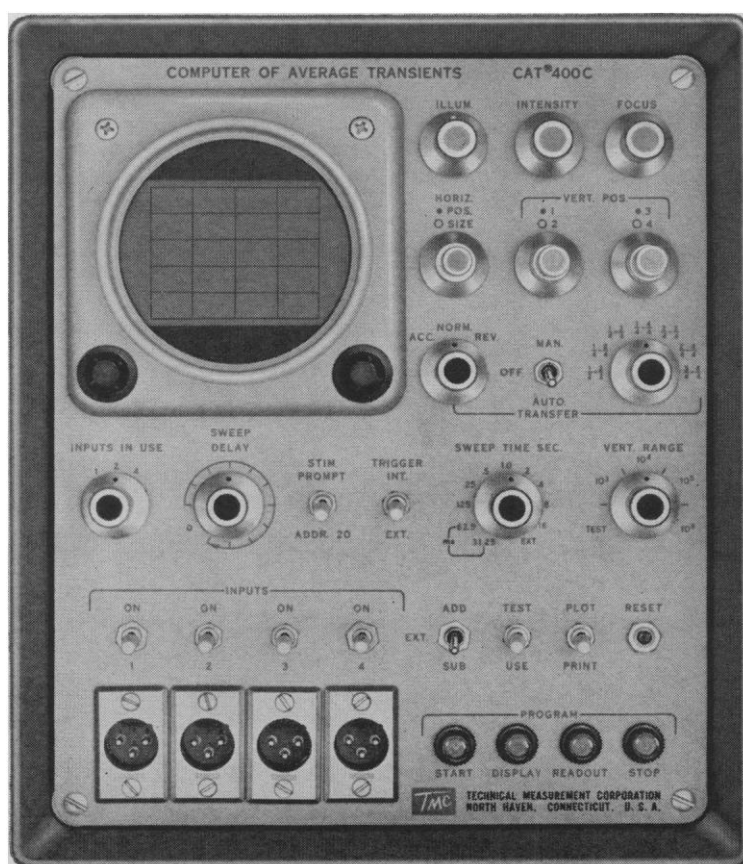
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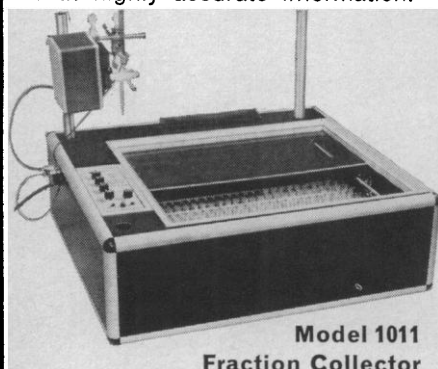
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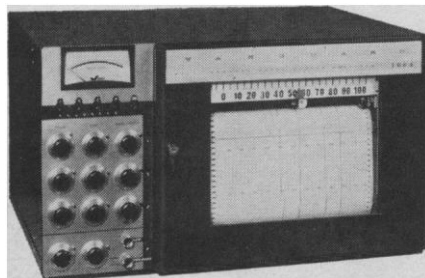
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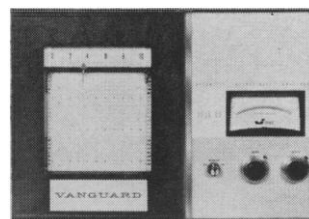
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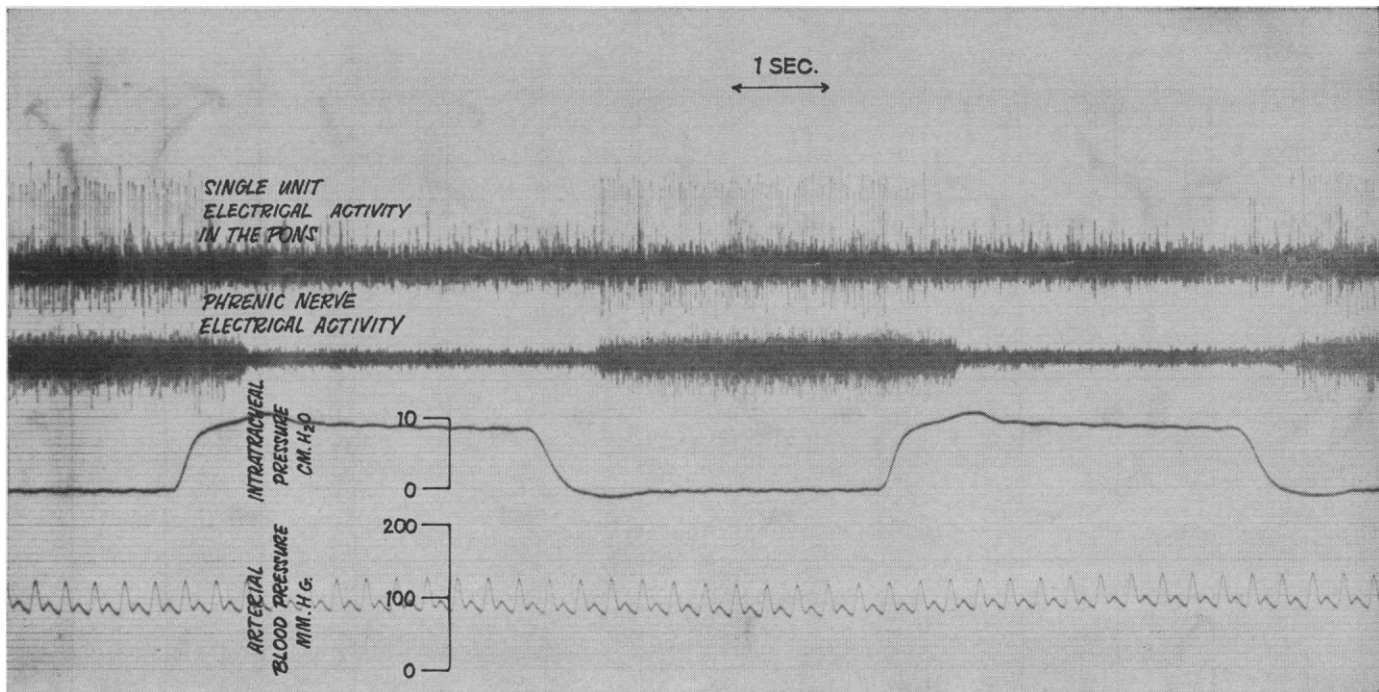
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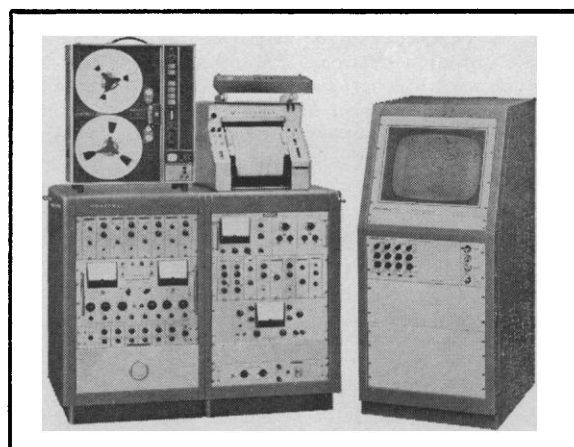
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Visicorders are available to instantly and simultaneously record up to 36 channels of physiological data of frequencies from DC to 10,000 cycles per second. They have as many as 15 recording speeds, from 2.5mm to 4000mm per second.

For complete details on using Honeywell data acquisition to handle the information from your research, write direct to Dr. D. C. Suttin, Mail Station 418, Honeywell, Denver, Colorado 80217. In Canada, Honeywell Controls, Ltd., Toronto 17. Sales and service in all principal cities of the world.



*This medical data acquisition system was custom-engineered from standard modules. Shown is a 24-channel Visicorder, a Model 8100 FM portable tape recorder/reproducer (8 channels, DC to 10KC), and a multi-trace oscilloscope which simultaneously monitors up to 8 channels.*

**ELECTRONIC MEDICAL SYSTEMS**

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# TEXTBOOKS

## General Chemistry

PRELIMINARY EDITION

by Frank Brescia, John Arents, Herbert Meislich, and Amos Turk

*An introduction to general chemistry, the text stresses a theoretical presentation; evidence is clearly separated from theoretical concepts*

- constitutes a first course in chemistry for chemistry and science majors, generally on the freshman level
- enables students to understand and appreciate the theories and principles that make chemistry a science; although no attempt has been made to include a "history of chemistry," historical references are mentioned to present the subject in perspective

**Qualitative and Quantitative Analyses:** Qualitative analysis is treated as an extended illustration of ionic equilibria, and as a framework for describing the chemical behavior of the more important elements. This is related, whenever possible, to the electronic structure of the atom and the position of the element in the periodic table. Quantitative analysis is also treated as an application of the principles of ionic equilibrium.

**CONTENTS:** Introduction. Gases. Solids, Liquids, Glasses; Changes of State; Colloids. Atoms and Molecules. Chemical Equations and Chemical Arithmetic; Thermochemistry. Electronic Structures of Atoms. Types of Chemical Bonds. The Covalent Bond; Intermolecular Forces. Solutions. Chemical Equilibrium. Ionic Solutions. Galvanic Cells and the Driving Force of Chemical Reactions. Acids and Bases. Calculations of Ionic Equilibrium. Qualitative Inorganic Analysis; Chemistry of the Common Cations and Anions. Quantitative Analysis. Chromatographic and Spectrometric Methods of Analysis. Molecular Geometry and Bonding. Transition Metal Complexes. Chemical Kinetics. Reactions of Covalent Bonds. Metals and Metallurgy. Chemical Periodicity. Nuclear Chemistry. Polymers. *Appendices. Index.*

*Presently available for adoption, the Preliminary Edition will be revised as a cloth-bound text for Fall 1966 classes.*

1964, 626 pp., \$6.25

## Study Projects in Physical Chemistry

by F. E. Condon

Developed in the classroom to be used with current texts, *Study Projects in Physical Chemistry* offers advanced students first-hand knowledge of the actual treatment of experimental data.

- presents a collection of 24 study projects in the subject matter of physical chemistry, and makes possible a "case history" approach; students are given data and guided in its application through extensive calculations to the solution of specific problems or the determination of constants.

For advanced undergraduate and graduate students, this book may be used as a one semester course or as a supplement to a two semester course. Although designed primarily for introductory courses in physical chemistry, it may be utilized in other courses, as: chemical thermodynamics, chemical engineering thermodynamics, and computer programming. Prerequisites are a year of organic chemistry, quantitative analysis, college physics, analytical geometry, and differential and integral calculus.

**CONTENTS:** Properties of Matter. Phase Equilibria. Thermodynamics and Chemical Equilibrium. Electrochemistry and Electrolytic Solutions. Chemical Kinetics. Units, Conversion Factors and Fundamental Constants.

(C615) 1963, 203 pp., (plus 32 sheets of graph paper), \$4.75

## A Statistical Manual For Chemists

by Edward L. Bauer

*For those with no previous background in statistics, this introductory book stresses the use of range techniques.*

- provides techniques which are both simple and fast, and which enable advanced undergraduate and graduate students to analyze their own data
- presents typical examples taken from ordinary laboratory data and indicates benefits (economy, accuracy, and interpretation) which result from statistical methods

The appendix contains tables of values for ease and accuracy in computation; four tables were developed by the author.

**CONTENTS:** Fundamentals. The Average. Experimental Design and the Analysis of Variance. The Comparison of Two Averages. The Comparison of More than Two Averages. Correlated Variables. Sampling. The Control of Routine Analyses. *Appendix. Index.*

(B200) 1960, 156 pp., \$5.50

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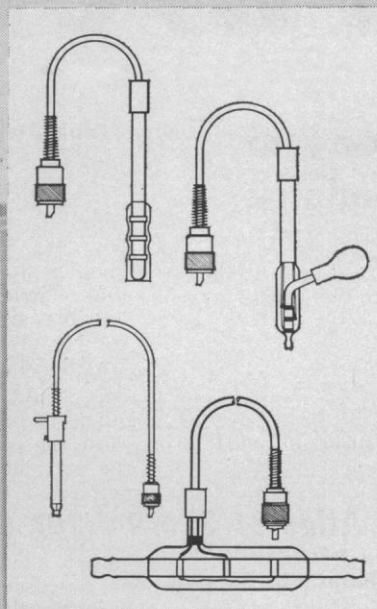
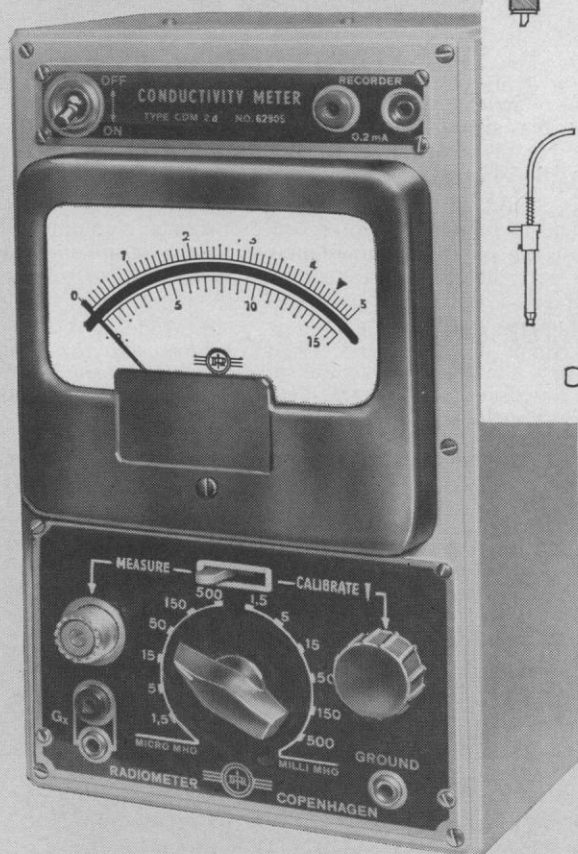
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# TEXTBOOKS

## **Craigie's Neuroanatomy of The Rat** revised and expanded by Wolfgang Zeman and James Robert Maitland Innes

Providing a comprehensive treatment, the text describes the gross anatomy of the central nervous system of the rat. Full description of cell stations and connecting fiber pathways are given. The study includes general principles of mammalian comparative neuroanatomy with ontogenetic and phylogenetic aspects, as well as a brief presentation of higher nervous mechanisms. The book contains two complementary parts: a descriptive text which contains figures chosen for their instructional value, and an atlas. Advanced undergraduate and graduate students of zoology, medicine, and veterinary medicine will find it an excellent introduction to neuroanatomy.

(C770) 1963, 230 pp., \$8.50

## **A Photographic Atlas of Shark Anatomy**

THE GROSS MORPHOLOGY OF *SQUALUS ACANTHIAS*

by Carl Gans and Thomas S. Parsons

This book provides students with a photographic atlas devoted exclusively to the common Spiny Dogfish, *Squalus acanthias*, the species most frequently studied in undergraduate courses on comparative anatomy. Containing 69 photographs plus 3 drawings on 40 plates, the atlas shows virtually all structures, labeled in detail, visible in dissection, often in several sections. A comprehensive index includes more than 800 anatomical names and terms that are used in diverse manuals of shark morphology.

(G170) 1964, 106 pp., \$3.95

## **The Anatomy of The Laboratory Mouse**

by Margaret J. Cook

For students of biology, zoology, and biological science, here is a detailed examination of the most commonly used laboratory mammal. This atlas presents detailed work of three aspects of mouse anatomy; the skeleton, the viscera, and the circulatory system. A useful account is given in the introduction of the method used for injection of the circulatory system to facilitate dissection of the blood vessels.

(C660) May, 1965, about 150 pp., \$6.00

## **Electron Microscopic Anatomy**

edited by Stanley M. Kurtz

This text will be useful to beginning students in electron microscopy as a standard for comparison of quality and interpretation of details. Each chapter was contributed by an authority who has carried out extensive work on the fine-structure of the mammalian tissue he describes; the studies are of current as well as predicted future interest. Micrographs are, for the most part, taken from epoxy- or polyester-embedded tissue, permitting most faithful representation of fine structural detail.

(K960) 1964, 425 pp., \$14.00

## **Molecular Genetics**

edited by J. Herbert Taylor

For graduate students in biology, biochemistry, genetics, and medicine, this book indicates the direction and scope of research in molecular genetics. The text provides a thorough discussion of research that is concerned with the nature of molecular interactions involved in the mechanisms of heredity. The various chapters were written by specialists who report on the important progress, theoretical implications, and changing concepts in the discipline.

(T101) Part I, 1963, 544 pp., \$14.50

## **Histological Techniques For Electron Microscopy**

SECOND EDITION

by Daniel C. Pease

This practical laboratory manual describes in detail the various techniques employed in preparing biological specimens for electron microscopy. It may be used to advantage by advanced undergraduate and graduate students of botany, zoology, anatomy, and pathology. The *Second Edition* was necessitated by the introduction of thermostable plastics as embedding media. Enriched in methodology, the text includes in addition to new embeddings, new ways of preparing specimens, new stains, such ancillary techniques as "negative staining," autoradiography, and conjugated antibody staining.

(P151) 1964, 381 pp., \$9.50

## **Modern Developments In Electron Microscopy**

edited by Benjamin M. Siegel

Advanced undergraduate and graduate students in the biological or physical sciences will find *Modern Developments in Electron Microscopy* a useful source of information. The book brings together original contributions written by leading authorities who report on present progress and indicate areas where future progress is likely to occur. The text contains three sections: the first covers the basic physics of the electron microscope with emphasis on current problems of high resolution; the second evaluates selected methods and techniques; and the third discusses applications.

(S290) 1964, 432 pp., \$13.50

### PAPERBACKS

#### MECHANISMS IN BIOENERGETICS

by Efraim Racker

1965, 259 pp., paperbound \$3.45, clothbound \$6.50

#### PRIMARY PROCESSES IN PHOTOSYNTHESIS

by Martin D. Kamen

1964, 182 pp., paperbound \$2.45, clothbound \$5.50

#### ISOTOPES IN BIOLOGY

by George Wolf

1964, 173 pp., paperbound \$2.45, clothbound \$5.50

#### DIVISION OF LABOR IN CELLS

by Geoffrey H. Bourne

1962, 248 pp., paperbound \$2.95

#### DESIGN AND FUNCTION AT THE THRESHOLD OF LIFE: THE VIRUSES

by Heinz Fraenkel-Conrat

1962, 117 pp., paperbound \$2.45, clothbound \$5.50

#### LIFE: ITS NATURE, ORIGIN, AND DEVELOPMENT

by A. I. Oparin

1962, 207 pp., paperbound \$2.45

#### TIME, CELLS, AND AGING

by Bernard L. Strehler

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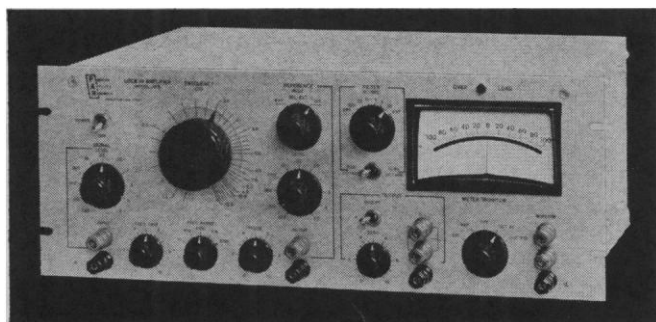
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## a note to the experimentalist who has signal/noise problems:

It is safe to say that the majority of current research in the physical sciences involves the measurement of small-effect phenomena where noise sets the limit to attainable precision or detectability. When discussing noise, we include most of the extraneous effects that arise during the course of an experiment that mask the effect under investigation. We also include noise having as its origin either the fundamental thermal fluctuation of all matter not at absolute zero or the quantized nature of radiation. One does not have to be engaged in highly sophisticated research problems such as detecting the Doppler shift of 21 centimeter galactic radiation to have need for modern signal processing techniques. In fact, many less exacting experiments, be they in physics, chemistry, astronomy or even biology, would be rendered more tractable by the application of relatively simple concepts that allow the realization of signal-to-noise ratios near the theoretical optimum.

### LOCK-IN TECHNIQUE SOLVES THE PROBLEM

A particularly simple, yet elegant, way of achieving this goal has been pointed out by R. H. Dicke\* who applied it to his sensitive microwave radiometer. This technique involves modulation *at the source* of the quantity being measured. The unknown signal may be a voltage, current, mechanical displacement, radiation, or any physical quantity that can be transformed into electrical energy. The signal to be detected is switched on and off at a fixed frequency,  $f_0$ , a frequency not too high for the transducer to follow, and not so low as to invite flicker-effect noise. The resulting small AC electrical signal, together with the multi-sourced noise that has entered the picture are now brought up to a high level in a selective amplifier tuned to  $f_0$ . A tuned amplifier is used to avoid dynamic range problems (overloading on noise) and to reject harmonics of  $f_0$ , when important. The amplified signal plus noise and a large "reference voltage" at  $f_0$  are then fed into a mixer. This mixing process is called "coherent detection" and shifts the information in a given bandwidth at  $f_0$  to an equal bandwidth about DC. The signal at DC is filtered by a simple resistor-capacitor low-pass network and displayed on a D'Arsonval meter or strip-chart recorder. It is easily shown that the equivalent bandwidth of the overall system is the cut-off frequency of this RC low-pass filter, which can be made as narrow as desired.



Transistorized Lock-In Amplifier — Model JB-5

\*R. H. Dicke, *Rev. Sci. Instr.* 17, p 268, 1947

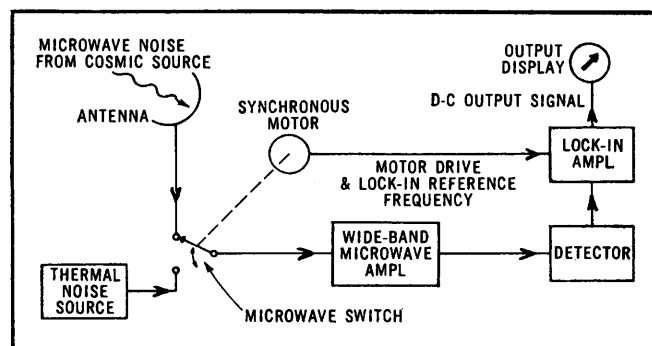


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### NO FREQUENCY DRIFT PROBLEMS

Inasmuch as the signal frequency is always "locked-in" to the detector, there are no frequency drift problems, regardless of the bandwidth used. The signal/noise ratio can thus be made arbitrarily large at the expense only of observation time. A sample experimental set-up is shown in block-diagram form below.



