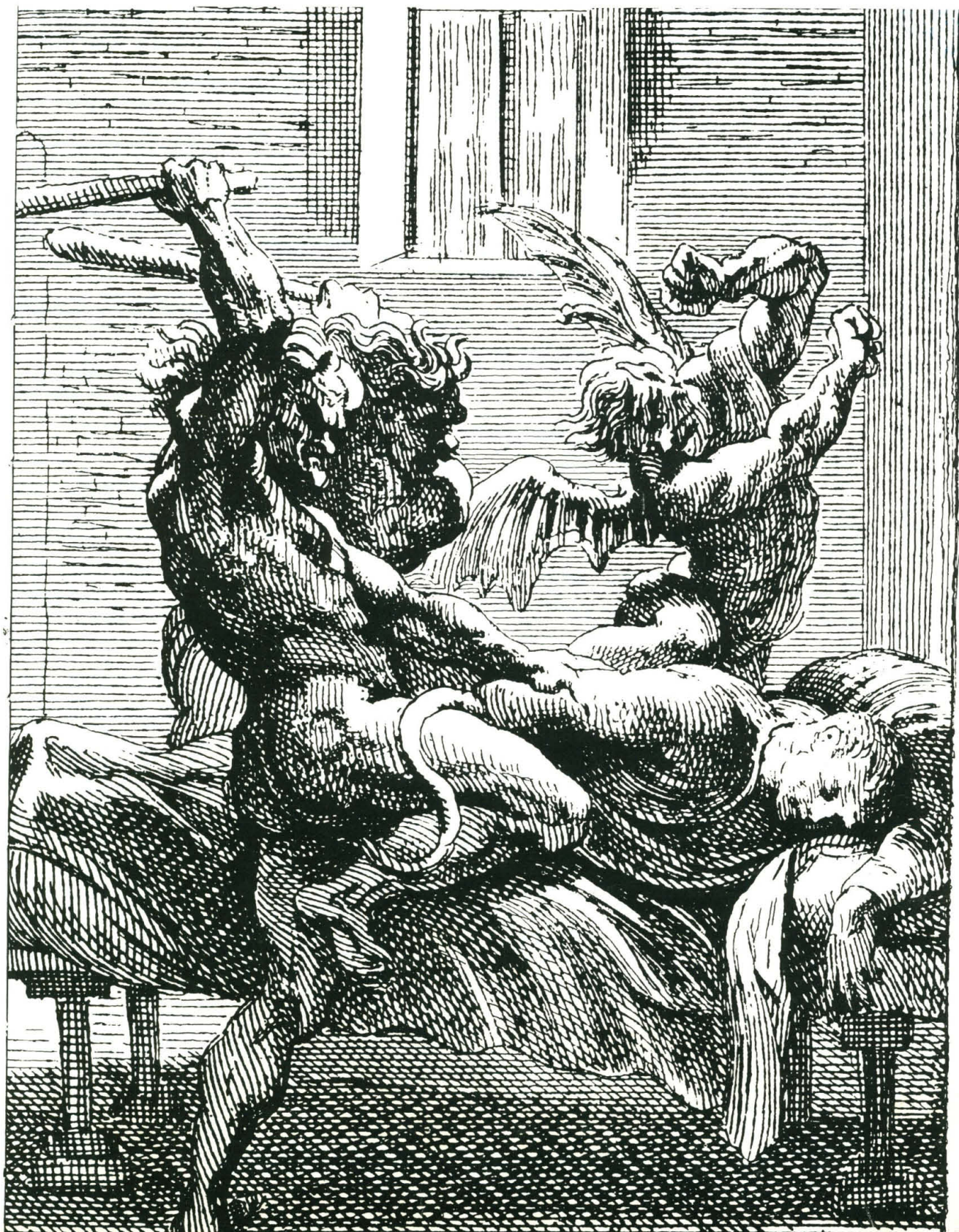


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8 March 1968

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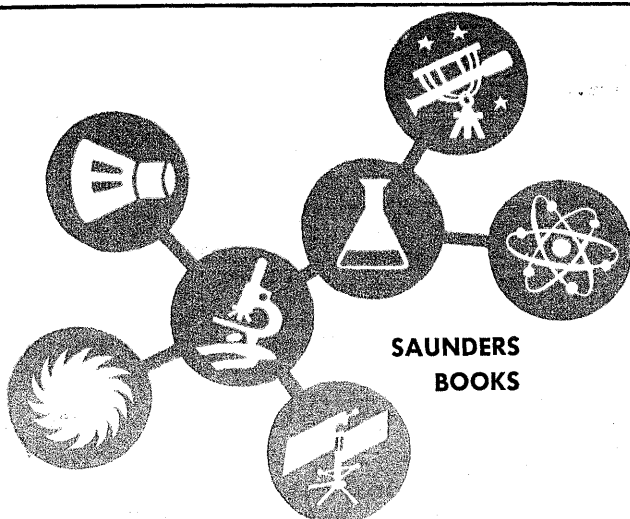