*Lock-in amplifier used in radio telescope. Receiver noise, although much larger than noise signal from antenna, is not modulated and hence contributes little to DC output of lock-in amplifier. With this arrangement, it is possible to detect cosmic noise signals 40 db below the input noise level of the wideband microwave receiver.*

Princeton Applied Research can provide the experimenter with a lock-in detection system for implementing this technique, the use of which will allow signals deeply buried in noise to be retrieved and measured with good accuracy. This equipment is contained in a single 7" relay rack chassis and has the following specifications:

### TECHNICAL FEATURES

Transistorized Lock-In Amplifier — Model JB-5

**Frequency Range:** 1.5 cps to 150 kc continuously tunable in five ranges.

**Time Constants:** 0, 0.001, 0.01, 0.1, 1, 3, 10, EXT. Single or double section RC filtering.

**Gain:** (rms AC in to push-pull DC out) — Greater than 9,000.

**Linearity:** Better than  $\pm 1\%$  of full scale.

**Zero Drift:**  $\pm 1/2\%$  of full scale per hour, maximum.

**Outputs:** (a)  $\pm 5$  volts DC maximum, balanced to ground into high impedance load. (b)  $\pm 1$  ma or  $\pm 1/2$  ma switch selectable into pen recorder of less than 2K internal resistance.

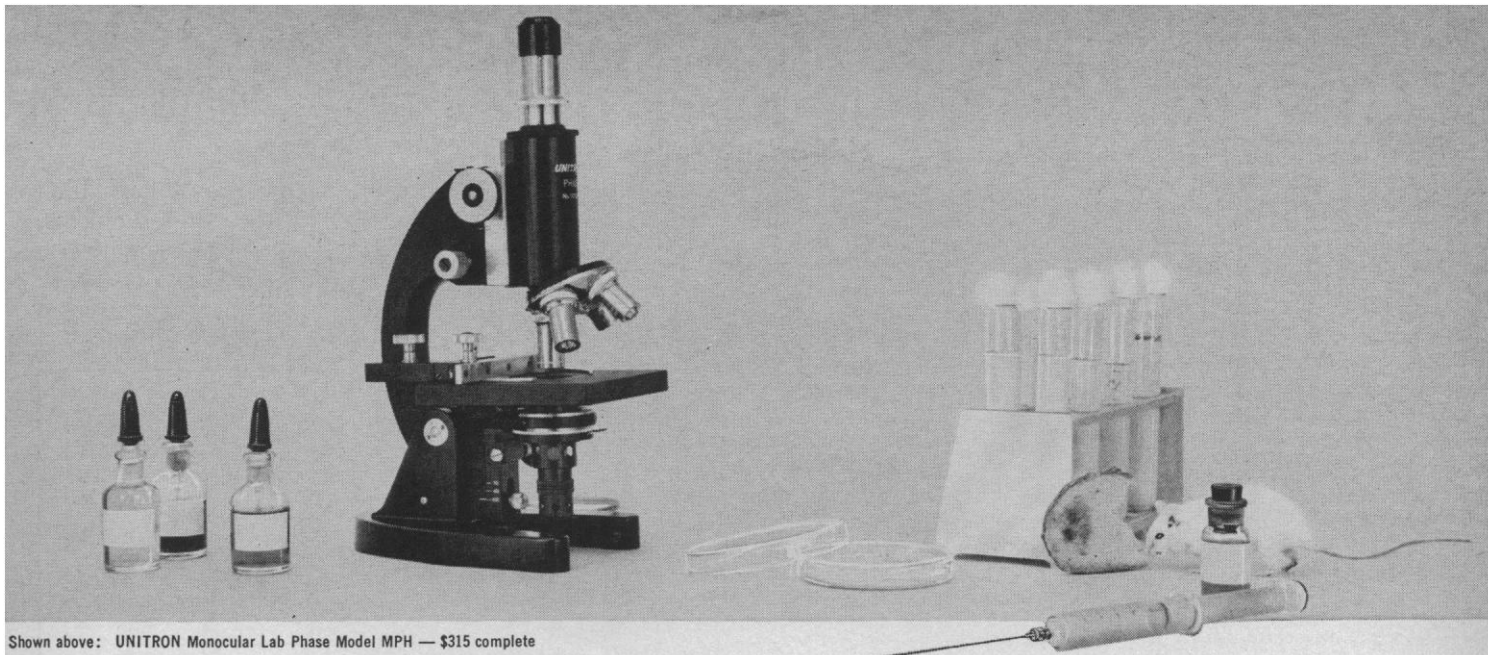
**Frequency Selective Amplifiers:** Selectivity characteristic of tuned amplifiers in signal and reference channels is that of parallel resonant circuit with a Q of approximately 25 (*NOT TWIN-T TYPE*).

**Operating Modes:** External, Selective External or Internal. Lock-in accepts sinusoidal or non-sinusoidal reference signal or provides sinusoidal 5V p p reference from internal oscillator.

**Price:** \$1350.00

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Shown above: UNITRON Monocular Lab Phase Model MPH — \$315 complete

## There are 3 microscopes in this picture ... at a distinctly singular UNITRON price

Most lab microscopes are used for ordinary *brightfield* studies.

So is UNITRON's MPH.

Some lab microscopes can also be used for *darkfield*.

So can UNITRON's MPH.

Still other lab microscopes offer *phase contrast* to aid in the study of *living, unstained* material.

So does UNITRON's MPH.

Until now, no lab microscope has provided all 3 for the price of 1.

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**That's not all.** UNITRON's MPH gives you more than just the advantages of 3 specialized microscopes. It unites them in "Continuous-Transition Microscopy." With a turn of the condenser knob, you change from *brightfield* to *darkfield* to *phase contrast*, all in rapid succession. Operation is so easy, it's almost automatic. There are no accessories to attach and no time-consuming adjustments to make. Everything has been factory-centered for you. Even the light source is built-in and permanently aligned.

**Have cost and complexity kept you in the dark about phase?** If so, you're in for a treat. UNITRON phase contrast will impress you all the more if you've tried to study *unstained, living* material with ordinary brightfield microscopes. There's no need to close the iris to pinhole size, reducing resolution and detail. Gone are those ghostly artificial images.

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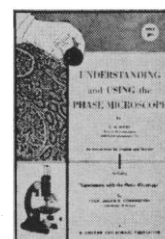
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**UNITRON prices include everything but the specimens.** In addition to all the special features of our phase models, you'll find everything else you expect in a good lab microscope. Four achromatic objectives (including high-power oil-immersion), mechanical stage, focusable substage condenser with iris diaphragm and filter system, fitted cabinet, etc. These, and all the other features we've described, are standard equipment with UNITRON. *There are no hidden extras to buy*

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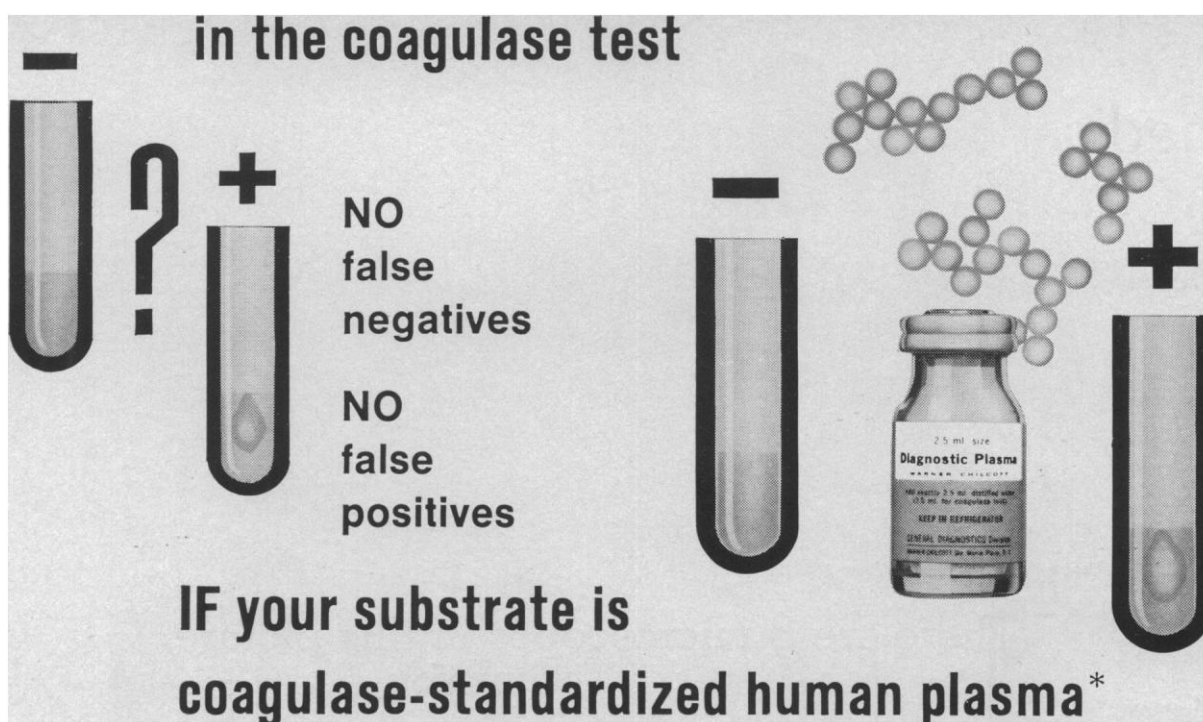
Teachers will be interested to learn that UNITRON even offers *student phase models* for as little as \$99. To introduce phase to the student lab, and to other areas where it has been a stranger, UNITRON has published a fully illustrated 64-page booklet, *Understanding and Using the Phase Microscope*. The text includes a special chapter of experiments written by Professor Julian D. Corrington of the University of Miami. Other subjects are covered, including the optical theory of microscopes in general. The booklet normally sells for \$1.00 but we will be glad to send a free copy to any interested teacher or researcher.



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2. Tompsett, R., in Finland, M., and Savage, G. M.: Antimicrobial Agents and Chemotherapy, Ann Arbor, Braun-Brumfield, 1961, pp. 67-73.
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4. Lack, C. H.: J. Clin. Path. 10:208, 1957.
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6. Turner, F. J., and Schwartz, B. S.: J. Lab. & Clin. Med. 52:888, 1958.
7. Boyd, H.: Am. J. Med. Tech. 22:232, 1956.



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The use of interchangeable electrodes assures consistent analytical performance. It also permits immediate substitution of electrodes to meet requirements of different samples.

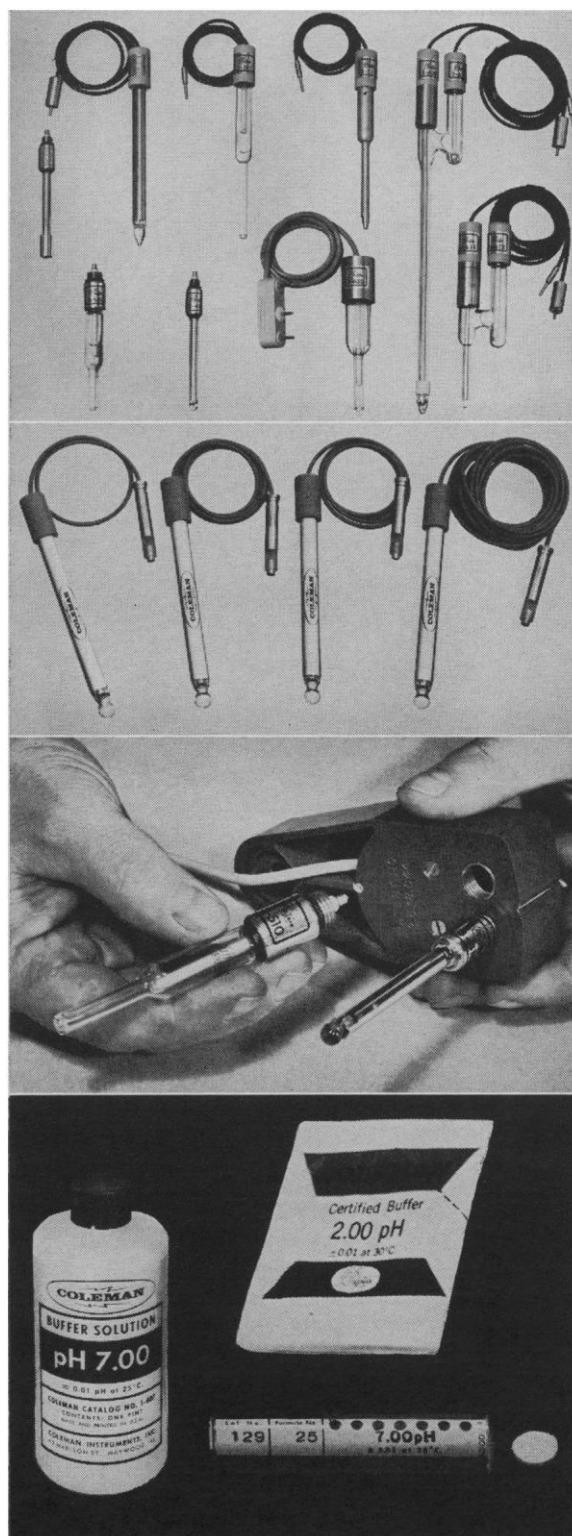
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**Low-cost Metrion pH Meter** is a line-operated instrument featuring a basic simplicity of design and operation which make it ideal for general-purpose laboratory use. With measurement accuracy to 0.05 pH, the Metrion provides a level of performance far out of proportion to its moderate cost.

**Features:**

- Stabilized against line voltage fluctuations over 95-125 volt range.
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**Increased versatility, Metrion II pH Meter** offers the same simplicity of design and operation as the basic Metrion. It also features two additional circuits for increasing versatility of the instrument:

- ...a true temperature-compensating circuit with a control knob conveniently located on instrument's front panel.
- ...an output jack for use with an automatic titrator such as the Coleman Titration.

Addition of these two circuits makes the Metrion II valuable for an increased variety of specialized laboratory applications with only a small price increase.

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**Fully-versatile Companion pH Meter** is a zero-restoring instrument ideal for a broad range of laboratory applications. It provides pH measurement over the 0-14 pH range with a routine accuracy of 0.05 pH and reproducibility within 0.02 pH. The instrument also may be used for millivolt measurements over a 1400 mv span.

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- Zero-restoring circuit for drift-free operation.
- May be used with recorder, automatic titrator, and automatic temperature compensator accessory.
- Simplified control system for easy operation.
- Manual Temperature Compensator control permits accurate measurement over 0-100° C. range.

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**The Coleman Titration**, with either the Companion or Metrion II, provides an instrument package capable of automatically performing virtually any electrometric titration in the analytical laboratory.

- **Speed**—titrations are completed automatically in 1 to 1½ minutes.
- **Accuracy, sensitivity**—routine accuracy well within 0.1 pH; 2 millivolt potential difference causes titrant flow.
- **Automation**—electronic sensing of end-point and automatic adjustment of titrant flow.
- **Practicality**—no special training of personnel required for maintaining high levels of accuracy.

Cost—\$670.00.

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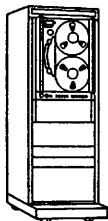


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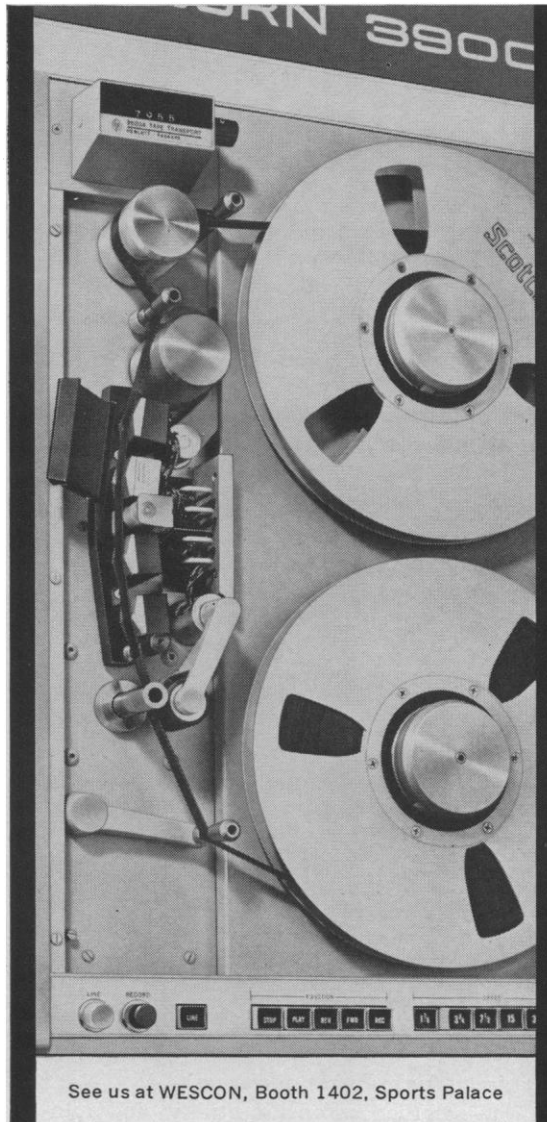


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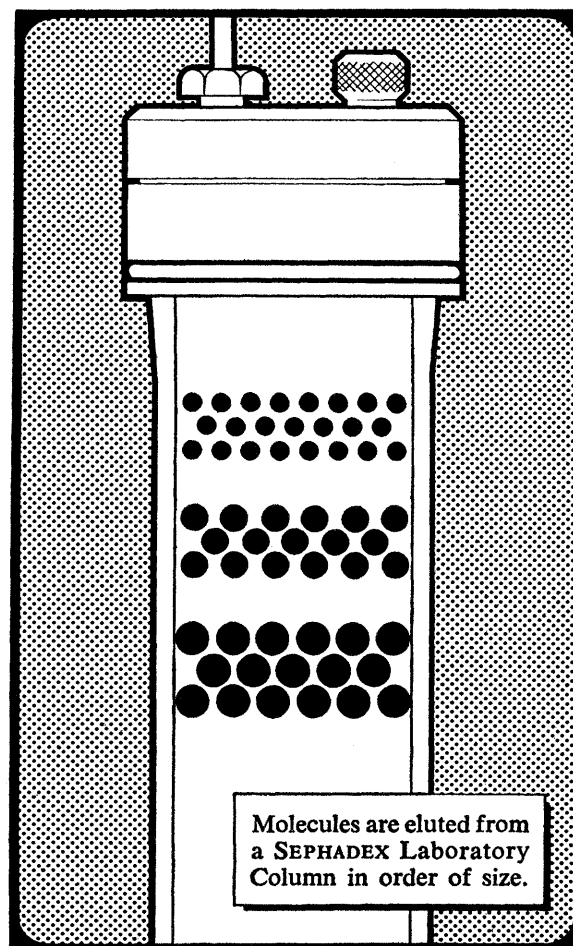
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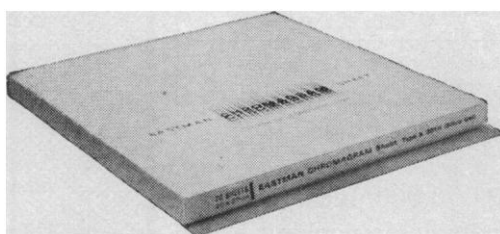
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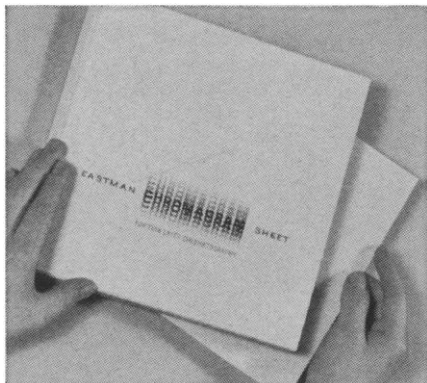




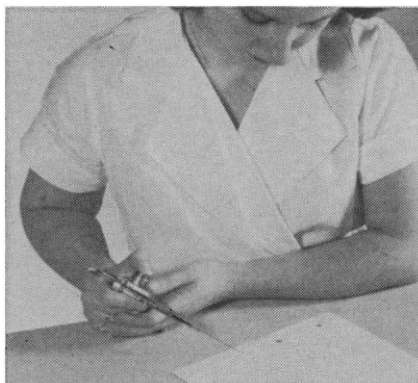
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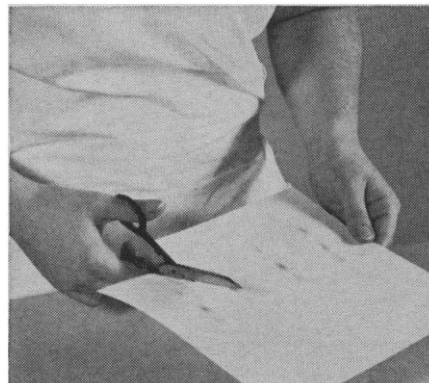
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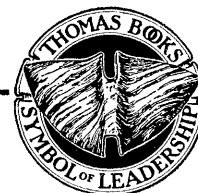
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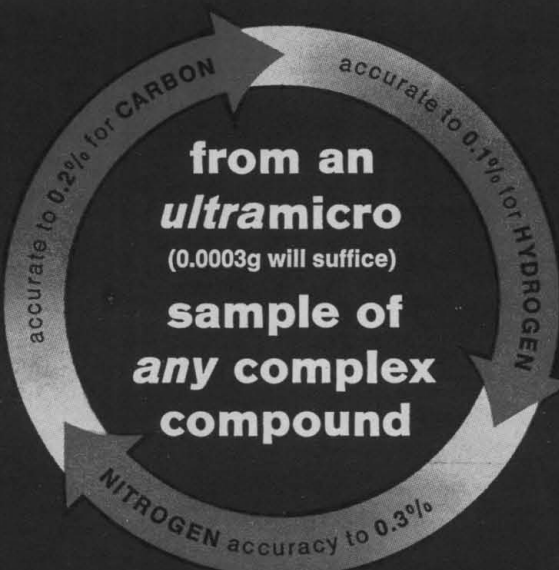
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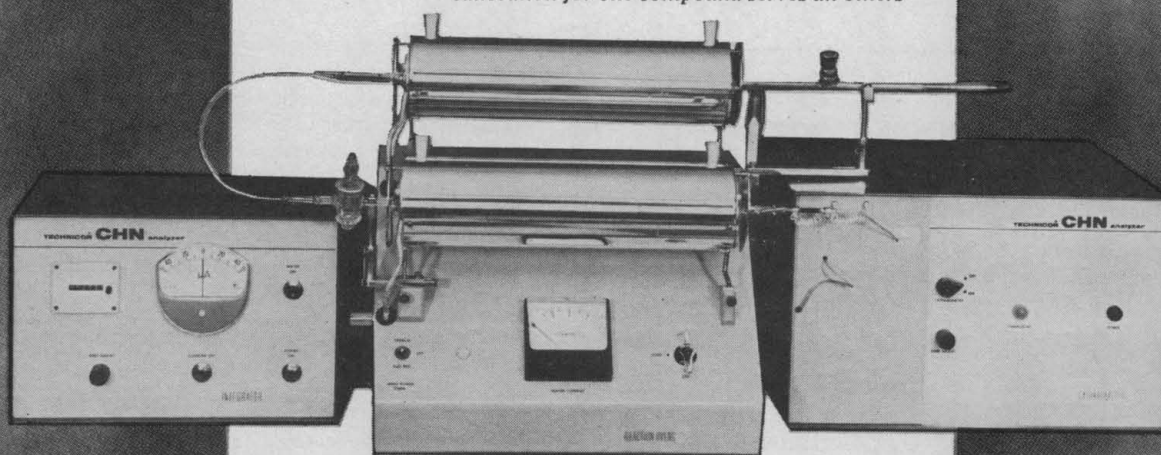
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are artifacts of the process by which they selected "industry" stones from the "environment" population, since the principal criterion of selection was smallness of angle.

DAVID SOUTH

5550 Dorchester Avenue,  
Chicago 37, Illinois

1) We are pleased that our article interested geologists in the problem of recognizing the traces of early man. The two geologists who visited the Leupp Site told us that we were dealing with a uniform brown chert and that there was no reason to believe that the Leupp Site differed in its geological history from other hilltops in the area. Not satisfied with this information, or with what we could find in the geological literature, we investigated further. Our simultaneous measurement of *in situ* rock and ambient temperatures was meant to be suggestive. That the investigation was meant in this way can be seen in the brief and cautious statement about it. We also did a hydration study, not reported in the article. Ideally, all causes of natural fracture relevant to a suspected site should be considered. The problem is to identify the relevant factors and to determine specifically the type and amount of resulting fracture. The intense cooperation of geologists would be most welcome.

2) We direct South's attention to our summary statement on page 247: "The procedure is intended to be used where isolation of an 'industry' has already been made, or can be made, on the basis of criteria other than the small angles of the stones in question." In our application of the procedure, a museum collection of a proposed "industry" already existed. The several collectors of the museum specimens had gathered widely scattered individual stones each of which met some typological notion of utility. These stones were classified by them into such categories as "scrapers," "hand axes," and "choppers" (see our reference 13). We sampled the entire population of a gravel pavement on a hilltop where the proposed "industry" was said to exist. Then, using the museum-type specimens, we designated any stone in our field collection as belonging to the "industry" if it fitted into one of the typological categories (see p. 247). The original collectors of the "industry" did not collect angles of an "industry" (a population, not a typological concept), nor did we.

We stress our acceptance of Barnes's work as a point of departure. Barnes interpreted his findings as globally significant; that is, his work led to the conclusion that on a statistical basis nature does not simulate human workmanship. In some particular instance, however, the context in which an "industry" is said to exist may be biased. For this reason, we introduced the idea of examining the immediate context in which the industry is said to be found. Figure 6 shows the "industry" and its "environment" at Leupp.

ROBERT ASCHER

Cornell University, Ithaca, New York

MARCIA ASCHER

Ithaca College, Ithaca

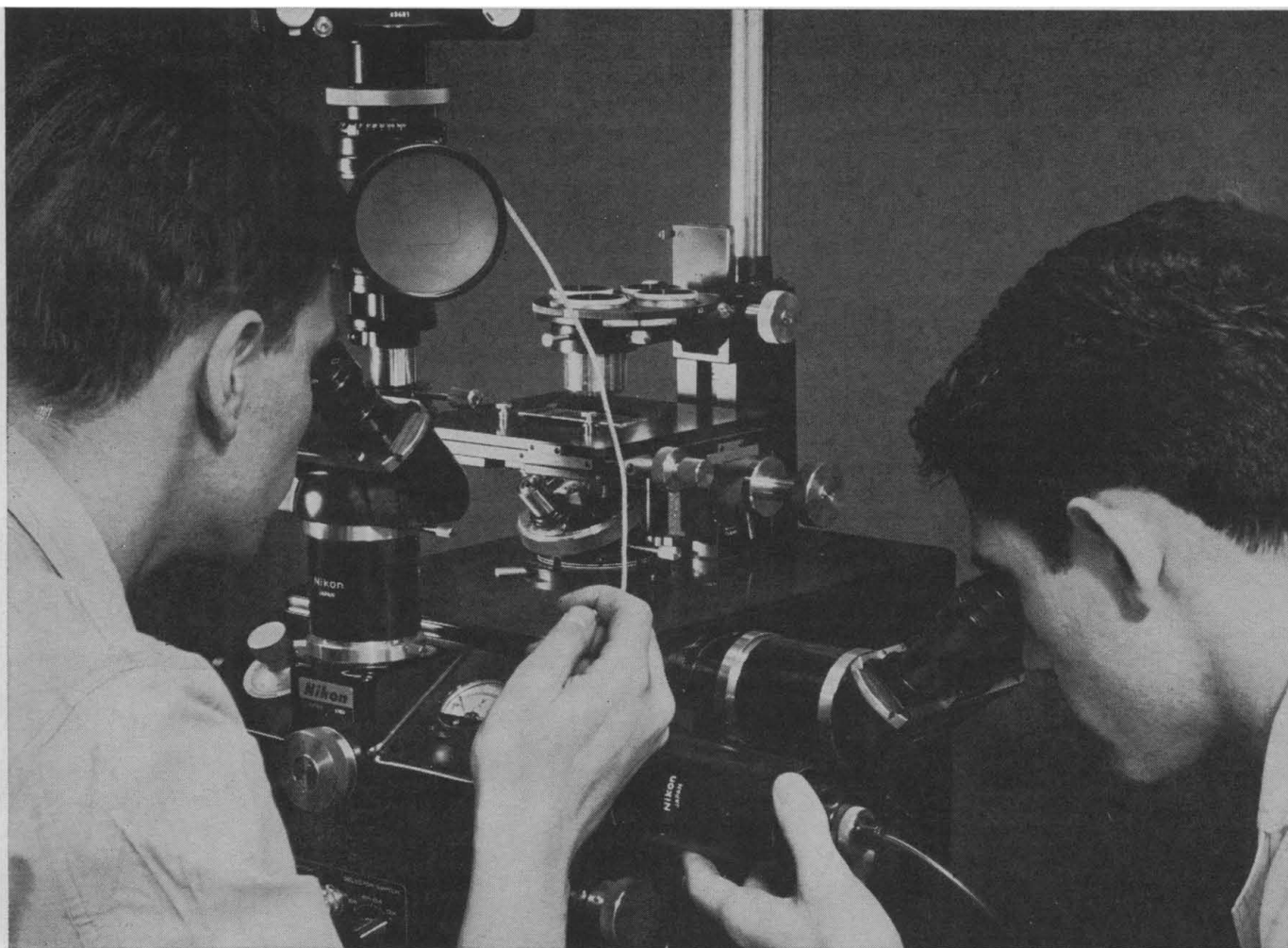
### Academic Degrees and Vested Interests

Thanks to John Walsh for his excellent treatment (News and Comment, 19 Feb., p. 844) of the potential intrusion of quasi-educational federal agencies into the academic preserve of degree-granting. Since he has done this spadework, I wish he would now enlarge the radius of his investigations to determine how many of the rules surrounding earned degrees are truly safeguards against diploma mills and substandard education, and how many are protection of academic vested interests which date back to the medieval universities.

We have all heard of absurd cases—perhaps apochryphal in detail but true in fundamentals—where the validity of graduate credits has been questioned because the student's high school or undergraduate records were faulty in some minor particular. Does it really matter by what path—conventional or unconventional—an educated man or woman attains educational status? Is there not a need for some sort of examining university, performing a function like that of the original University of London? Is there any reason why a candidate should not appear before a panel of competent examiners, demonstrate his grasp of the fundamentals in his field, present already published and paid-for scholarly work in lieu of a problematically valuable thesis, and get his degree without anybody's knowing or caring whether he ever warmed a seat in the eighth grade?

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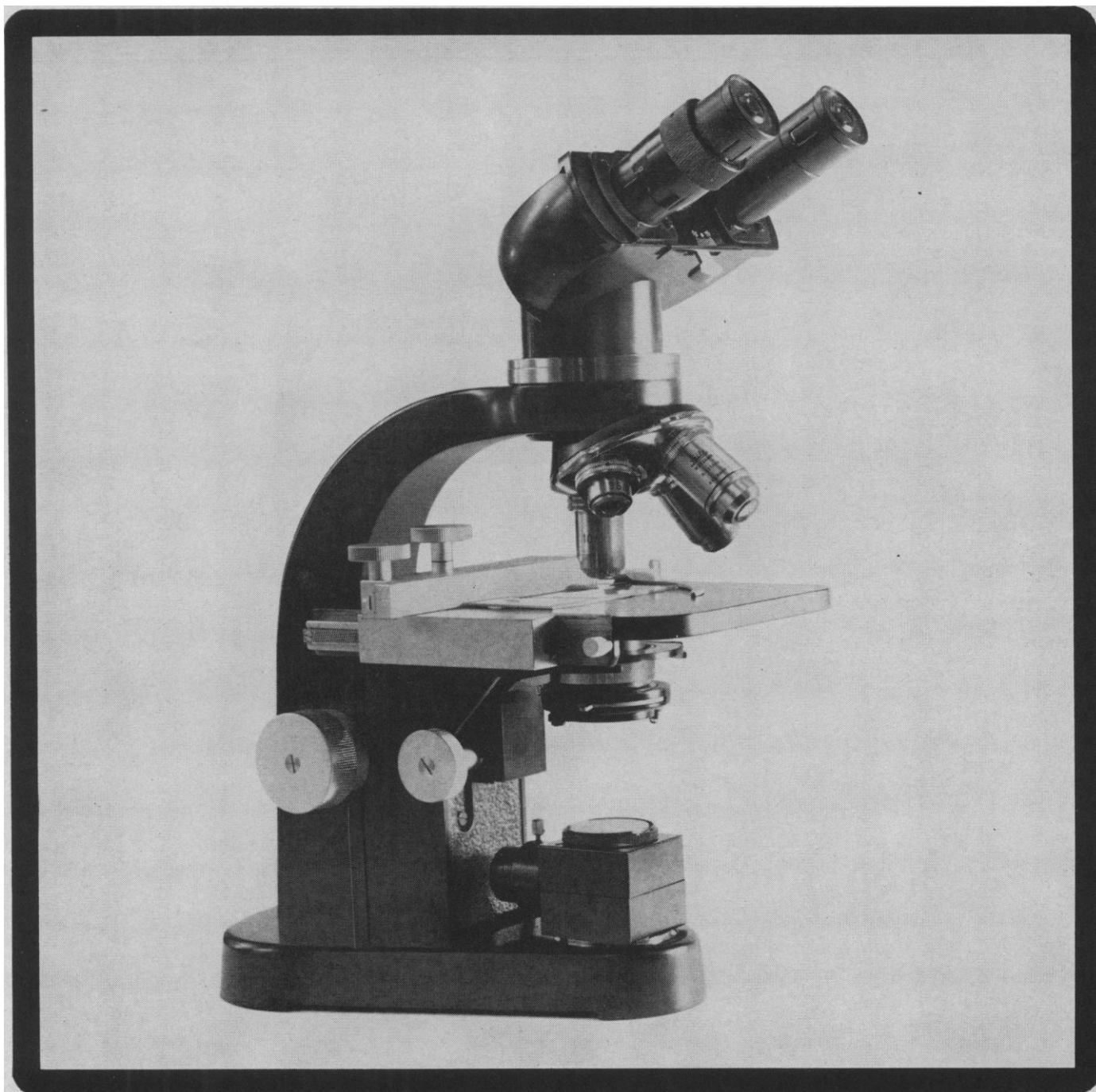
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## Biomedical Science and Its Administration

The committee charged with examining the National Institutes of Health has now made its report (*Science*, 26 March, p. 1556). The committee carried out its investigations diligently, and has prepared a well-written and well-organized document. Those who have had an opportunity to evaluate NIH will agree that "the activities of the National Institutes of Health are essentially sound and that its budget of approximately one billion dollars a year is, on the whole, being spent wisely. . . ." Many will also applaud the committee's statement, "We suspect that there are few, if any, one billion dollar segments of the Federal budget that are buying more valuable services for the American people than that administered by the National Institutes of Health."

There are additional laudatory comments; for example: "The NIH method of selecting recipients of its extramural grants . . . is an exceedingly good one. . . . admiration was almost as widespread among those whose applications had been rejected as among those who had succeeded in getting support."

However, the text goes on: "The early favorable remarks are not to be discounted, in this report, as simply a polite but meaningless preparation for the presentation of the seriously intended critical conclusions." But, a close reading of the report leaves me with much that impression.

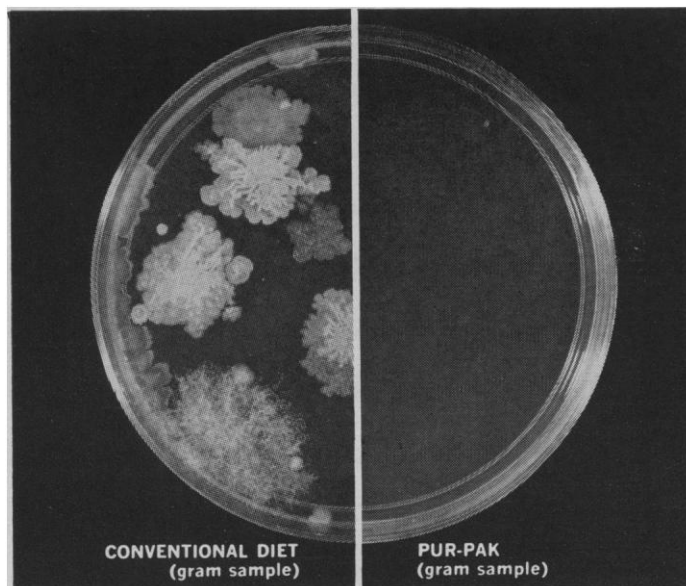
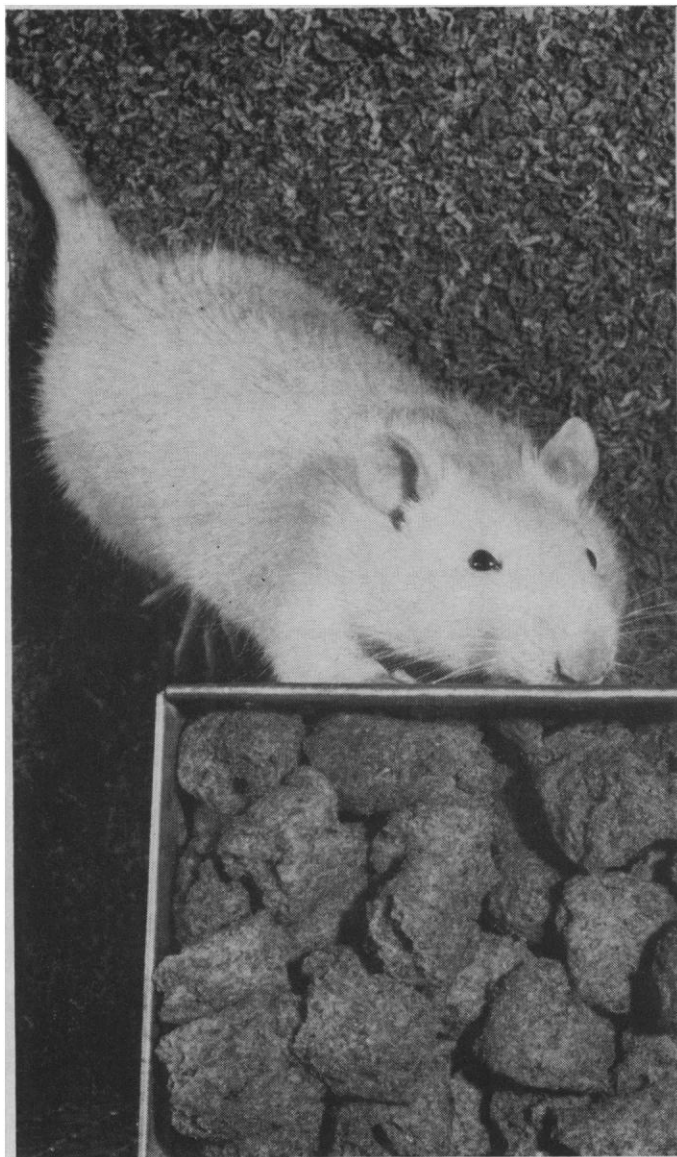
The committee recommends many changes in the NIH administration of biomedical science, some of them far-reaching. The principal recommendation immediately affecting grantees is an increase in the role of university administrators. This is in line with a pattern already established. The more drastic recommendations center around the Institutes and their management. "A new advisory group should be established to assist the Office of the Director of NIH in the making of major plans and policies. . . ." In effect, the review committee seems to be saying that a full-time Director cannot be trusted to make plans. He must lean on a part-time advisory group. Yet at the same time the report recommends that the Director be given increased responsibilities in the management of the Institutes.

Fair-minded scientists will be distressed with the part of the report that deals with intramural activities. In many fields the Bethesda laboratories are world leaders, and they have fostered men who are now distinguished professors. Yet the report comes close to suggesting liquidation of this excellent establishment. "We recommend, as an early agenda item for the Policy and Planning Council, consideration of the amount of independent, university-like research that NIH should conduct intramurally. If reductions are decided on they should be carefully executed. . . ." This language has already produced apprehension among the intramural staff at NIH. A decrease in the budget at NIH would hasten the departure of many of the best men in all programs.

There is injustice in this situation. Fifteen years ago the intramural and extramural research programs were of equal magnitude. Since that time, both programs have been expanded, but the extramural activity has grown about five times more. It was the rate of increase in extramural support that drew criticism in Congress. It was this program that provided ammunition for the Fountain committee. It was criticism of the extramural program which led to appointment of the Wooldridge committee. No substantial fault had been found previously in the intramural program. Yet when the report comes out, it is the intramural activity that appears to be most threatened.—PHILIP H. ABELSON

(Copies of the Wooldridge report, "Biomedical Science and Its Administration," are available for \$1 from the U.S. Government Printing Office, Washington, D.C. 20402.)





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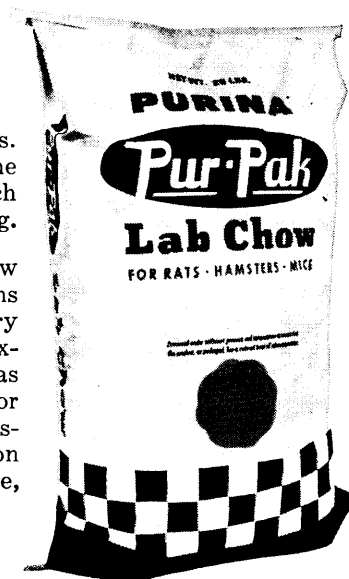
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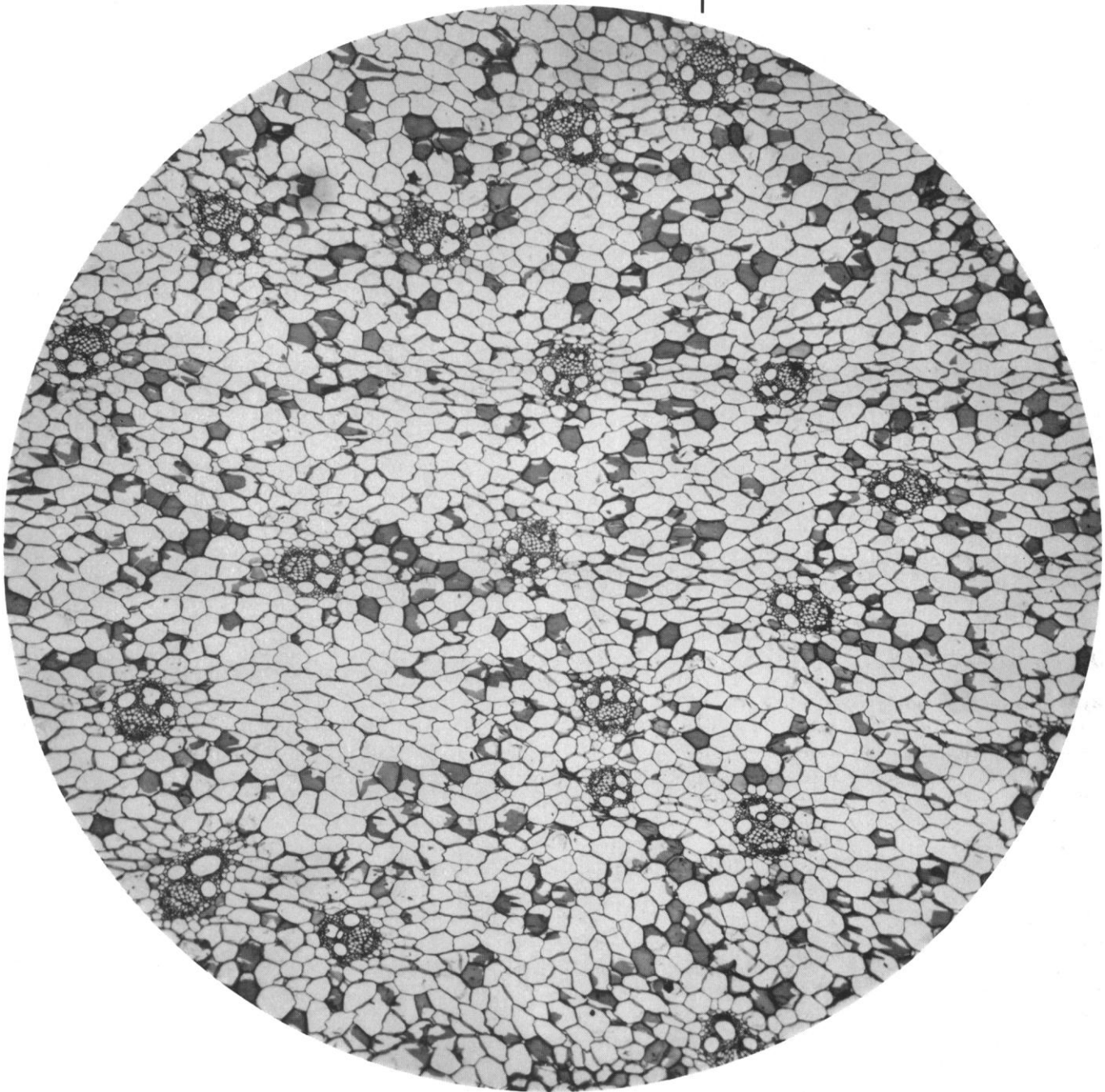
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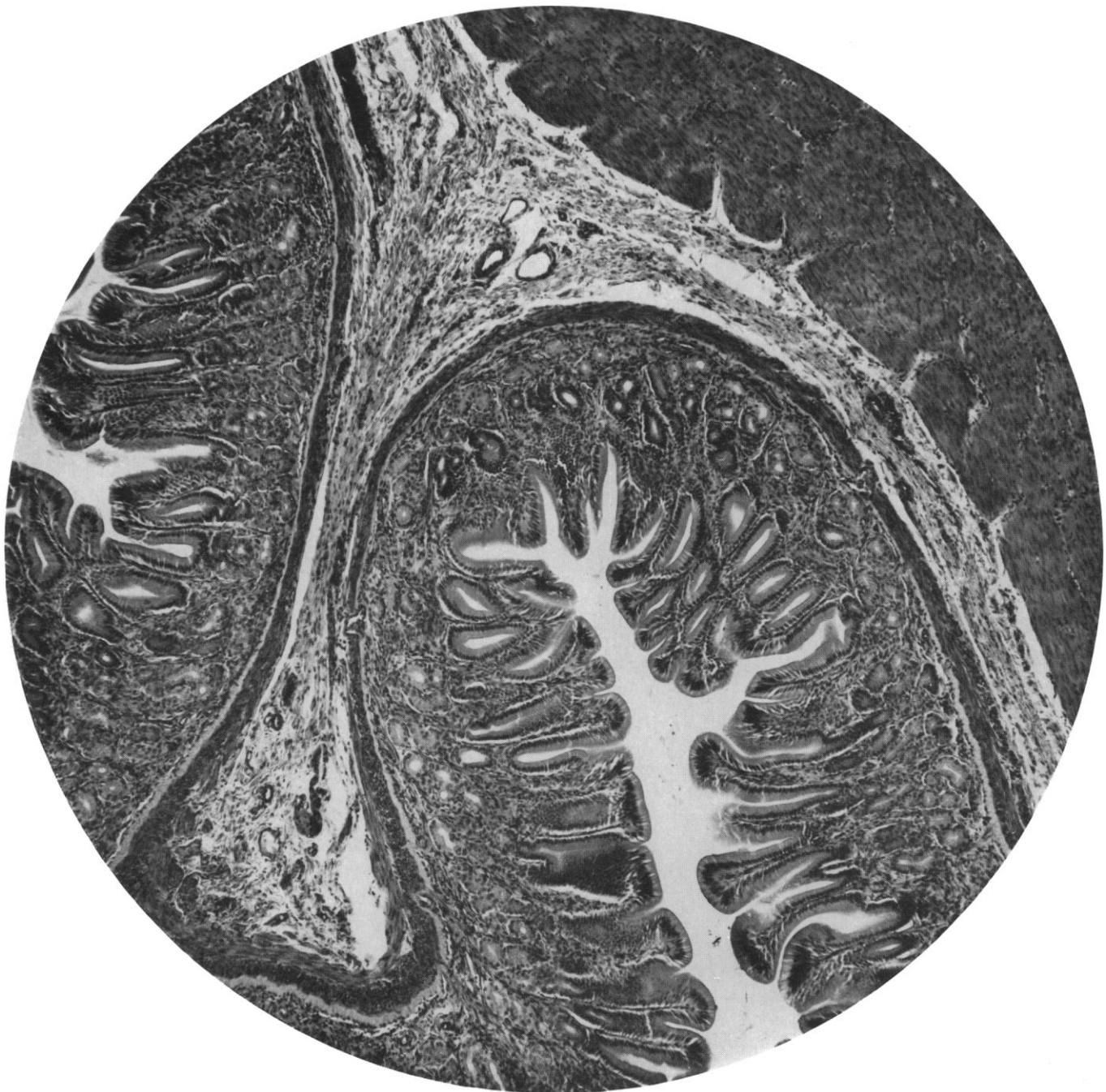
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**MAGNIFICATION:** 40X