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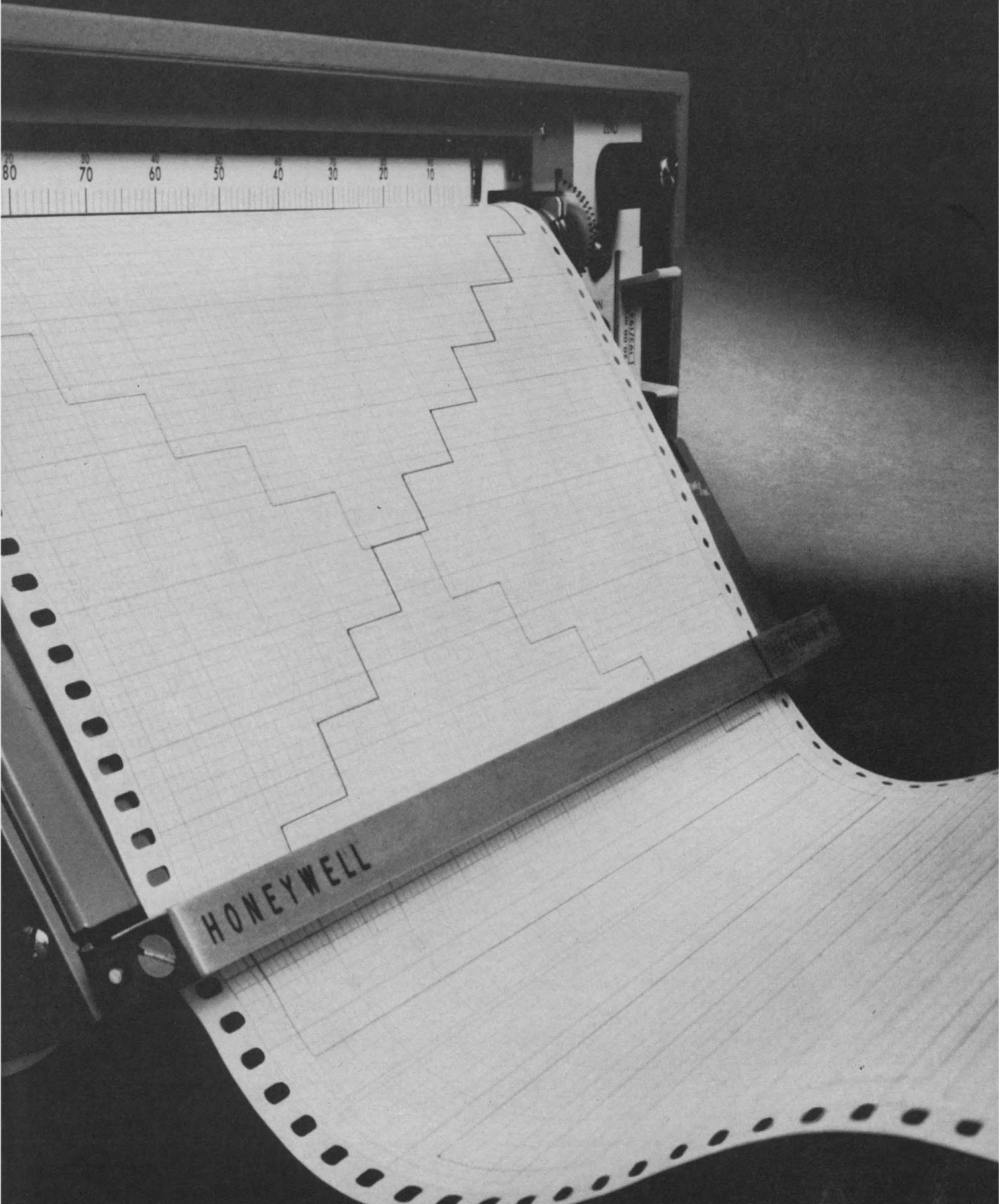
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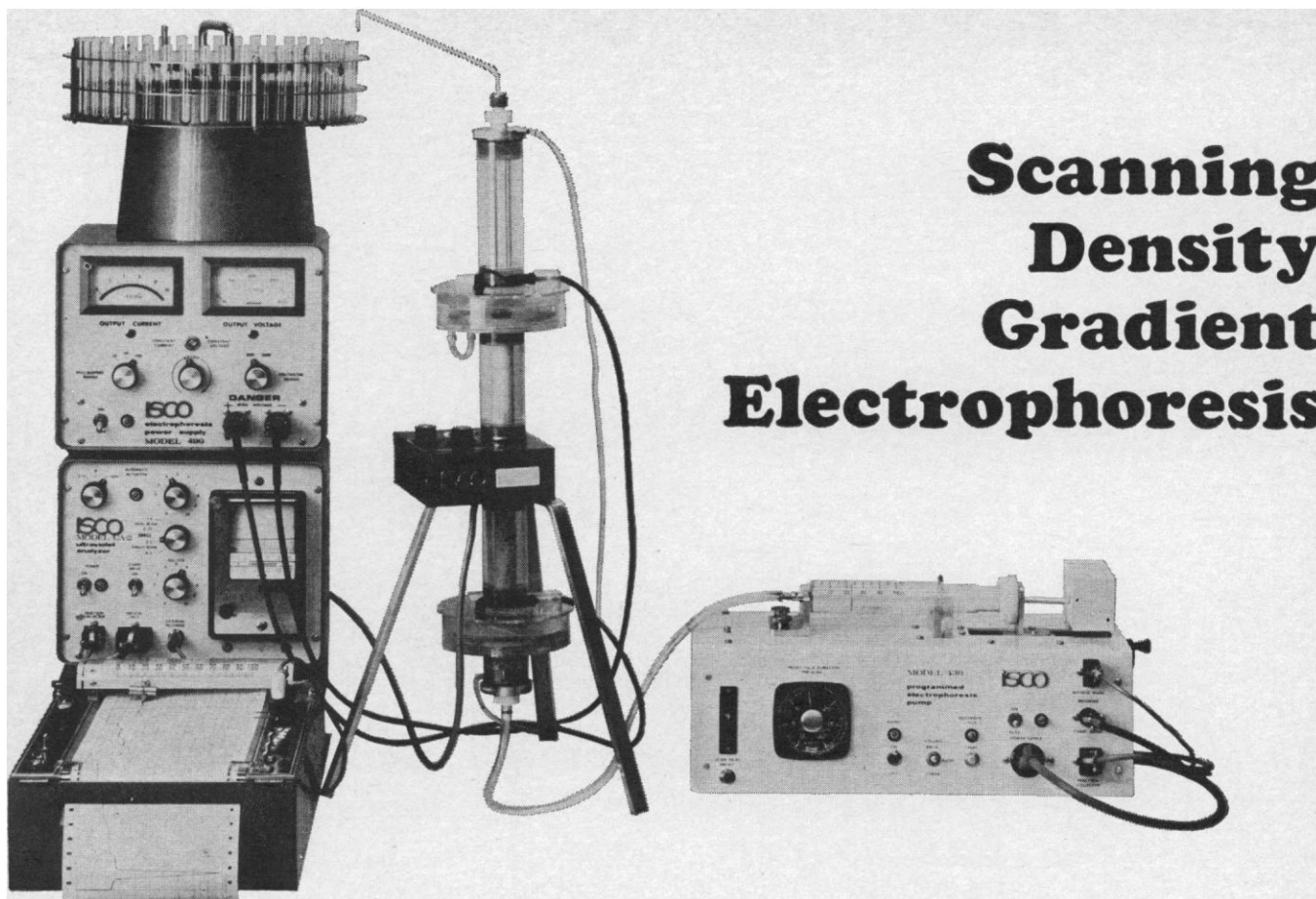
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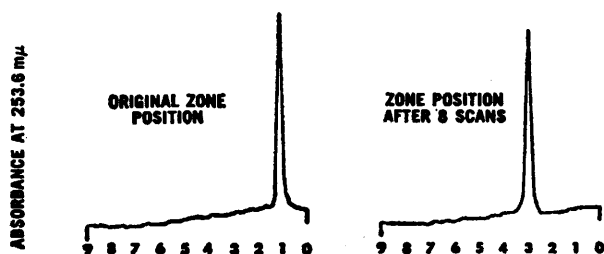


FIG. 1 ZONE POSITION OF 10 μ g TMV IN GRADIENT COLUMN, CENTIMETERS.