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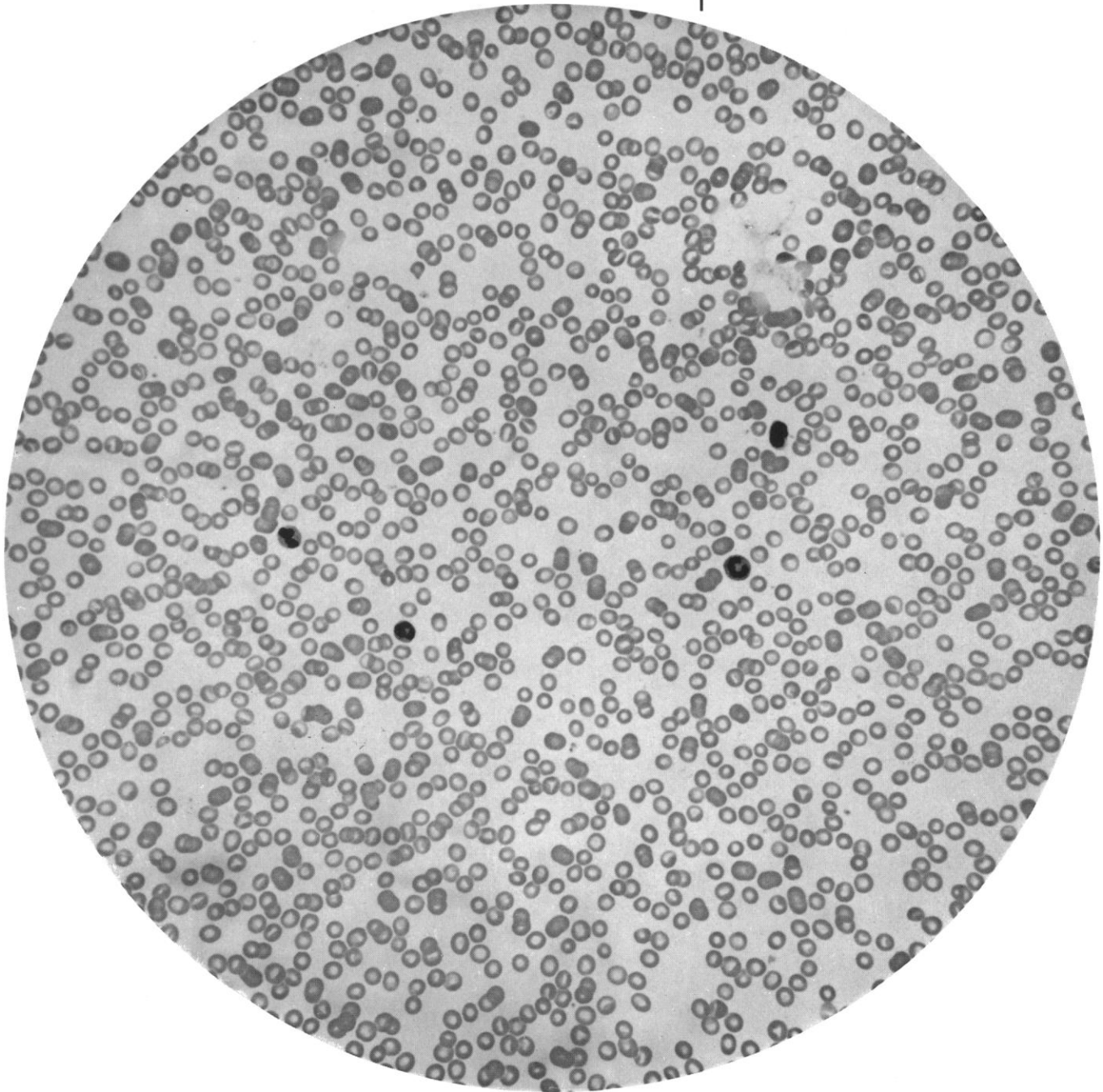
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nevertheless depends almost entirely upon private funding and receives contributions from foundations, individuals, and corporations. The annual general operating budget for 1965 is approximately \$150,000. In addition, \$100,000 is sought in 1965 for projects and studies previously mentioned.

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HARRY C. MESERVE  
*Academy of Religion and Mental  
Health, New York, New York*

### Conference of Biological Editors

The Conference of Biological Editors was elected as an affiliate of the AAAS at the Association's 131st annual meeting, Montreal, Canada, December 1964. The Conference is a nonprofit association founded in New Orleans in 1957. The objects of the Conference are cooperation among editors, effective publication of continuing journals, and development of policies concerning communication in the biological sciences.

Membership is open to individuals who hold the principal responsibility for the editorial management of serial publications such as journals, reviews, monograph series, abstract journals and services, indexes, microcards, and similar media devoted to the periodic dissemination of biological knowledge. Most of the 165 members are, or have been, editors of primary biological journals.

The activities of the Conference include an annual meeting (usually of 2 days' duration). Some sessions of the annual meeting are in the form of small panel discussions of questions and data papers prepared by standing and ad hoc committees.

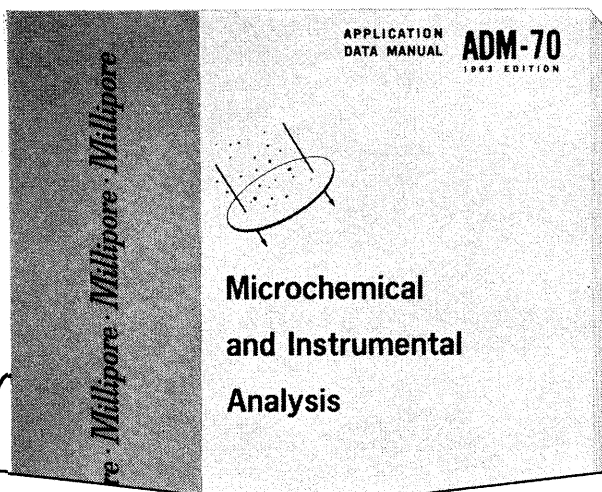
These committees include: (i) Committee on Form and Style, which has prepared the *Style Manual for Biological Journals*. The manual is now in its second edition and accepted in whole or in part as the standard of form by approximately 175 biological

journals; (ii) Committee on Review Articles, which strives toward coordination of efforts of publications devoted to reviews; (iii) Committee on Journal Exchange, which is exploring, among other matters, possible mechanisms to enhance the direct exchange of primary publications; (iv) Committee on Cooperation with Foreign Biologists, which together with the Executive Board and special committees has planned and carried out two conferences with biological editors from other regions (Latin America and Europe). These conferences are leading to formation of sister organizations of editors in these regions and to the possibility of further international standardization and upgrading of publications and international redaction services; (v) Committee on Publication Costs, which explores all manner of economic problems of journal publication; (vi) Committee on Graduate Training in Scientific Writing, which is working on ways to insure the inclusion of training in communication skills in biology programs; (vii) Committee on Editor Cooperation with Indexing and Abstracting Publication, which has defined the problems and already has seen some improvement in the acceptance of responsibility by primary journals for secondary diffusion of information; (viii) Committee on New Forms of Publication, which has participated in experiments, such as the *Journal of Wildlife Diseases*, in microcard, microprint, and other new forms; and (ix) Committee on Editorial Policy, which is concerned with procedural and ethical questions.

The executive secretary prepares and distributes an occasional informal newsletter. Since the average term of editors is about 6 years, there is considerable turnover and the executive secretary would welcome inquiries concerning membership from qualified individuals. The way is open to convey to others the results of some past work and to explore new ways of meeting the challenge of burgeoning biological literature.

The present officers of the Conference are: chairman, Gabriel Lasker (Wayne State University); vice-chairman, Carlton M. Herman (U.S. Fish and Wildlife Service, Patuxent Research Refuge, Laurel, Maryland); and executive secretary, Robert E. Gordon (University of Notre Dame).

ROBERT E. GORDON  
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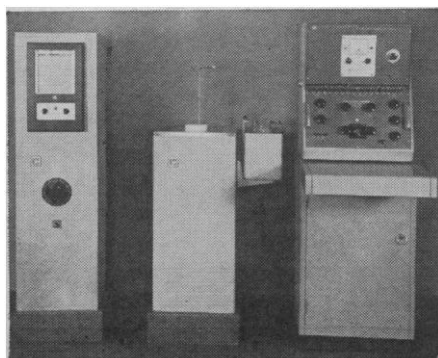
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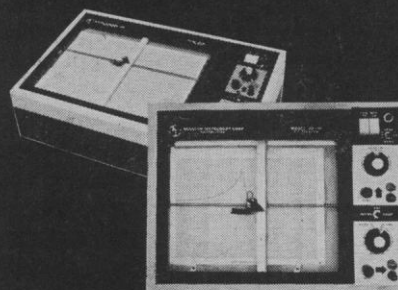
## Society for the Scientific Study of Religion

The Society for the Scientific Study of Religion was one of four societies elected at the 130th AAAS annual meeting in December 1963, as an affiliate of the Association. The society was founded in 1948 by two scholars, one religious and the other a social scientist. Students of religion needed a society to stimulate studies of a scientific nature. At the same time, certain social scientists felt that the study of religion by their disciplines needed encouragement. For many years meetings were held twice a year in the Boston and the New York areas, usually at Harvard and at Columbia universities. But recently, with the establishment of the *Journal for the Scientific Study of Religion*, membership has grown and broadened both in the United States and in foreign countries so that an annual, longer meeting has been instituted. In 1964 this meeting was held in Washington, D.C.; in 1965 it will be held in New York, and in 1966 probably in Chicago. Programs include contributed papers, and invited symposia and addresses. Most of the membership is divided between students of religion, psychology, and sociology. There is a small representation from the biological and physical fields.

Local meetings have on occasions been sponsored by interested members in such cities as Chicago, Minneapolis, and San Francisco. Programs have been held in conjunction with the American Psychological Association and the American Sociological Society. Past presidents have included Talcott Parsons, James Luther Adams, and Richard V. McCann (Harvard); Prentiss L. Pemberton (Colgate-Rochester Seminary); Horace M. Kallen (New School for Social Research); and Horace L. Friess (Columbia University). Officers for 1964-65 are: president, Walter Houston Clark (Andover Newton Theological School); vice president, Paul W. Pruyser (Menninger Foundation); secretary, Allan W. Eister (Wellesley College); and treasurer, James E. Dittes (Yale University). Editor of the *Journal* is Prentiss L. Pemberton, 1100 South Goodman Street, Rochester 20, New York. The Society is governed by a Council which, in addition to the officers, includes Peter L. Berger, Isidor Chein, William G. T. Douglas, Horace L. Friess, Horace M. Kallen, Noël Mail-



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Membership is open to qualified scholars elected by the Council. Information about the Society and details concerning the annual meeting, usually held on the last Friday and Saturday of October, may be obtained from the executive secretary, Samuel Z. Klausner, Society for the Scientific Study of Religion, 1424 Sixteenth Street, NW, Washington, D.C. 20036.

SAMUEL Z. KLAUSNER  
*Society for the Scientific Study of Religion, Washington, D.C.*

## Forthcoming Events

### April

18-22. Association of American **Geographers**, annual, Columbus, Ohio. (E. Taafee, Dept. of Geography, Ohio State Univ., Columbus)

18-24. **Tsunami Run-up**, U.S.-Japan cooperative science program meeting, Sapporo, Japan. (Office of Intern. Science Activities, Natl. Science Foundation, Washington, D.C.)

19-21. Nondestructive Evaluation of **Aerospace and Weapons System Components and Materials** (unclassified), San Antonio, Tex. (J. R. Barton, Southwest Research Inst., 8500 Culebra Rd., San Antonio 6)

19-21. **Biomedical Sciences Instrumentation**, 3rd natl. symp., Instrument Soc. of America, Dallas, Tex. (D. R. Stearn, ISA, 530 William Penn Place, Pittsburgh, Pa. 15219)

19-21. Mechanics, Physics, and Chemistry of **Solid Propellants**, Purdue Univ., Lafayette, Ind. (A. C. Eringen, School of Aeronautics, Astronautics and Engineering Sciences, Purdue Univ., Lafayette)

19-22. Modern Trends in **Activation Analysis**, intern. conf., Texas A&M Univ., College Station. (R. E. Wainerdi, Texas A&M Univ., College Station)

19-22. American **Geophysical Union**, annual, Washington, D.C. (W. E. Smith, AGU, 1145 19th St., NW, Washington, D.C. 20036)

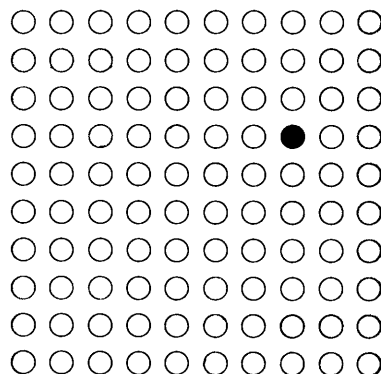
19-22. **Nuclear Magnetic Resonance**, 2nd annual workshop, Washington, D.C. (A. J. Rosen, Dept. of Chemistry, Georgetown Univ., Washington, D.C.)

20-22. **Frequency Control**, 19th annual symp., Atlantic City, N.J. (Director, U.S. Army Electronics Laboratories, Headquarters, U.S. Army Electronics Command, Fort Monmouth, N.J. 07703)

20-22. **Great Plains**, symp., North Dakota State Univ., Fargo. (S. W. Russell, North Dakota State Univ., Fargo)

20-22. **Physics of Solids at High Pressures**, 1st intern. conf., Tucson, Ariz. (C. T. Tomizuka, Dept. of Physics, Univ. of Arizona, Tucson 85721)

20-22. **Photochemical Aspects of Air Pollution**, symp., Cincinnati, Ohio. (A. P. Altshuller, Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 45226)



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20-22. **System Theory**, symp., Polytechnic Inst. of Brooklyn, Brooklyn, N.Y. (J. Fox, Polytechnic Inst. of Brooklyn, 333 Jay St., Brooklyn 1)

20-23. American Assoc. of Anatomists, annual, Miami, Fla. (R. T. Woodburne, Dept. of Anatomy, Univ. of Michigan, Ann Arbor 48104)

20-23. American Meteorological Soc., spring meeting, Washington, D.C. (K. C. Spengler, 45 Beacon St., Boston 8, Mass.)

20-23. U.S. Natl. Committee, Intern. Scientific Radio Union/Inst. of Electrical and Electronics Engineers, spring meeting, Washington, D.C. (A. T. Waterman, Stanford Electronics Laboratories, Stanford Univ., Stanford, Calif.)

21. **Oral Cancer**, 3rd annual symp., Poughkeepsie, N.Y. (M. A. Engelman, 1 East Academy St., Wappingers Falls, N.Y. 12590)

21-22. **Mathematical Geodesy**, symp., Turin, Italy. (A. Marussi, Univ. of Trieste, Trieste, Italy)

21-23. American Inst. of Chemists, 42nd annual, Richmond, Va. (R. E. Anderson, Albemarle Paper Manufacturing Co., Richmond 23217)

21-23. **Cognitive Processes and Clinical Psychology**, 3rd symp., Univ. of Colorado, Boulder. (R. Jessor, Dept. of Psychology, Univ. of Colorado, Boulder)

21-23. **Combustion** Inst., western states section, spring meeting, Hollywood, Calif. (A. S. Gordon, Forrestal Research Center, Princeton Univ., Princeton, N.J.)

21-23. Institute of Environmental Sciences, 11th annual, Chicago, Ill. (IES, 34 Main St., Mount Prospect, Ill. 60057)

21-23. Engineering Aspects of Magneto-hydrodynamics, 6th symp., Pittsburgh, Pa. (E. Reshotko, Div. of Electrical Engineering, Case Inst. of Technology, Cleveland, Ohio 44106)

21-23. Support for **Manned Flight**, conf., Dayton, Ohio. (G. L. Schwarz, Headquarters, AF Logistics Command (MCO), Wright-Patterson Air Force Base, Ohio)

21-23. **Marine Sciences Instrumentation**, 3rd natl. symp., Instrument Soc. of America, Univ. of Miami, Miami, Fla. (H. A. Cook, Airpax Electronics, Inc., P.O. Box 8488, Fort Lauderdale, Fla.)

21-23. **Nonlinear Magnetics**, 3rd intern. conf. (INTERMAG), Washington, D.C. (E. W. Pugh, I.B.M. Components Div., Dept. 231, Bldg. 703-2, Poughkeepsie, N.Y. 12602)

21-23. **Ophthalmological Soc.** of the United Kingdom, annual, London, England. (Joint Secretariat, 47 Lincoln's Inn Fields, London, W.C.2)

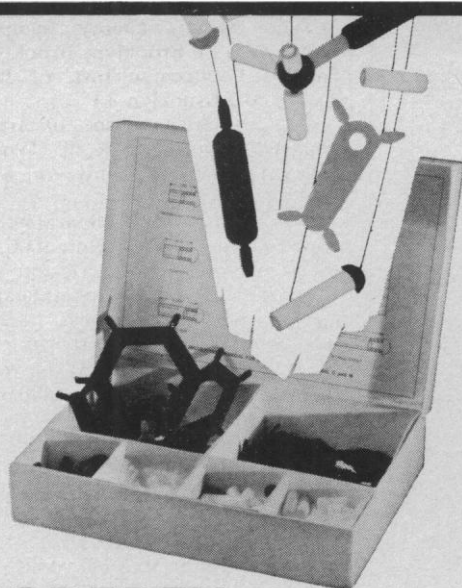
21-23. **Optimization Techniques**, symp., Pittsburgh, Pa. (Inst. of Electrical and Electronics Engineers, Box A, Lenox Hill Station, New York, N.Y.)

21-23. **Pulse Radiolysis**, symp., Manchester, England. (M. Ebert, Paterson Laboratories, Christie Hospital and Holt Radium Inst., Withington, Manchester 20)

21-24. Federation of European **Biochemical Societies**, Vienna, Austria. (The Secretariat, Alserstr. 4, Vienna 9)

21-24. British **Paediatric Assoc.**, Scarborough, England. (E. W. Hart, Hospital for Sick Children, Great Ormond St., London, W.C.1, England)

21-2. **Industrial Chemistry**, 26th intern. congr., Paris, France. (Soc. of In-



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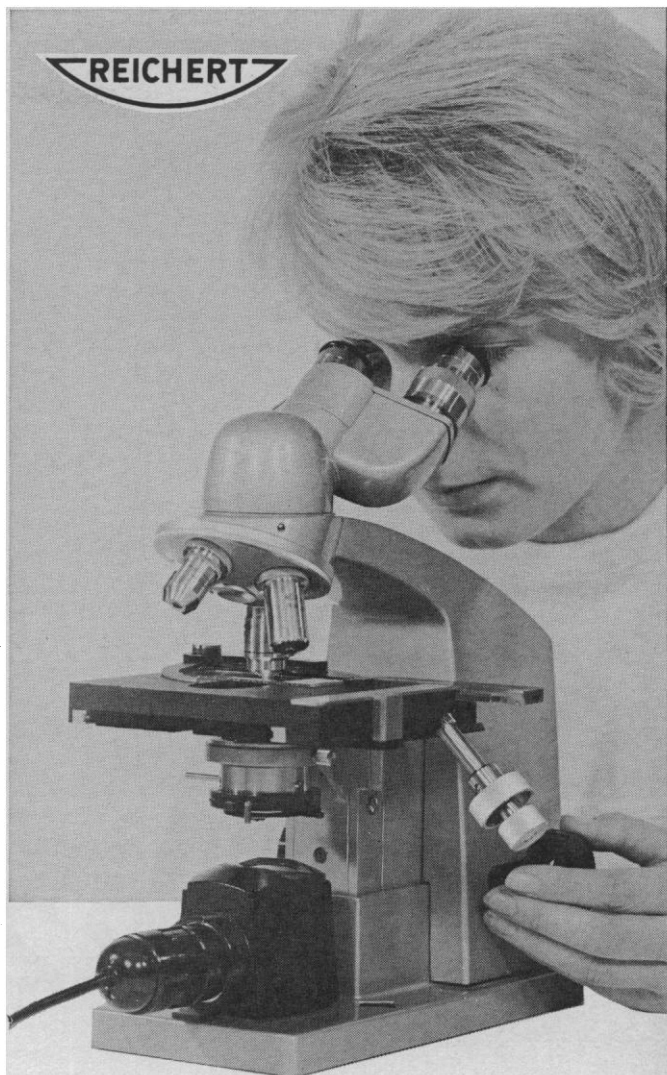
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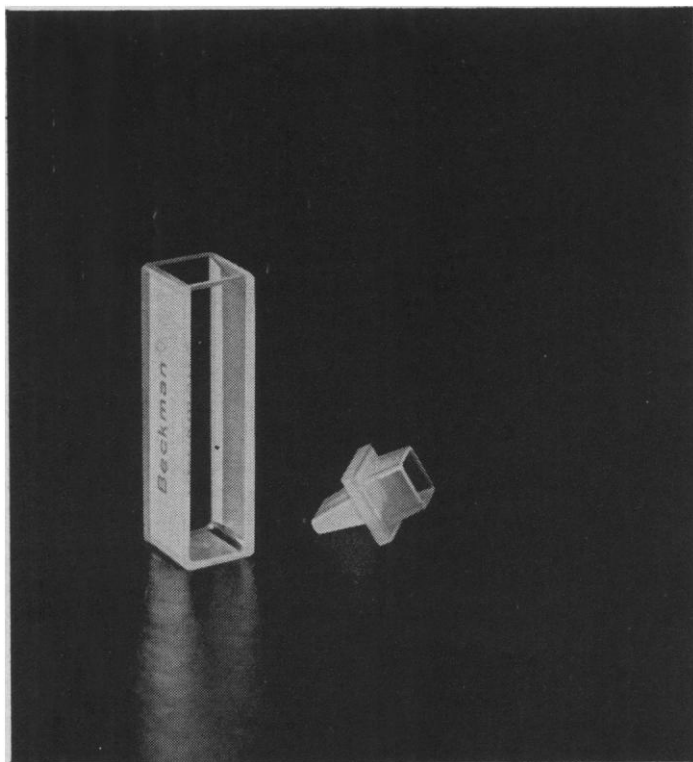


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dustrial Chemistry, 28 rue St. Dominique, Paris 7)

22-23. **Nondestructive Testing of Materials**, intern. conf., Vienna, Austria. (Firma Gebr. Böhler & Co., A.G., Kapfenberg, Austria)

22-23. **Chemistry of Polymerization Processes**, symp., London, England. (W. R. Moore, Dept. of Chemical Technology, Bradford Inst. of Technology, Bradford 7, Yorkshire, England)

22-24. **Eastern Psychological Assoc.**, 36th annual, Atlantic City, N.J. (M. A. Iverson, Queens College, Flushing, N.Y.)

22-24. **Role of the Solvent in Chemical Kinetics**, E. A. Moelwyn-Hughes symp., Univ. of Arkansas, Fayetteville. (A. Fry, Dept. of Chemistry, Univ. of Arkansas, Fayetteville 72701)

22-24. **Wildflower Pilgrimage**, 15th annual, Great Smoky Mountains Natl. Park. (E. E. C. Clebsch, Dept. of Botany, Univ. of Tennessee, Knoxville)

23-24. **Georgia Acad. of Science**, Oglethorpe Univ., Atlanta. (J. T. May, School of Forestry, Univ. of Georgia, Athens)

23-24. **Information Retrieval**, 2nd annual natl. colloquium, Univ. of Pennsylvania, Philadelphia. (Inst. for Scientific Information, 325 Chestnut St., Philadelphia 19106)

23-24. **Iowa Acad. of Science**, Univ. of Dubuque, Dubuque. (G. W. Peglar, Dept. of Mathematics, Iowa State Univ., Ames)

23-24. **Mississippi Acad. of Sciences**, Biloxi. (C. Q. Sheely, Mississippi State Univ., State College)

23-24. **Ohio Acad. of Science**, annual, Ohio Univ., Athens. (J. H. Melvin, 505 King Ave., Columbus, Ohio 43201)

23-24. **Parasitism**, colloquium, Oregon State Univ., Corvallis. (J. E. McCauley, Dept. of Oceanography, Oregon State Univ., Corvallis 97331)

23-24. **Population Assoc. of America**, annual, Chicago, Ill. (A. J. Coale, PAA, Office of Population Research, 5 Ivy Lane, Princeton, N.J.)

23-24. **South Dakota Acad. of Science**, Black Hills State College, Spearfish. (T. Van Bruggen, Botany Dept., Univ. of South Dakota, Vermillion)

23-24. **West Virginia Acad. of Science**, Fairmont State College, Fairmont. (J. B. Hickman, 8 Mineral Industries Bldg., West Virginia Univ., Morgantown)

25-26. **Pi Gamma Mu**, natl. social science honor soc., St. Paul, Minn. (E. B. Urquhart, 1719 Ames St., Winfield, Kan.)

25-28. **American Oil Chemists Soc.**, Houston, Tex. (C. W. Hoerr, Durkee Foods, 2333 Logan Blvd., Chicago, Ill.)

25-28. **Southeastern Psychiatric Assoc.**, annual, Southern Pines, N.C. (H. Brackin, Jr., 1918 Church Ave., Nashville 3, Tenn.)

25-29. **American Assoc. of Cereal Chemists**, Kansas City, Mo. (E. J. Bass, Intern. Milling Co., Inc., 1423 S. 4th St., Minneapolis, Minn. 55404)

25-29. **American Soc. for Microbiology**, annual, Atlantic City, N.J. (R. W. Sarber, ASM, 115 Huron View Blvd., Ann Arbor, Mich.)

25-29. **International College of Surgeons**, North American Federation, Las Vegas, Nev. (Secretariat, 1516 Lake Shore Dr., Chicago, Ill. 60610)



26-27. **European Days of Chemical Engineering**, Paris, France. (Société de Chimie Industrielle, 28, rue St. Dominique, Paris 7)

26-27. **Electroanesthesia**, 2nd symp., Univ. of Tennessee, Knoxville. (C. E. Short, UT-AEC Agricultural Research Laboratory, 1299 Bethel Valley Rd., Oak Ridge, Tenn.)

26-27. **Environmental Health Problems**, 2nd AMA congr., Chicago, Ill. (Dept. of Environmental Health, AMA, 535 North Dearborn St., Chicago, Ill. 60610)

26-28. **Error in Digital Computation**, symp., Madison, Wis. (L. B. Rall, U.S. Army Mathematics Research Center, Univ. of Wisconsin, Madison 53706)

26-28. **National Acad. of Sciences**, 102nd annual, Washington, D.C. (Office of the Home Secretary, NAS, 2101 Constitution Ave., Washington 20418)

26-29. **Aerospace Medical Assoc.**, 36th annual, New York, N.Y. (Gen. J. M. Talbot, Headquarters USAF, AFMSPA, Washington, D.C. 20333)

26-29. **Mechanisms and Therapy of Cardiac Arrhythmias**, 14th Hahnemann symp., Philadelphia, Pa. (L. Dreifus, Dept. of Medicine, Hahnemann Medical College and Hospital, Philadelphia)

26-29. **Society of Economic Paleontologists and Mineralogists**, New Orleans, La. (D. M. Curtis, Shell Oil Co., Box 127, Metairie, La.)

26-29. **American Assoc. of Petroleum Geologists**, 39th annual, New Orleans, La. (G. Atwater, 424 Whitney Bldg., New Orleans)

26-29. **American Physical Soc.**, Washington, D.C. (K. K. Darrow, APS, Columbia Univ., New York 10027)

26-1. **Geodetic Uses of Satellites**, conf., Athens, Greece. (Intern. Organizations Staff, Bureau of Intern. Commerce, U.S. Dept. of Commerce, Washington, D.C.)

28-30. **Hypnosis and Psychosomatic Medicine**, intern. congr., Paris, France. (H. C. Harding, 2050 NW Lovejoy, Portland 9, Ore.)

28-30. **National Soc. for Prevention of Blindness**, Houston, Tex. (J. W. Ferree, 16 E. 40 St., New York 10016)

28-1. **Biometric Soc.**, Florida State Univ., Tallahassee. (E. L. LeClerg, 6804 40th Ave., University Park, Hyattsville, Md.)

28-1. **American College Health Assoc.**, Miami Beach, Fla. (R. E. Boynton, 5518 Merrick Dr., Coral Gables, Fla.)

29-30. **Space Navigation and Communications**, natl., Houston, Tex. (P. Schrock, Inst. of Navigation, 711 14th St. NW, Washington, D.C. 20005)

29-30. **Association for Symbolic Logic**, Chicago, Ill. (T. Hailperin, Dept. of Mathematics, Lehigh Univ., Bethlehem, Pa. 18015)

29-31. **Southwestern Assoc. of Naturalists**, annual, New Orleans, La. (H. Dundee, Tulane Univ., New Orleans)

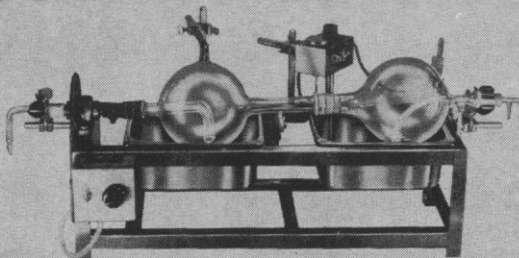
29-1. **American Assoc. of Endodontists**, Detroit, Mich. (E. C. Van Valey, 9 Rockefeller Plaza, New York 10020)

29-1. **American Assoc. for History of Medicine**, Philadelphia, Pa. (J. B. Blake, Natl. Library of Medicine, 9600 Wisconsin Ave., Bethesda, Md.)

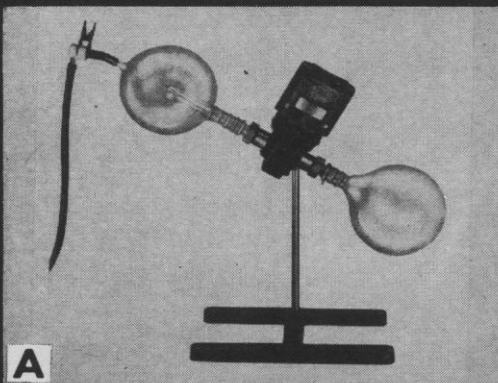
29-1. **American Acad. of Neurology**, annual, Cleveland, Ohio. (AAN, 7100 France Ave. S., Minneapolis, Minn. 55410)

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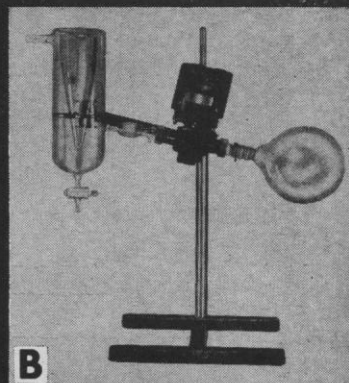


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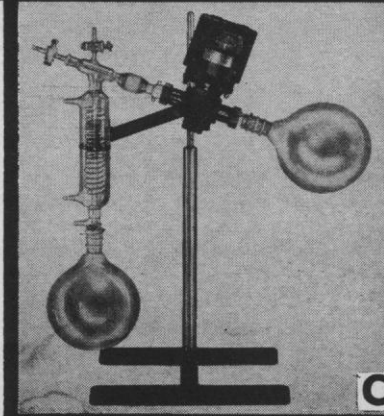


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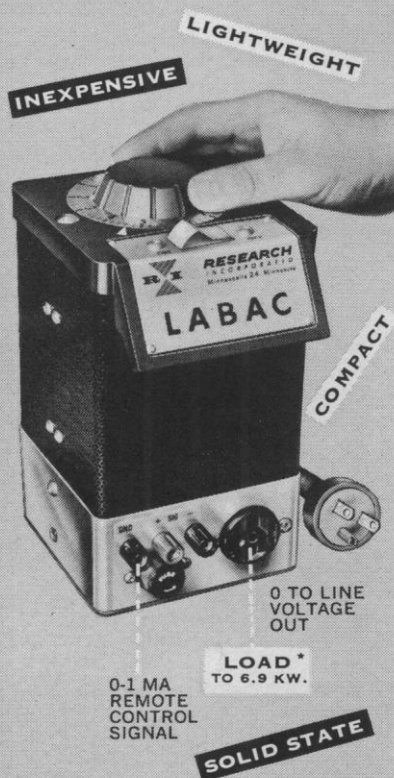


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29-1. **Midwestern Psychological Assoc.**, 27th annual, Chicago, Ill. (F. A. Mote, Psychology Bldg., Madison, Wis. 53706)

29-1. **American Philosophical Assoc.**, western div., Chicago, Ill. (L. E. Hahn, Dept. of Philosophy, Southern Illinois Univ., Carbondale)

29-2. **Protides of the Biological Fluids**, 13th colloquium, Bruges, Belgium. (P.O.B. 71, Bruges 1)

29-2. **Association of Clinical Scientists**, New York, N.Y. (R. P. MacFate, ACS, 300 N. State St., Chicago, Ill. 60610)

29-2. **Pan American Medical Assoc.**, 40th annual congr., Grand Bahama Island. (PAMA, 745 Fifth Ave., New York 10022)

29-2. **Roentgen**, 46th German congr., Nuremberg, Germany. (A. Jakob, c/o Strahleninstitut der Stadt, Krankenhaus, Flurstr. 17, 85 Nuremberg)

30-1. **Colorado-Wyoming Acad. of Science**, annual, Univ. of Denver, Denver, Colo. (C. Norton, Dept. of Botany and Plant Pathology, Colorado State Univ., Fort Collins)

30-1. **Indiana Acad. of Science**, Culver. (C. F. Dineen, St. Mary's College, Notre Dame, Ind. 46556)

30-1. **Nebraska Acad. of Sciences**, Lincoln. (C. B. Schultz, Morrill Hall 101, Univ. of Nebraska, 14th and U St., Lincoln 68508)

30-2. **Society of Biological Psychiatry**, New York, N.Y. (G. N. Thompson, 2010 Wilshire Blvd., Los Angeles, Calif.)

30-2. **Academy of Psychoanalysis**, annual, New York, N.Y. (A. H. Rifkin, 125 E. 65 St., New York 10021)

30-2. **American Psychosomatic Soc.**, annual, Philadelphia, Pa. (APS, 265 Nassau Rd., Roosevelt, N.Y. 11575)

30-3. **American Psychoanalytic Assoc.**, 52nd annual, New York, N.Y. (APA, 1 E. 57 St., New York 10022)

## May

1-2. **Academy of Psychoanalysis**, New York, N.Y. (A. H. Rifkin, AP, 125 E. 65 St., New York 10021)

1-2. **American Psychosomatic Soc.**, 22nd annual, Philadelphia, Pa. (E. Meyer, 265 Nassau Rd., Roosevelt, N.Y.)

1-4. **Southern Surgeons' Club**, 22nd annual, Louisville, Ky. (H. M. Carney, 619 Main St., Texarkana, Ark.-Tex.)

1-5. **American Assoc. of Medical Record Librarians**, Chicago, Ill. (Mrs. M. J. Waterstraat, 840 N. Lake Shore Dr., Chicago 60610)

1-6. **American Ceramic Soc.**, 67th annual, Philadelphia, Pa. (ACS, 4055 N. High St., Columbus, Ohio 43214)

2. **American Federation for Clinical Research**, Atlantic City, N.J. (J. E. Bryan, 2000 P St., NW, Washington, D.C. 20036)

2-5. **American Assoc. of Plastic Surgeons**, Boca Raton, Fla. (R. M. McCormack, 260 Crittenden Blvd., Rochester, N.Y. 14620)

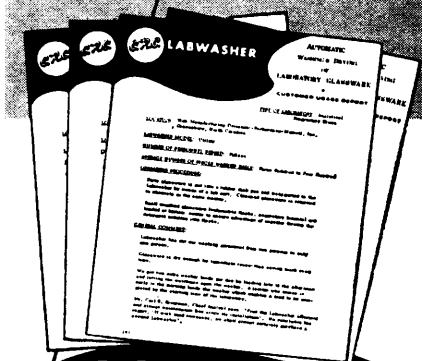
2-6. **Southwestern and Rocky Mountain Div., AAAS**, Flagstaff, Ariz. (M. G. Anderson, P.O. Box 97, University Park, N.M.)

2-6. **Arizona Acad. of Science**, Flagstaff. (H. B. Whitehurst, Arizona State Univ., Tempe)

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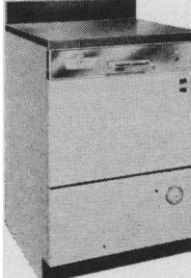
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2-6. **Student American Medical Assoc.**, 15th annual, Chicago, Ill. (SAMA, 333 N. Michigan Ave., Chicago 60601)

2-8. **Stereochemistry**, conf., Bürgenstock, Switzerland. (A. Dreiding, Organisch-Chemisches Inst., Universität Zurich, Rämistr. 76, Zurich 7, Switzerland)

2-8. **Endodontia**, 3rd intern. symp., Barcelona, Spain. (J. N. Ferrero, Intern. Soc. of Endodontia, Via Layetana, Tapineria 10, 2° Barcelona 2)

3-5. **Automation Theory**, congr., Paris, France. (Comité de la Théorie, Assoc. Française de Régulation et d'Automatisme, 19, rue Blanche, Paris 19°)

3-5. **Industrial Research** Inst., Boca Raton, Fla. (The Institute, 100 Park Ave., New York 10017)

3-5. **Terrestrial Radioecology**, symp., Richland, Wash. (F. P. Hungate, Biology Dept., Battelle Memorial Inst., Pacific Northwest Laboratory, Richland 99352)

3-6. **Microbiology**, intern. congr., Parma, Italy. (The Congress, c/o Ente Provinciale per il Turismo, Piazza Duomo 5, Parma)

3-7. **Industrial Hygiene**, conf., Houston, Tex. (American Industrial Hygiene Assoc., 14125 Prevost, Detroit, Mich. 48227)

3-7. **Molecular Basis of Infectious Heredity**, U.S.-Japan cooperative science program seminar, Honolulu, Hawaii. (Office of Intern. Science Activities, National Science Foundation, Washington 25)

3-7. **Legal and Social Medicine**, intern. French-language congr., Coimbra, Portugal. (L. A. Duarte-Santos, Inst. de Medicina Legal de Coimbra)

3-7. **American Psychiatric Assoc.**, 121st annual, New York, N.Y. (APA, 1700 18th St., NW, Washington, D.C.)

3-15. **Psychotherapy Week**, 15th, Lindau, Germany. (Secretary, Adalbert Stifter-Str. 31, Munich 27, Germany)

3-18. **Energy Policy** in Developing Countries, seminar, Bréau, France. (P. de Seynes, United Nations, New York, N.Y.)

4-6. **Genetics** Soc. of Canada, annual, Banff, Alberta. (C. O. Person, Dept. of Genetics, Univ. of Alberta, Edmonton)

4-6. **Society for Pediatric Research**, Philadelphia, Pa. (W. B. Weil, Jr., J. H. Miller Health Center, Univ. of Florida, Gainesville)

4-7. **Rubber Chemistry and Technology**, rubber chemistry div., American Chemical Soc., Miami Beach, Fla. (G. N. Vacca, Bell Telephone Laboratories, Murray Hill, N.J.)

4-7. **Industrial Communications Assoc.**, 18th annual conf., Pittsburgh, Pa. (H. C. Granger, Pittsburgh Plate Glass Co., Pittsburgh 15222)

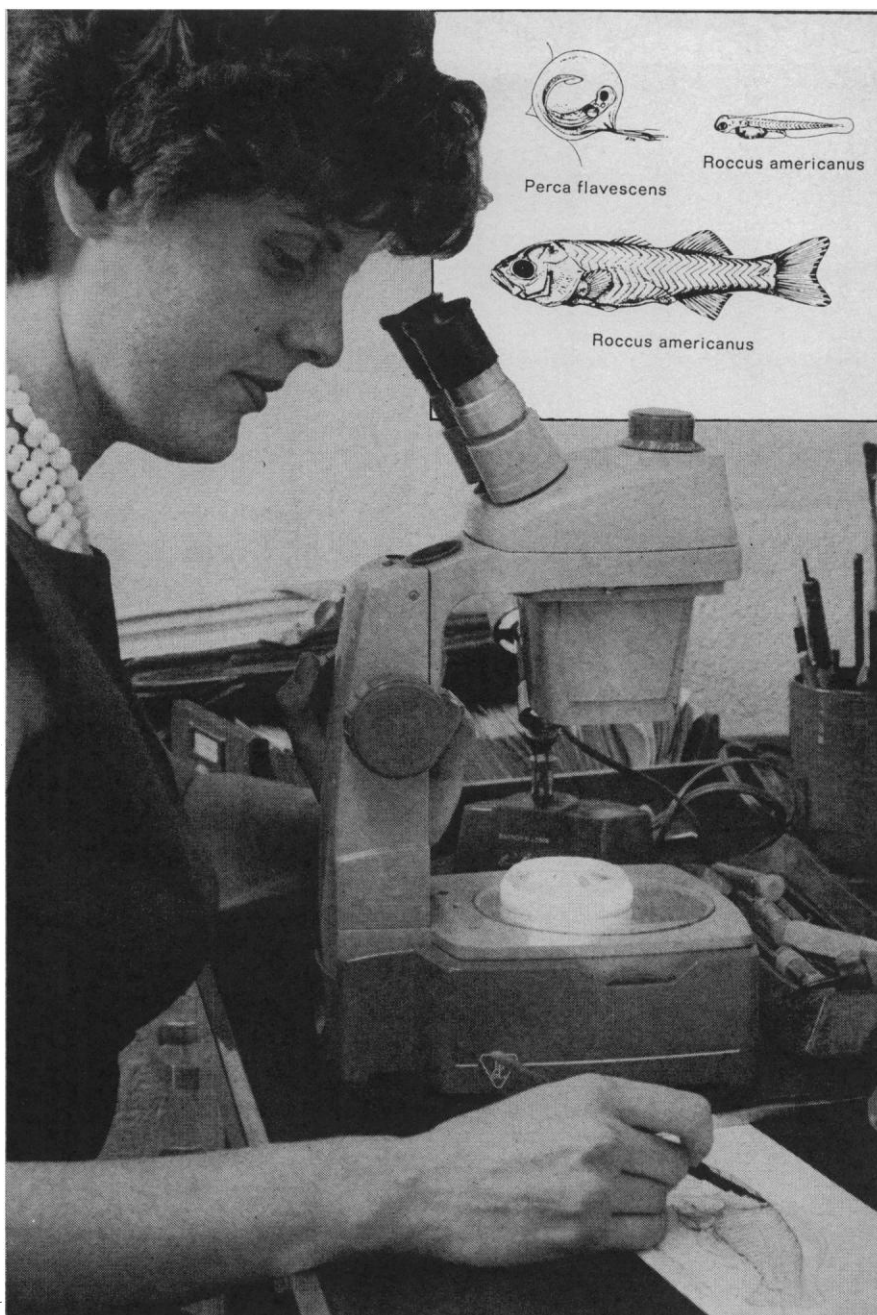
4-21. **World Health Assembly**, 18th annual, Geneva, Switzerland. (WHO, Palais des Nations, Geneva)

5. **Association of American Physicians**, annual, Atlantic City, N.J. (E. A. Stead, Jr., Duke Hospital, Durham, N.C.)

5-7. **Electronic Components**, conf., Washington, D.C. (B. Schwartz, IBM Components Div., Poughkeepsie, N.Y. 12602)

5-7. **American Assoc. of Genitourinary Surgeons**, Biloxi, Miss. (H. M. Spence, 4105 Live Oak, Dallas 21, Tex.)

5-7. **Microwave Theory and Techniques**, 10th symp., Clearwater, Fla. (J. E. Pippin, Sperry Microwave Electronics Co., Box 1828, Clearwater)



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Mrs. Mansueti makes her own illustrations of tiny eggs and larval stages of fish. Some of the eggs, from which drawings are made, are only 0.75mm in diameter. She uses the StereoZoom exclusively. Mrs. Mansueti says: "I have been illustrating the egg and larval stages of fish for approximately 10 years, using the StereoZoom exclusively since it was purchased in 1960. I particularly like the zoom feature which enables me to draw details without danger of losing track of my specimen while changing to higher power to more clearly show the intricate structures."

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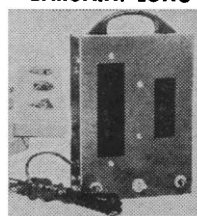
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5-8. Programmed Instruction, 3rd natl. conv., Philadelphia, Pa. (H. M. Shafer, Graduate School of Education, Univ. of Pennsylvania, Philadelphia 19104)

5-8. Pulp and Paper Instrumentation, 6th intern. symp., Instrument Soc. of America, Green Bay, Wis. (ISA, 530 William Penn Place, Pittsburgh 19, Pa.)

5-8. Virginia Acad. of Science, Richmond. (R. C. Berry, The Academy, P.O. Box 8203, Richmond)

5-9. Laboratory Medicine, congr., German Soc. of Specialists for Diagnostic Laboratories, Bad Kissingen. (W. Albath, 8700 Wurzburg, Katharinengasse 3, Germany)

6-7. Conference of Biological Editors, Philadelphia, Pa. (R. E. Gordon, Dept. of Biology, Univ. of Notre Dame, Notre Dame, Ind.)

6-7. Cellulose, 5th conf., State Univ. of New York, Syracuse. (Cellulose Research Inst., State Univ. College of Forestry, Syracuse Univ., Syracuse 13210)

6-7. Operations Research Soc. of America, 27th natl., Boston, Mass. (J. H. Engel, Operations Evaluation Group, Center for Naval Analysis, 1401 Wilson Blvd., Arlington, Va.)

6-8. Society for American Archaeology, Univ. of Illinois, Urbana. (E. M. Davis, Dept. of Anthropology, Univ. of Texas, Austin 78712)

6-8. Business Aircraft, conf., Soc. of Automotive Engineers, Wichita, Kan. (M. J. Gordon, Commercial Engineering Dept., Beech Aircraft Corp., Wichita)

6-8. Human Factors in Electronics, 6th natl. symp., Inst. of Electrical and Electronics Engineers, Boston, Mass. (J. Senders, Bolt, Beranek and Newman, Inc., 50 Moulton St., Cambridge, Mass.)

6-8. Kansas Acad. of Science, Kansas State Univ., Manhattan. (R. J. Robel, Dept. of Zoology, Kansas State Univ., Manhattan)

6-8. Medical Women's Federation, annual, Cardiff, South Wales. (General Secretary, Tavistock House North, Tavistock Sq., London, W.C.1, England)

6-8. American Pediatric Soc., Philadelphia, Pa. (C. D. Cook, Yale Univ. Medical School, New Haven, Conn.)

6-8. Purification of Materials, conf., New York, N.Y. (Research Information Office, L. G. Hanscom Field, Bedford, Mass. 01731)

7-8. Minnesota Acad. of Science, Gustavus Adolphus College, St. Peter. (P. R. O'Connor, School of Chemistry, Univ. of Minnesota, Minneapolis 55406)

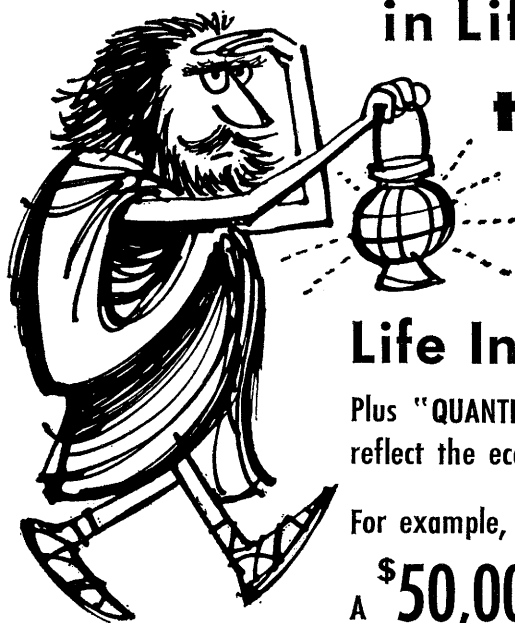
7-8. North Carolina Acad. of Science, Univ. of North Carolina, Chapel Hill. (J. A. Yarbrough, Meredith College, Raleigh, N.C.)

7-8. North Dakota Acad. of Science, Grand Forks. (B. G. Gustafson, General Extension Div., Univ. of North Dakota, Grand Forks)

7-9. Minerals, 10th annual symp., Grand Junction, Colo. (R. G. Beverly, P.O. Box 28, Grand Junction)

7-9. Wisconsin Acad. of Sciences, Arts and Letters, annual, Madison. (H. H. Clark, Dept. of English, Univ. of Wisconsin, Madison)

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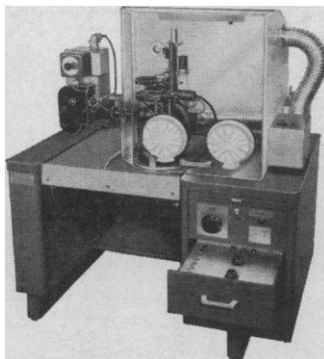
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8. **Legal Essentials for Pharmaceutical Sales Staff**, seminar, George Washington Univ., Washington, D.C. (Food Law Inst., 205 E. 42 St., New York 10017)

9-13. **Electrochemical Soc.**, San Francisco, Calif. (ES, 30 E. 42 St., New York 10017)

9-13. **American Assoc. of Orthodontists**, annual, Dallas, Tex. (J. E. Brophy, 7477 Delmar Blvd., St. Louis, Mo. 63130)

9-13. **American Urological Assoc.**, New Orleans, La. (W. P. Didusch, 1120 N. Charles St., Baltimore 1, Md.)

10-11. **Passive Gravity-Gradient Stabilization**, symp., Moffett Field, Calif. (B. Tinling, Theoretical Guidance and Control Branch, NASA Ames Research Center, Moffett Field 94035)

10-12. **Aerospace Electronics**, natl. conf., Dayton, Ohio. (Inst. of Electrical and Electronics Engineers, 1414 E. 3 St., Dayton 2)

10-12. **Canadian Nuclear Assoc.**, intern. conf., Quebec. (General Manager, CNA, 19 Richmond St. W., Toronto, Ont.)

10-12. **Organic Crystals**, intern. symp., Chicago, Ill. (Secretary of the Symposium, Univ. of Chicago, 5640 S. Ellis Ave., Chicago 60637)

10-12. **Quality Control**, 1st Pan American congr., Mexico, D.F. (E. R. Ott, c/o Statistics Center, Rutgers Univ., New Brunswick, N.J. 08903)

10-13. **National Geriatrics Soc.**, New York, N.Y. (W. Spigler, 1355 Cheltenham Ave., Philadelphia, Pa.)

10-13. **Southwestern Surgical Congr.**, 17th annual, Hot Springs, Ark. (Central Office, 301 Pasteur Medical Bldg., Oklahoma City, Okla. 73103)

10-14. **Pulsed Neutron Research**, Karlsruhe, Germany. (J. H. Kane, Intern. Conferences Branch, U.S. Atomic Energy Commission, Washington, D.C. 20545)

10-14. **Specific Tumor Antigens**, Sukhumi, Georgia, U.S.S.R. (Acad. of Medical Sciences of the U.S.S.R., 14, Sol-yanka, Moscow)

10-21. **Committee on Space Research**, 8th plenary meeting, Buenos Aires, Argentina. (Secretariat, 55 Boulevard Malesherbes, Paris 8<sup>e</sup>, France)

11-13. **Vectorcardiography**, intern. conf. New York, N.Y. (E. C. Meilman, Long Island Jewish Hospital, New Hyde Park, N.Y. 11040)

11-14. **Gas Chromatography**, 5th symp., Berlin, Germany. (Unterkommission für Gaschromatographie, Sektion Chemie, Deutsche Akademie der Wissenschaften zu Berlin, Permoserstr. 15, Leipzig 05, Germany)

12. **Institution of Metallurgists**, annual, London, England. (Institution, 4 Grosvenor Gardens, London, S.W.1)

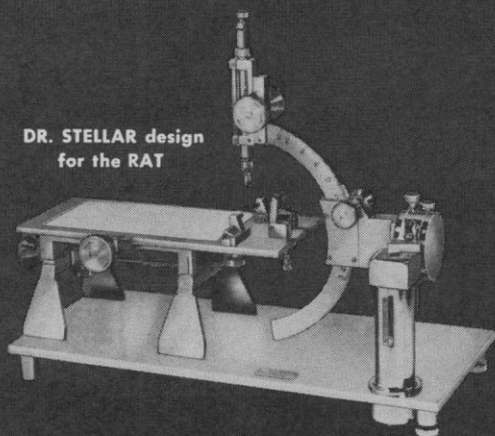
12-13. **Control of Water Quality**, natl. forum, American Soc. for Testing and Materials, Philadelphia, Pa. (ASTM, Committee D-19 on Industrial Water, 1916 Race St., Philadelphia 19103)

12-24. **Power Instrumentation**, 8th natl. symp., New York, N.Y. (H. H. Johnson, 4 Irving Pl., New York 10013)

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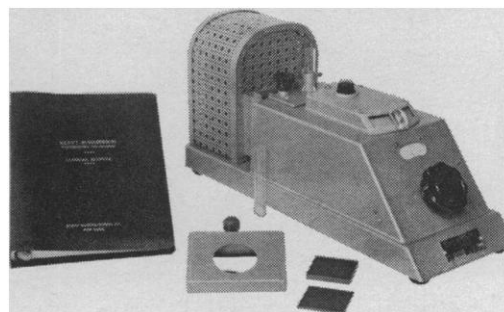
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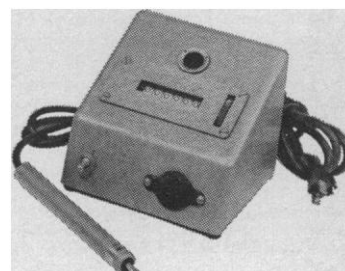


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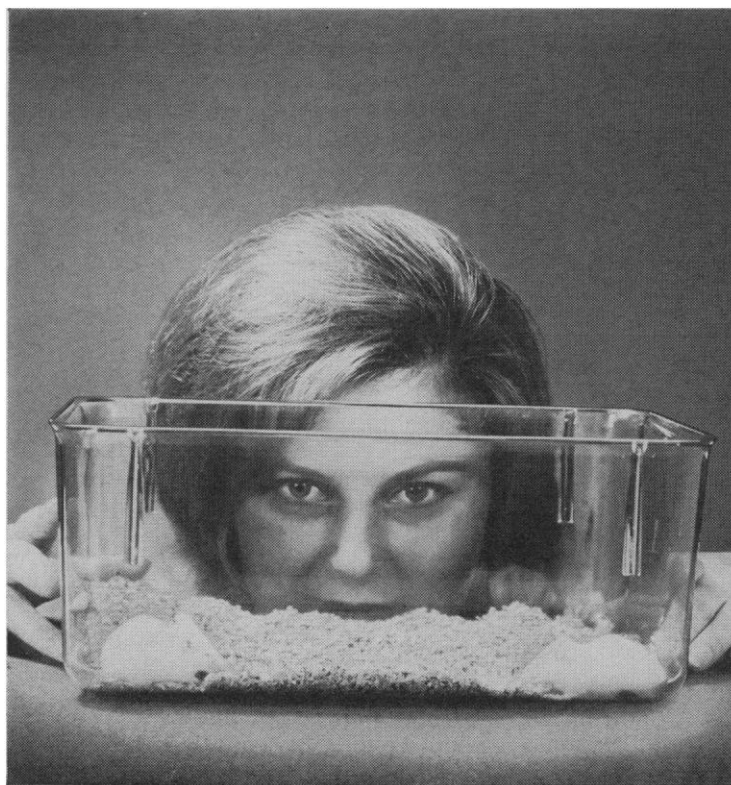
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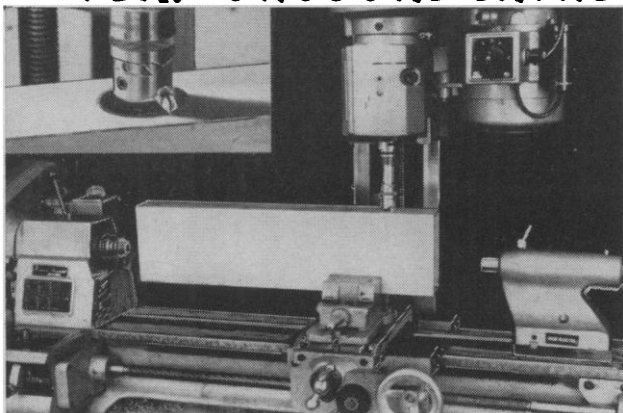
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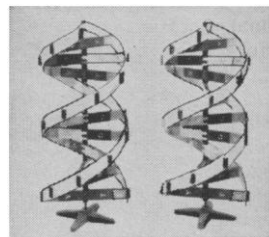
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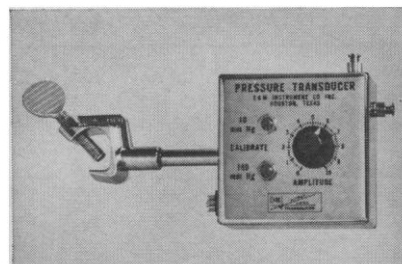
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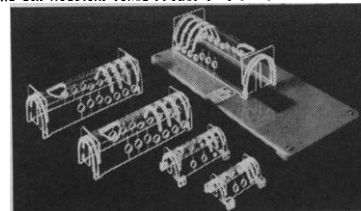


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13-14. American Inst. of Mining, Metallurgical, and Petroleum Engineers, New England regional conf., Hartford, Conn. (AIMMPE, 345 E. 47 St., New York 10007)

13-14. Canadian Council of Professional Engineers, annual, Charlottetown, Prince Edward Island. (CCPE, 116 Albert St., Ottawa 4, Ontario)

13-14. Signal Transmission and Processing, symp., New York, N.Y. (L. E. Franks, Bell Telephone Laboratories, 1600 Osgood St., North Andover, Mass. 01845)

13-15. American Inst. of Industrial Engineers, 16th annual, Chicago, Ill. (W. J. Jaffe, Dept. of Industrial Engineering, Newark College of Engineering, Newark, N.J. 07102)

13-15. Powder Metallurgy, 3rd intern., Eisenach, East Germany. (Gesellschaft Deutscher Berg- und Hüttenleute, Wallstr. 68, Berlin C.2, East Germany)

13-19. Space Science, 6th intern. symp., Buenos Aires, Argentina. (COSPAR Secretariat, 55, Boulevard Malesherbes, Paris 8°, France)

14-15. Association of University Radiologists, annual, Seattle, Wash. (A. R. Margulis, AUR, Dept. of Radiology, Univ. of California Medical Center, San Francisco)

16-19. American Inst. of Chemical Engineers, 56th natl., San Francisco, Calif. (A. E. Aronson, A. B. Dick Co., 5700 W. Touhy Ave., Chicago 48)

16-20. Institute of Food Technologists, annual, Kansas City, Mo. (C. L. Wiley, Suite 1350, 170 W. Adams St., Chicago, Ill. 60603)

16-21. Mass Spectrometry, 13th annual conf., St. Louis, Mo. (H. M. Rosenstock, Natl. Bureau of Standards, Washington, D.C. 20234)

17-18. Canadian Aeronautics and Space Inst., annual, Vancouver, B.C. (H. C. Luttmann, 77 Metcalfe St., Ottawa 4, Ont.)

17-19. Application of Computing Methods to Reactor Problems, conf., Argonne, Ill. (B. J. Toppel, Reactor Physics Div., Argonne Natl. Laboratory, 9700 S. Cass Ave., Argonne)

17-19. American College of Physicians, Far East session, Tokyo, Japan. (Session Coordinator ACP, USAF Hospital Tachikawa, APO 323, San Francisco, Calif.)

17-21. American Soc. of Civil Engineers, Minneapolis, Minn. (W. H. Wisely, ASCE, 345 E. 47 St., New York 10017)

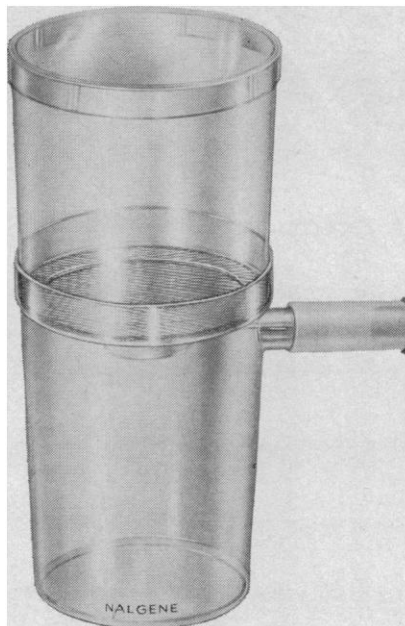
17-21. Nondestructive Testing in Nuclear Technology, symp., Bucharest, Rumania. (P. Ghelardoni, Div. of Scientific and Technical Information, Intern. Atomic Energy Agency, Kärntner Ring 11, Vienna 1, Austria)

17-21. Society of Photographic Scientists and Engineers, annual conf., Cleveland, Ohio. (W. E. Granshaw, Eastman Kodak Co., 4605 Mackall Rd., South Euclid 21, Ohio)

18-20. Aerospace Fluid Power Systems and Equipment, conf., Los Angeles, Calif. (Soc. of Automotive Engineers, 485 Lexington Ave., New York 10017)

18-20. Power Sources, 20th conf., U.S. Army Electronics Research and Development Laboratories, Atlantic City, N.J.

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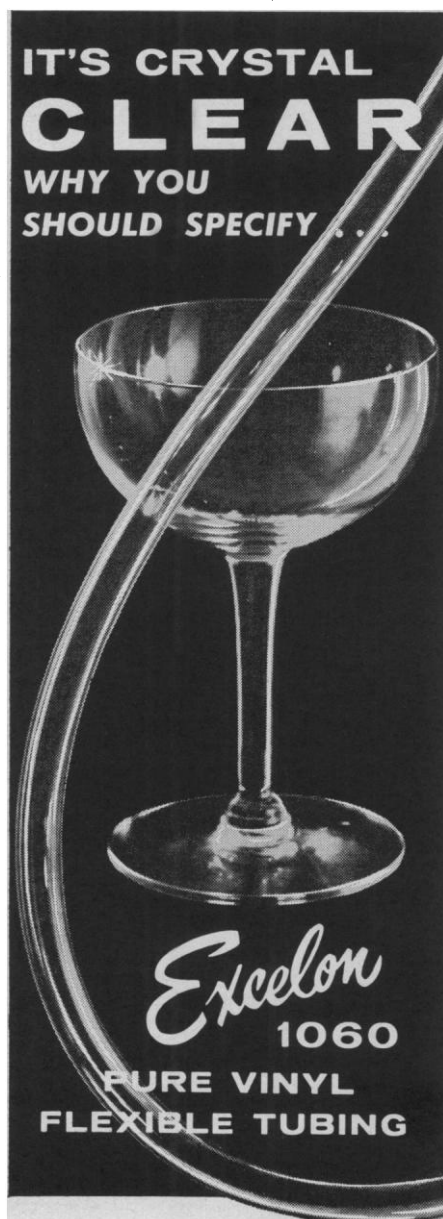
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18-20. **Telemetering**, intern. conf., Washington, D.C. (J. D. Cates, ITC/USA/65, White Sands Missile Range, N.M.)

19. **Memorial Hospital of Long Beach**, symp., Long Beach, Calif. (G. X. Trimble, Memorial Hospital, 2801 Atlantic Ave., Long Beach 90801)

19-21. **Atherosclerosis**, Czechoslovak-Italian symp., Prague, Czechoslovakia. (T. Zempenyi, Thomayerova nemocnice, Prague-Krc, Czechoslovakia)

19-21. **Computer Applications**, power industry conf., Clearwater, Fla. (G. W. Stagg, American Electric Power Service Corp., 2 Broadway, New York 10008)

19-21. **Gamete Transport, Fertilization, and Preimplantation Mechanisms**, conf., Vanderbilt Univ., Nashville, Tenn. (Dept. of Obstetrics and Gynecology, Vanderbilt Univ. School of Medicine, Nashville 37203)

19-21. **Mathematical and Quantitative Linguistics**, intern. conf., New York, N.Y. (Y. Gentilhomme, 11, rue Linne, Paris 5<sup>e</sup>, France)

19-22. **Society of Technical Writers and Publishers**, 12th annual conv., New York, N.Y. (H. Adler, Data Communication, Inc., 404 Park Ave. South, New York 10016)

19-22. **Southern Textile Research** conf., 5th annual, Hildon Head Island, S.C. (W. H. Martin, Inst. of Textile Technology, Charlottesville, Va.)

20. **Institution of Mining and Metallurgy**, annual, London, England. (The Institution, 44 Portland Pl., London, W.1)

20-21. **Chemical Engineering**, conf., Sydney, Australia. (Secretary, Inst. of Engineers, Australia, Science House, Gloucester and Essex St., Sydney)

20-21. **Electrical Conduction at Low Temperatures**, European symp., London, England. (Administration Assistant, Inst. of Physics and the Physical Soc., 47 Belgrave Sq., London, S.W.1)

20-21. **Fiber Soc.**, Atlanta, Ga. (L. Rebenfeld, Box 625, Princeton, N.J.)

20-21. **Medical Diagnostic Applications of Ultrasound**, conf., Pittsburgh, Pa. (C. Moses, Univ. of Pittsburgh School of Medicine, Pittsburgh 15213)

20-22. **American Cleft Palate Assoc.**, annual, New York, N.Y. (C. O. Wells, Parker Hall, Columbia, Mo.)

20-22. **Diabetology**, Paris, France. (M. Rathery, Hôtel-Dieu, 1, Pl. du Parvis Notre-Dame, Paris 4<sup>e</sup>)

20-22. **American Gynecological Soc.**, New York, N.Y. (C. J. Lund, 260 Crittenden Blvd., Rochester 20, N.Y.)

20-25. **Intersexuality in Fishes**, Sarasota, Fla. (E. Clark, Cape Haze Marine Laboratory, 9501 Blind Pass Rd., Sarasota)

21-22. **Surface Physics**, 3rd annual symp., Pullman, Wash. (E. E. Donaldson, Dept. of Physics, Washington State Univ., Pullman)

21-22. **Women of Science**, symp., Bennington, Vt. (H. W. Toolan, Putnam Memorial Hospital Inst. for Medical Research, Bennington)

21-23. **Exfoliative Cytology**, 2nd intern. congr., Paris, France. (Intern. Acad. of Cytology, 5841 Maryland Ave., Chicago, Ill. 60637)

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This new 1965 book graphically illustrates the morphogenesis of human primary dentition with superb photographs of actual specimens. Written in the expectation that a detailed morphogenetic study of the human primary molars might throw much needed light on the potential role of the dentition in the study of evolution and biologic and genetic relationships, the book offers step-by-step documentation of their development. The mandibular and maxillary first and second primary molars, and the anterior teeth and permanent molars are covered in terms of morphology of the final crown, development before calcification, onset of calcification, and status at birth. Based upon macroscopic examination of hundreds of human fetuses, the book concludes with discussions on Sequence, Pattern and Rates of Growth; Comparative Odontology and Odontogenesis, Evolution, and Racial Differences; and Genetics and the Dentition. For dental anatomists, anthropologists, paleontologists and zoologists.

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SCIENCE, VOL. 148

23-24. American Laryngological Assoc., annual, Colorado Springs, Colo. (L. G. Richards, 12 Clovelly Rd., Wellesley Hills 82, Mass.)

23-26. Administrative Management Soc., 46th intern. conf., Minneapolis, Minn. (R. C. Walter, 32 W. 40 St., New York 10018)

23-26. Radiation Research, 13th annual, Philadelphia, Pa. (A. C. Upton, Biology Div., Oak Ridge Natl. Laboratory, Oak Ridge, Tenn.)

23-26. Social Medicine, intern. conf., Berlin, Germany. (Secretariat, Deutsche Gesellschaft für Sozialmedizin, Alsterglacis 3, Hamburg 13, Germany)

24-26. Hygiene and Preventive Medicine, 4th intern. congr., Vienna, Austria. (Vienna Academy of Medicine, Alserstr. 4, Vienna 9)

24-26. Standardization of Pharmaceutical Preparations, 2nd intern. congr., Leipzig, East Germany. (J. Richter, Deutsches Inst. für Arzneimittelwesen, Grosse Seestr. 4, Berlin-Weissensee, East Germany)

24-27. Thyroid, 5th intern. conf., Rome, Italy. (T. Winship, American Thyroid Assoc., 110 Irving St., NW, Washington, D.C. 20010)

24-28. Australian Inst. of Metals, annual conf., Brisbane. (Secretary, AIM, P.O. Box 107, North Quay, Brisbane)

24-28. International Planned Parenthood Federation, Western Pacific regional conf., Seoul, Korea. (T. Katagiri, IPPF Western Pacific Regional Office, No. 2, 1-chome, Sadohara-cho, Ichigaya, Shinjuku, Tokyo, Japan)

24-28. Radioisotope Sample Measurement Techniques in Medicine and Biology, intern. symp., Vienna, Austria. (J. H. Kane, Intern. Conferences Branch, Div. of Special Projects, U.S. Atomic Energy Commission, Washington, D.C. 20545)

24-29. International Federation for Information Processing, congr., New York, N.Y. (AFIP, 345 E. 47 St., New York 10017)

24-1. Cloud Physics, intern. conf., Tokyo and Sapporo, Japan. (H. Hatakeyama, Japan Meteorological Agency, Otemachi Chiyoda-ku, Tokyo)

25. American Iron and Steel Inst., annual, New York, N.Y. (G. S. Rose, 150 E. 42 St., New York 10017)

25-26. American Otological Soc., Colorado Springs, Colo. (J. A. Moore, 525 E. 68 St., New York 10021)

25-27. Armed Forces Communications and Electronics Assoc., 19th annual conv., Washington, D.C. (AFCEA, 1725 Eye St., NW, Washington 20006)

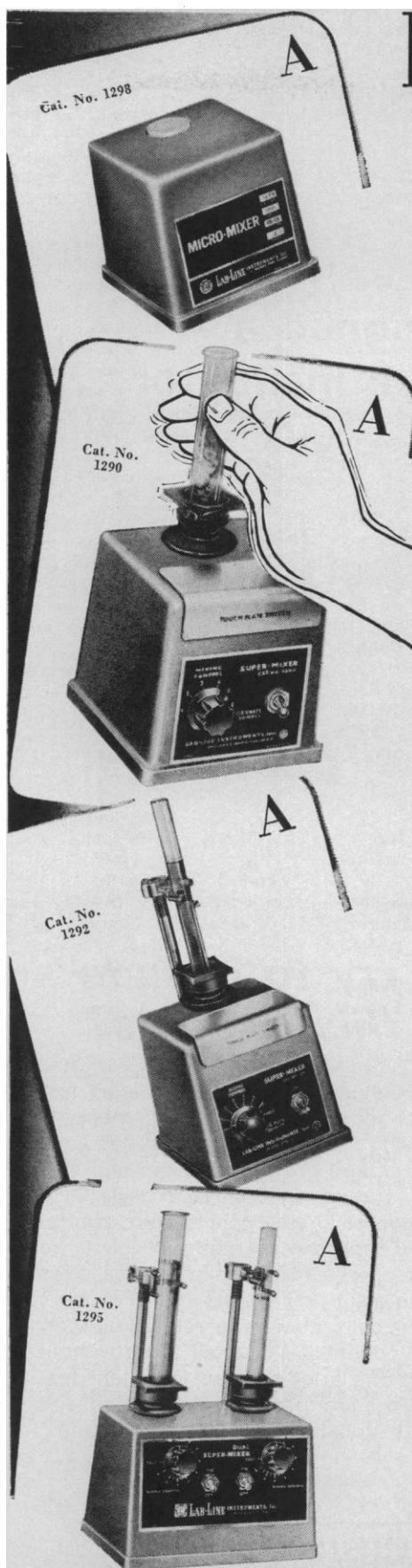
25-27. American Astronautical Soc./Aerospace Electrical Soc., Space Electronics symp., Los Angeles, Calif. (L. T. Isaacs, Douglas Aircraft Corp., Long Beach, Calif.)

25-28. American Assoc. for Contamination Control, 4th annual, Miami Beach, Fla. (W. T. Maloney, AACC, 6 Beacon St., Boston, Mass. 02108)

25-29. Structure and Control of the Melanocyte, conf., Sofia, Bulgaria. (N. Anchev, c/o Oncological Inst., Sofia)

25-29. American Assoc. on Mental Deficiency, 89th annual, Miami Beach, Fla. (J. E. Horner, AAMD, Oregon Fairview Home, 2250 Strong Rd., SE, Salem, Ore.)

26-28. Canadian Botanical Assoc.,



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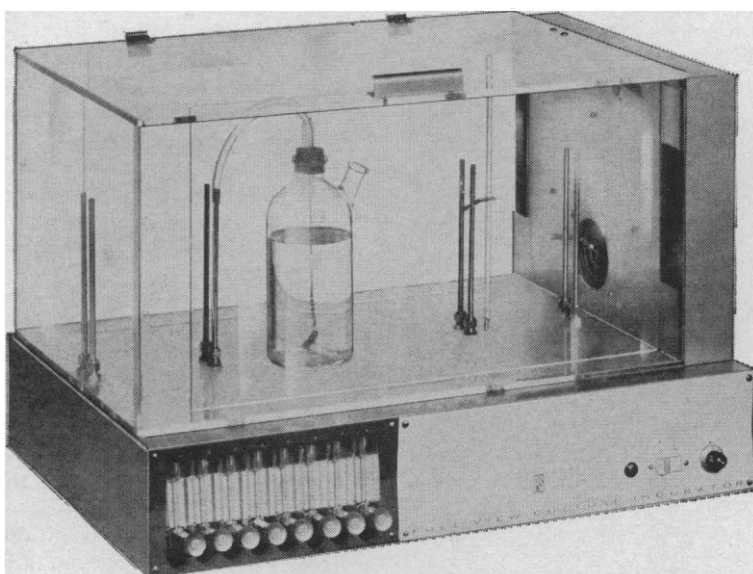
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Carleton University, Ottawa, Ont. (R. L. Taylor, Plant Research Inst., C.E.F., Ottawa, Canada)

26-28. **Cineradiography**, 3rd symp., Antwerp, Belgium. (S. Masy, Steenweg op Waver 256, Heverle, Belgium)

26-28. **Peaceful Uses of Space**, 5th natl. conf., St. Louis, Mo. (G. W. Ferguson, Fleishman-Hillard, Inc., 407 N. 8 St., St. Louis 63101)

26-28. **Analysis Instrumentation and Chemical and Petroleum Instrumentation**, 1st ISA intern. symp., Montreal, Quebec, Canada. (E. J. Minnar, ISA, 530 William Penn Pl., Pittsburgh, Pa. 16219)

26-29. **Biological Characterization of Human Tumors**, intern. symp., Abbaye de Royaumont, France. (W. Davis, c/o Chester Beatty Research Inst., Fulham Rd., London, S.W.3, England)

26-29. **Electrochemical Aspects of Molecular Biology**, symp., Jena, East Germany. (H. Berg, Inst. für Mikrobiologie und Experimentelle Therapie, Deutsche Akademie der Wissenschaften zu Berlin, Beuthenbergstr. 11, Jena)

27-29. **American Gastroenterological Assoc.**, Montreal, Quebec, Canada. (D. Cayer, 2240 Cloverdale Ave., Winston-Salem, N.C.)

27-29. **American Ophthalmological Soc.**, Hot Springs, Va. (S. D. McPherson, Jr., 1110 W. Main St., Durham, N.C.)

27-29. **American Assoc. of Physical Anthropologists**, annual, Pennsylvania State Univ., University Park. (F. E. Johnston, Dept. of Anthropology, Univ. of Pennsylvania, Philadelphia 4)

27-30. **Neuro-Ophthalmology and Neurogenetics**, intern. congr., Albi, France. (M. Amalric, Congrès Intern. de Neuro-Ophthalmologie et Neuro-Génétique, B.P. 79, Albi, Tarn, France)

27-30. **German Bunsen Soc. for Physical Chemistry**, 64th general assembly, Innsbruck, Austria. (Deutsche Bunsen-Gesellschaft für Physikalische Chemie, Varrentrappstr. 40-42, 6 Frankfurt am Main, Germany)

27-11. **World Meteorological Organization**, 17th executive committee session, Geneva, Switzerland. (WMO, 41 avenue Giuseppe Motta, Geneva)

28-1. **Canadian Assoc. of Geographers**, annual, Vancouver, B.C. (Local Arrangements Committee, Dept. of Geography, Univ. of British Columbia, Vancouver 8)

30-2. **Recent Advances in Adrenal Steroid Metabolism**, symp., Montreal, Quebec, Canada. (Chemical Inst. of Canada, 48 Rideau St., Ottawa 2)

30-2. **Canadian Dental Assoc.**, conv., Quebec. (L. Bernier, 1024, avenue des Erables, Quebec)

30-2. **American Thoracic Soc.**, Chicago, Ill. (F. W. Webster, 1790 Broadway, New York 10019)

30-2. **National Tuberculosis Assoc.**, Chicago, Ill. (S. Wicker, 1790 Broadway, New York 10019)

30-3. **Medical Library Assoc.**, annual, Philadelphia, Pa. (MLA, 919 N. Michigan Ave., Chicago 11, Ill.)

31-2. **Chemical Inst. of Canada**, 48th conf., Montreal, Quebec. (Chemical Inst. of Canada, 48 Rideau St., Ottawa 2)

31-2. **Canadian Museums Assoc.**, annual, Ottawa, Ontario. (Mrs. H. Downie, Royal Ontario Museum, Univ. of Toronto, 100 Queen's Park, Toronto 5)



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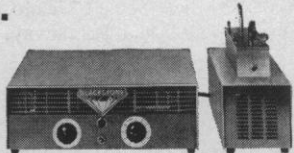
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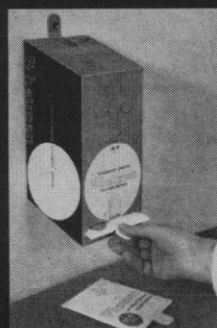
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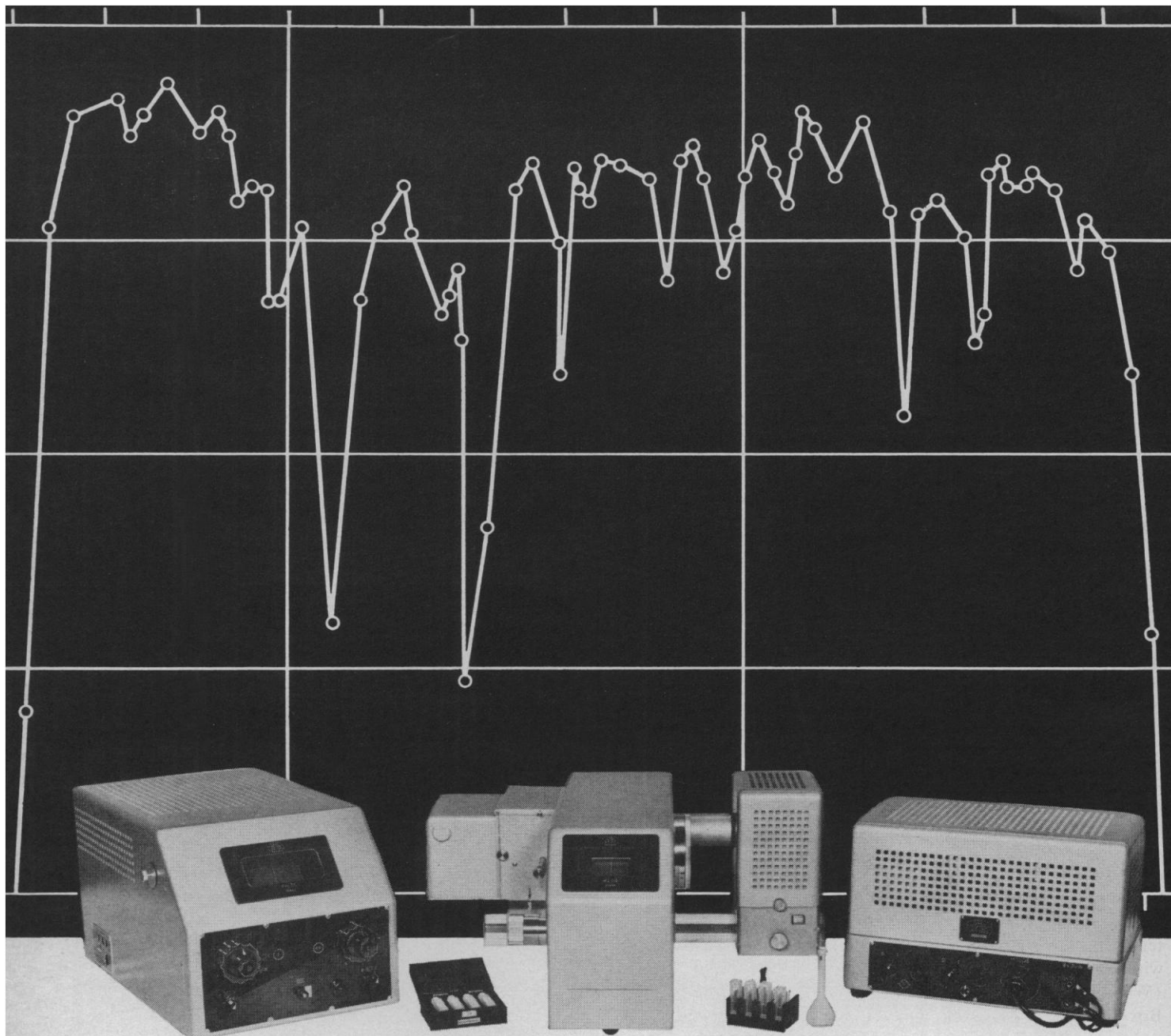
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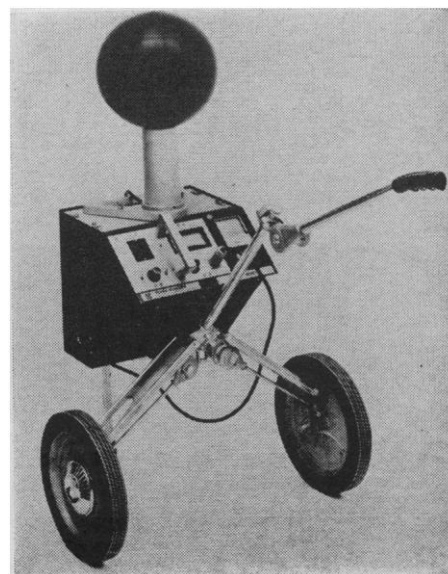
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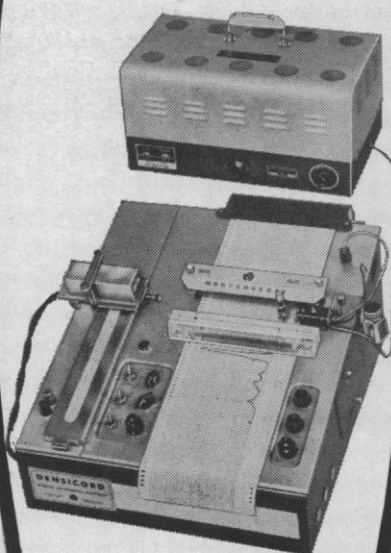
The material in this section is prepared by Denis J. Prager (D.J.P.), Laboratory of Technical Development, National Heart Institute, Bethesda 14, Md. (medical electronics and biomedical laboratory equipment).

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither *Science* nor the writer assumes responsibility for the accuracy of the information. A Readers' Service card for use in mailing inquiries concerning the items listed is included on pages 147 and 281. Circle the department number of the item in which you are interested on this card.



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meter operated by battery or a-c power, 9147 strip-chart recorder, 9148 decade scaler, and 9149 mobile-instrument carrier. The 9145 detector assembly contains a 4- by 8-mm Li<sup>6</sup>I (Eu) crystal surrounded by a 10-inch (25-cm) spherical polyethylene moderator. Scintillation crystal is coupled to a magnetically shielded photomultiplier through a lucite light pipe. The 9146 has four switch-selected scales ranging from 1 to 1000 mrem/hr, full scale. The high sensitivity of the detector assembly and proper choice of time constants permit meaningful readings  $\geq 0.2$  mrem/hr on the lowest scale. A fast, six-digit register can scale individual events from the detector assembly for very accurate dose determinations in the range below 0.5 mrem/hr; such may be found at the boundaries of restricted areas. The 9147, compact and a-c-operated, yields a continuous time-indexed recording of dose history; chart speed, 1 inch/hr. The 9148 is a completely transistorized 10<sup>7</sup>-capacity scaler with three electronic decades and a four-digit register; it permits long-term integrated dose measurements where rapidly varying dose rates preclude use of a rate-meter. The 9149 is a ruggedly constructed cart for transporting the components of the 9140 system; the 12-inch diameter wheels enable the system to negotiate stairs, cables, and such; it supports the 9140 assembly in a shadow-free configuration at abdominal level.—D.J.P. (Texas Nuclear Corp., 9101 Highway 183, P.O. Box 9267, Allandale Station, Austin, Texas 78756)

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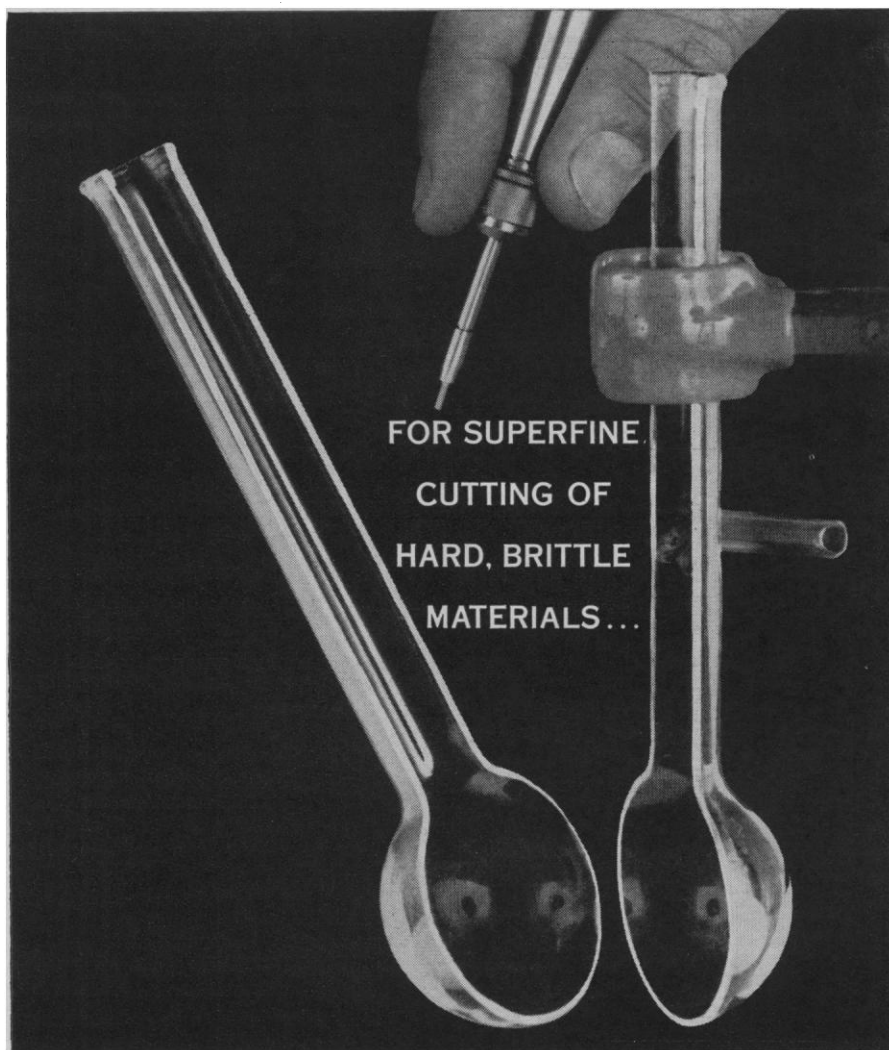
**Chemical standards kits**, for use in gas chromatography, contain ten individual chemical standards, and five calibration mixtures within a homologous series. Quantitative kits have chemicals of greater purity. Supplied with each kit are retention data for all compounds in the kit, chromatograms of the five calibration mixtures on three liquid phases, and references to the literature on analysis with the type of compounds in the kit (each reference details operating conditions). For use in identifying unknown peaks, determining detector and instrument responses, teaching gas chromatography, and determining Kovats indexes. Currently available are:

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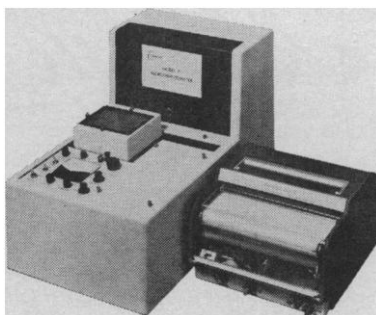
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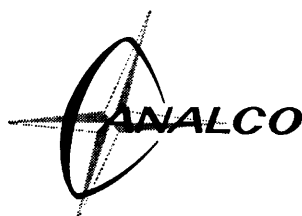
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## NEW BOOKS

(Continued from page 219)

Theodore Morgan; "On the economics of 'imperialism'" by Bernard Semmel; and "The economics of disarmament and co-existence" by Emile Benoit.

**The Economics of Health.** Herbert E. Klarman. Columbia Univ. Press, New York, 1965. 208 pp. \$3.95.

**Educational Anthropology: An Introduction.** George F. Kneller. Wiley, New York, 1965. 181 pp. Illus. Paper, \$2.45; cloth, \$4.50.

**The Evolution and Growth of Human Behavior.** Norman L. Munn. Houghton Mifflin, Boston, ed. 2, 1965. 606 pp. Illus. \$8.50.

**Foundations of Behavioral Research.** Educational and psychological inquiry. Fred N. Kerlinger. Holt, Rinehart, and Winston, New York, 1964. 758 pp. Illus.

**Frameworks for Dating Fossil Man.** Kenneth P. Oakley. Aldine, Chicago, 1964. 365 pp. Illus. \$8.75.

**The Fusion of Psychiatry and Social Science.** Harry Stack Sullivan. Norton, New York, 1964. 382 pp. Illus. \$7.50.

**Handbook of Middle American Indians.** vol. 1, *Natural Environment and Early Cultures.* Robert C. West, Ed. Univ. of Texas Press, Austin, 1964. 578 pp. Illus. \$15. Fourteen papers contributed by Luis Avelayra Arroyo de Anda, Albert Collier, Gordon F. Ekholm, Jorge A. Vivó Escoto, Carl L. Hubbs, Richard S. MacNeish, Manuel Maldonado-Koerdell, Paul C. Mangelsdorf, René F. Milon, Gunnar I. Roden, Rayfred L. Stevens, L. C. Stuart, Jorge L. Tamayo, Philip L. Wagner, Robert C. West, and Gordon R. Willey.

**Human Learning.** Studies extending conditioning principles to complex behavior. Arthur W. Staats, Ed. Holt, Rinehart, and Winston, New York, 1964. 538 pp. Illus. \$8.50. Forty-nine papers grouped under the following subject headings: Child Learning (7 papers); Verbal Behavior (6 papers); Communication and Other Functions of Language (9 papers); Problem Solving (5 papers); Attitude Learning and Human Motivation (4 papers); Social Interaction, Attitude Function, Group Cohesiveness, and Social Power (6 papers); Personality (6 papers); and Behavioral Treatment (6 papers).

**Introducing Social Change.** A manual for Americans overseas. Conrad M. Arensberg and Arthur H. Niehoff. Aldine, Chicago, 1964. 224 pp. \$4.95.

**Knowing the Gururumba.** Philip L. Newman. Holt, Rinehart, and Winston, New York, 1965. 128 pp. Illus. Paper, \$1.50.

**The Lost Universe.** Gene Weltfish. Basic Books, New York, 1965. 528 pp. \$12.50.

**The Lugbara of Uganda.** John Middleton. Holt, Rinehart, and Winston, New York, 1965. 112 pp. Illus. Paper, \$1.50.

**Memory: A Contribution to Experimental Psychology.** Hermann Ebbinghaus. Translated from the German (Leipzig, 1885) by Henry A. Ruger and Clara E. Bussenius. With a new introduction by Ernest R. Hilgard. Dover, New York,

1964 (reprint of 1913 edition). 141 pp. Illus. Paper, \$1.50.

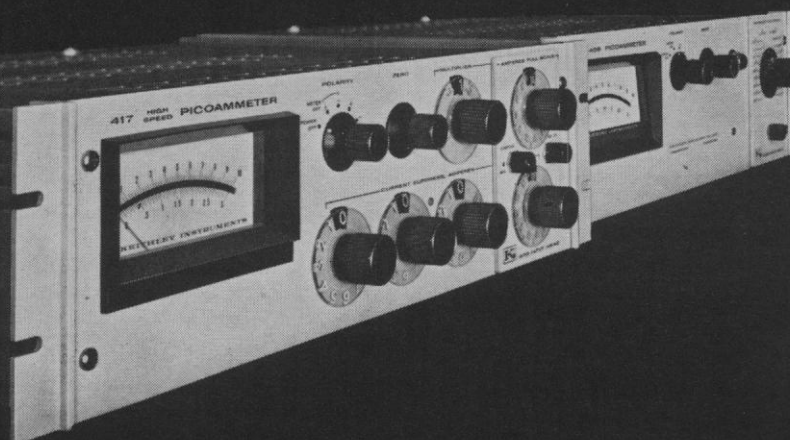
**Models, Measurement, and Marketing.** Peter Langhoff, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1964. 224 pp. Illus. \$9.25. Nine papers contributed by Peter Langhoff, C. West Churchman, Harold W. Kuhn, Martin Kenneth Starr, Sebastian B. Littauer, Alfred A. Kuehn, William J. Baumol, Paul E. Green, and Guy-Robert Detlefsen.

**Motivation, Nebraska Symposium, 1964.** David Levine, Ed. Univ. of Nebraska Press, Lincoln, 1964. 294 pp. Illus. Paper, \$2.50; cloth, \$5.50. Six papers: "The motivational relevance of hypnosis" by Ernest R. Hilgard; "Psychological complexity as a basis for a theory of motivation and choice" by Edward L. Walker; "The free behavior situation" by Frank A. Logan; "The assessment of human motives by means of personality scales" by Allen L. Edwards; "The interruption of behavior" by George Mandler; and "Crime, cognition, and the autonomic nervous system" by Stanley Schachter and Bibb Latané. Comments on most of the papers are also included.

**The Natural History of Aggression.** Proceedings of a symposium (London), October 1963. J. D. Carthy and F. J. Ebling, Eds. Published for the Institute of Biology by Academic Press, New York, 1964. 167 pp. \$5. Fourteen papers by Stanislav Andreski, John Burton, James Fisher, Derek Freeman, K. R. L. Hall, L. Harrison Matthews, Denis Hill, Arnold Klopfer, James Laver, Konrad Lorenz, Cecily de Monchaux, Anthony Storr, Thelma Veness, and D. I. Wallis.

**Naturalistic Behavior of Nonhuman Primates.** C. R. Carpenter. Pennsylvania State Univ. Press, University Park, 1964. 464 pp. Illus. \$9.50. Seventeen papers: "A field study of the behavior and social relations of howling monkeys" [*Comp. Psychol. Monogr.* 10, No. 2 (1934)]; "Behavior of red spider monkeys in Panama" [*J. Mammal.* 16, No. 3 (1935)]; "An observational study of two captive mountain gorillas" [*Human Biol.* 9, No. 2 (1937)]; "A survey of wild life conditions in Atjeh, North Sumatra, with special reference to the orang-utan" [*Communications*, No. 12 (1938)]; "A field study in Siam of the behavior and social relations of the gibbon" [*Comp. Psychol. Monogr.* 16, No. 5 (1940)]; "The menstrual cycle and body temperature in two gibbons" [*Anat. Rec.* 79, No. 3 (1941)]; "Rhesus monkeys for American laboratories" [*Science* 92, No. 2387 (1940)]; "Notes on results of a test for tuberculosis in rhesus monkeys" [*Puerto Rico J. publ. Hlth. trop. Med.* (1941)]; "Sexual behavior of free ranging rhesus monkeys: specimens, procedures and behavioral characteristics of estrus" [*J. Comp. Psychol.* 33, No. 1 (1942)]; "Sexual behavior of free ranging rhesus monkeys: periodicity of estrus, homosexual autoerotic and non-conformist behavior" [*J. Comp. Psychol.* 33, No. 1 (1942)]; "Societies of monkeys and apes" [*Biol. Symposia* 8 (1942)]; "Characteristics of social behavior in non-human primates" [*Trans. N.Y. Acad. Sciences* 4, No. 8 (1942)]; "Social behavior of non-human primates" [*Colloques Int. Cent. Natn. Rech. scient.* 34 (1952)]; "Grouping behavior of howl-

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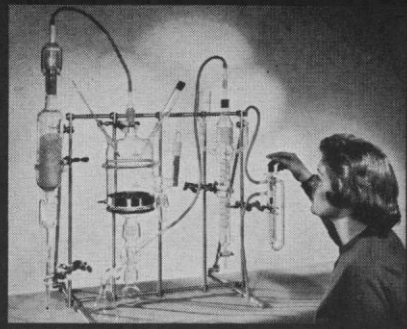


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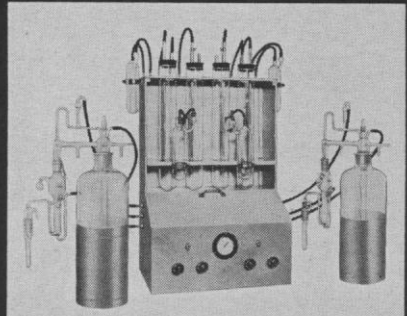
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ing monkeys" [*Extrait Arch. Ned. Zool.* 10 (1953)]; "Tentative generalizations on the grouping behavior of non-human primates" [*Human Biol.* 26 (Sept. 1954)]; "Field studies of a primate population" [*Roots of Behavior: Genetics, Instinct, and Socialization in Animal Behavior* (1962)]; "Appendix: Territoriality: A review of concepts and problems" [*Behavior and Evaluation* (1958)].

**Navaho Indian Ethnoentomology** (Publ. *Anthrop. Univ. New Mex.*, No. 12). Leland C. Wyman and Flora L. Bailey. Univ. of New Mexico Press, Albuquerque, 1964. 158 pp. Illus. Paper, \$3.

**New Directions in the Study of Language.** Eric H. Lenneberg, Ed. M.I.T. Press, Cambridge, Mass., 1964. 204 pp. Illus. \$5. Seven papers: "The early growth of language capacity in the individual" by Leonard Carmichael; "Anthropological aspects of language: animal categories and verbal abuse" by Edmund Leach; "A biological perspective of language" by Eric H. Lenneberg; "Language and psychology" by George A. Miller; "Discussion and further comments" by Frieda Goldman-Eisler; "Three processes in the child's acquisition of syntax" by Roger Brown and Ursula Bellugi; and "Imitation and structural change in children's language" by Susan M. Ervin.

**The New Military: Changing Patterns of Organization.** Morris Janowitz, Ed. Russell Sage Foundation, New York, 1964. 369 pp. Illus. \$6.50. Ten papers; the contributors are Morris Janowitz, Kurt Lang, Oscar Grusky, John P. Lovell, Maury D. Feld, Roger W. Little, Richard W. Seaton, Mayer N. Zald and William Simon, Albert D. Biderman, and Moshe Lissak.

**New Perspectives in Organization Research.** W. W. Cooper, H. J. Leavitt, and M. W. Shelly II, Eds. Wiley, New York, 1964. 630 pp. Illus. \$12.50. Some 29 papers given at a conference on research in organizations, sponsored by the U.S. Office of Naval Research at Carnegie Institute of Technology, Pittsburgh, Pa. and at a seminar on the social science of organizations, sponsored by the Ford Foundation at the University of Pittsburgh (June 1962). The papers are divided into five parts: General Perspectives; Behavioral Science Perspectives; Interdisciplinary Perspectives; Management Science Perspectives; and Conclusion: Perspectives for Further Research.

**No More for Ever: A Saharan Jewish Town.** With appendices on physical anthropology, demography, and social structure. Lloyd Cabot Briggs and Norina Lami Guède. Peabody Museum, Cambridge, Mass., 1964. 120 pp. Illus. Paper, \$5.65.

**Panic Behavior.** Discussion and readings. Duane P. Schultz. Random House, New York, 1964. 154 pp. Paper, \$1.95.

**Political and Sociological Theory and Its Applications.** George E. G. Catlin. Univ. of Michigan Press, Ann Arbor, 1964. 128 pp. \$3.95.

**Political Succession in the USSR.** Myron Rush. Columbia Univ. Press, New York, 1965. 239 pp. \$5.95.

**Population Problems.** Warren S. Thompson and David T. Lewis. McGraw-Hill, New York, ed. 5, 1965. 607 pp. Illus. \$8.95.





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**Process and Pattern in Culture.** Essays in honor of Julian H. Steward. Robert A. Manners, Ed. Aldine, Chicago, 1964. 446 pp. \$8.75.

**Progress in Experimental Personality Research.** vol. 1. Brendan A. Maher. Academic Press, New York, 1964. 378 pp. Illus. \$9.50. Seven papers: "Input dysfunction in schizophrenia" by P. H. Venable; "A theory of verbal behavior in schizophrenia" by Loren J. Chapman, Jean P. Chapman, and Glenn A. Miller; "The effect of the experimenter on the results of psychological research" by Robert Rosenthal; "Personality and conditioning" by S. H. Lovibond; "Repression-sensitization as a dimension of personality" by Donn Byrne; "Interpersonal perception" by Victor B. Cline; and "Stimulus functions in projective techniques" by Douglas T. Kenny.

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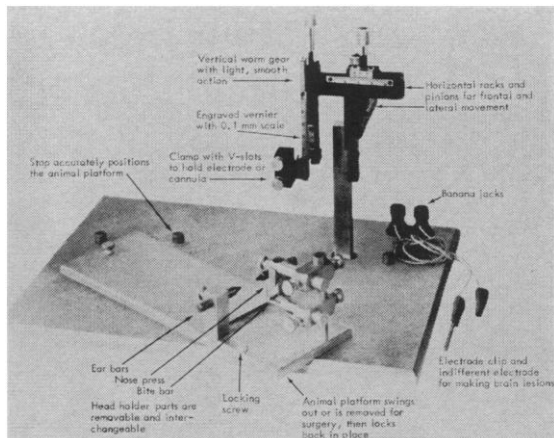
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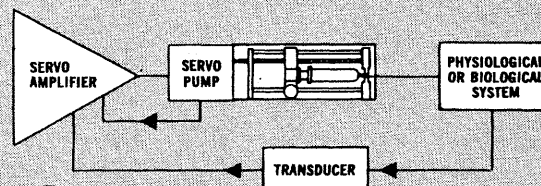
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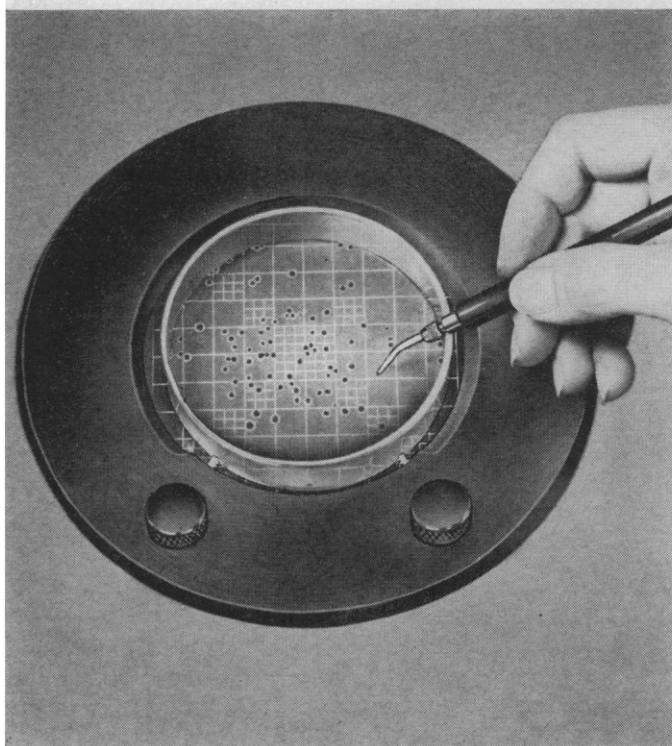


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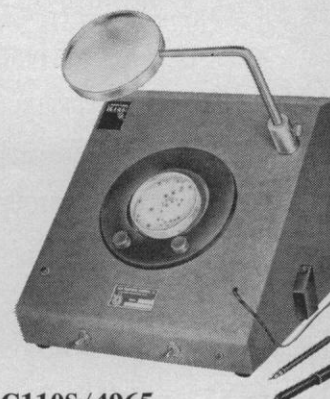
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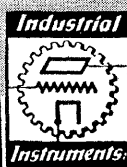
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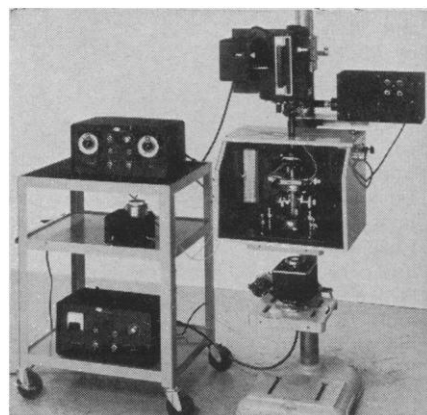
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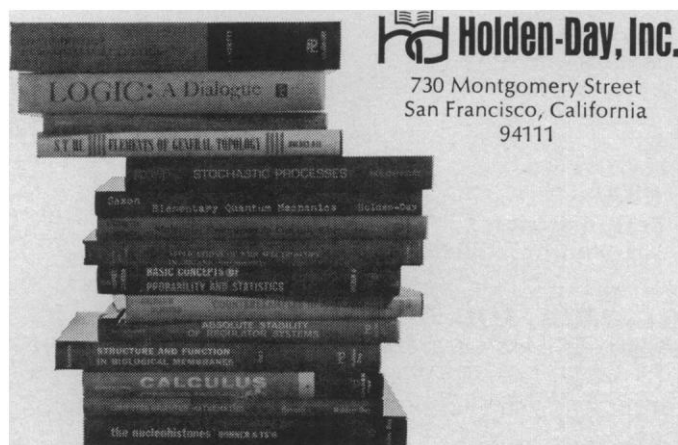
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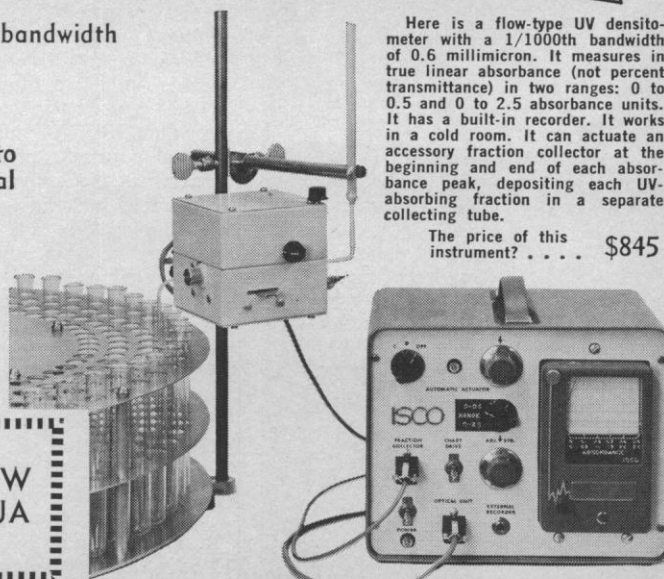
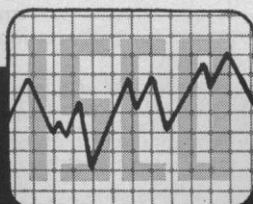
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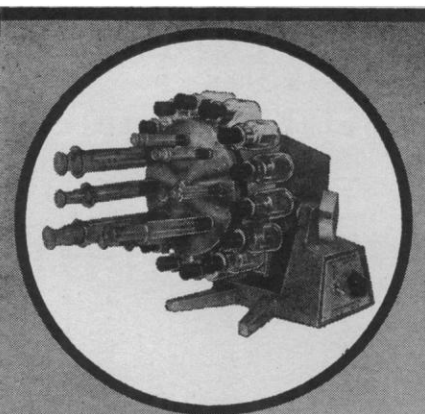
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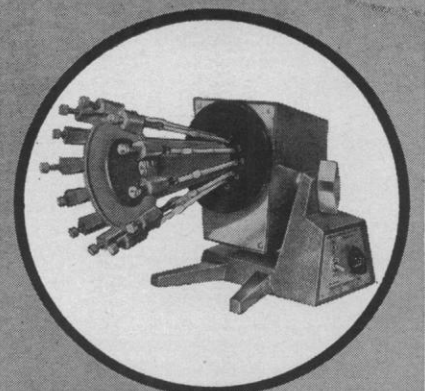
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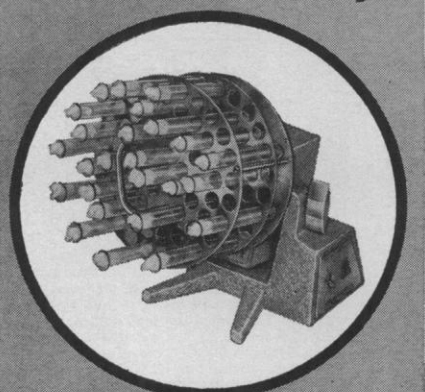




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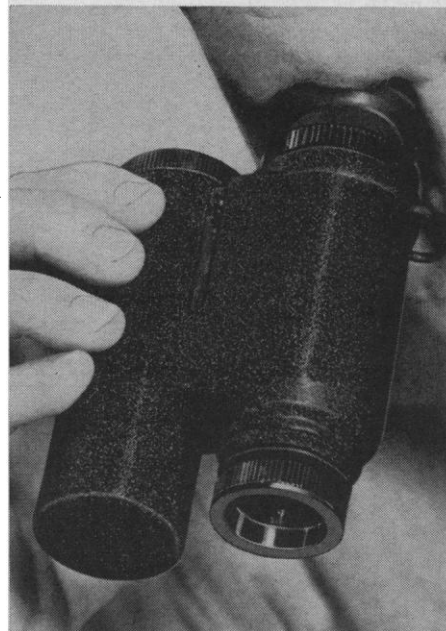
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