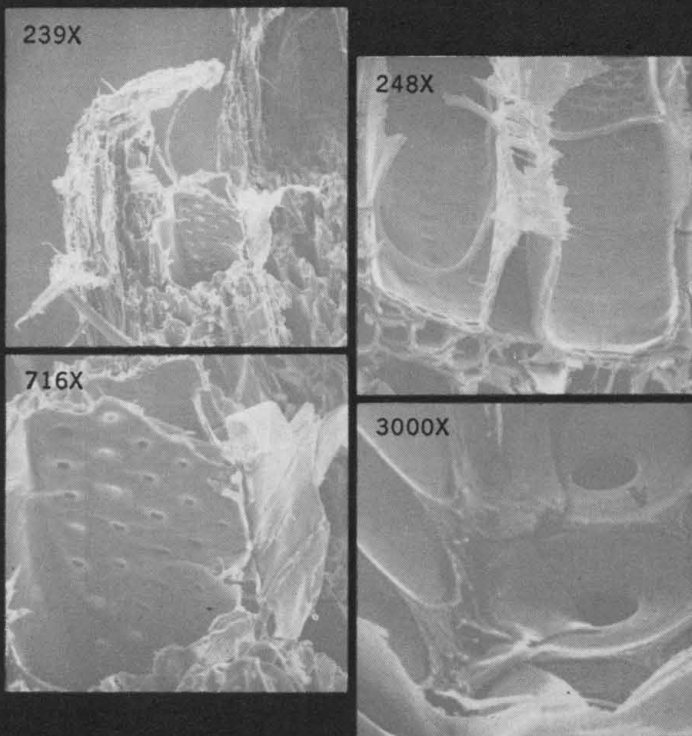


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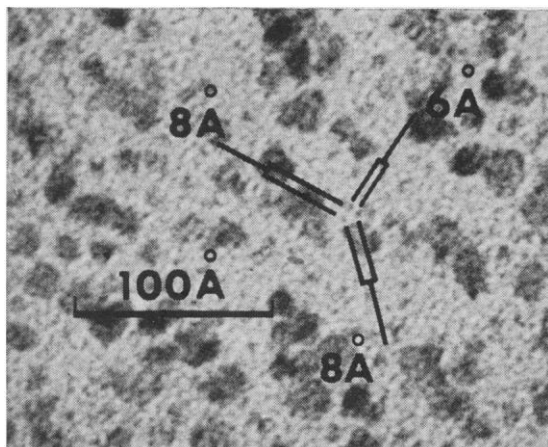


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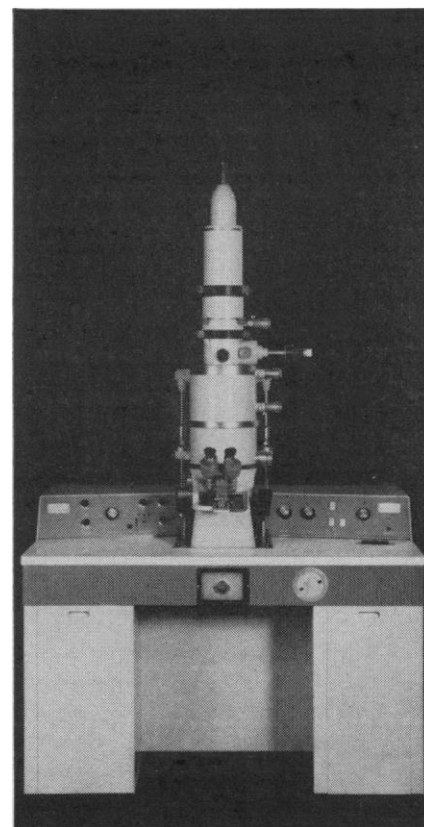
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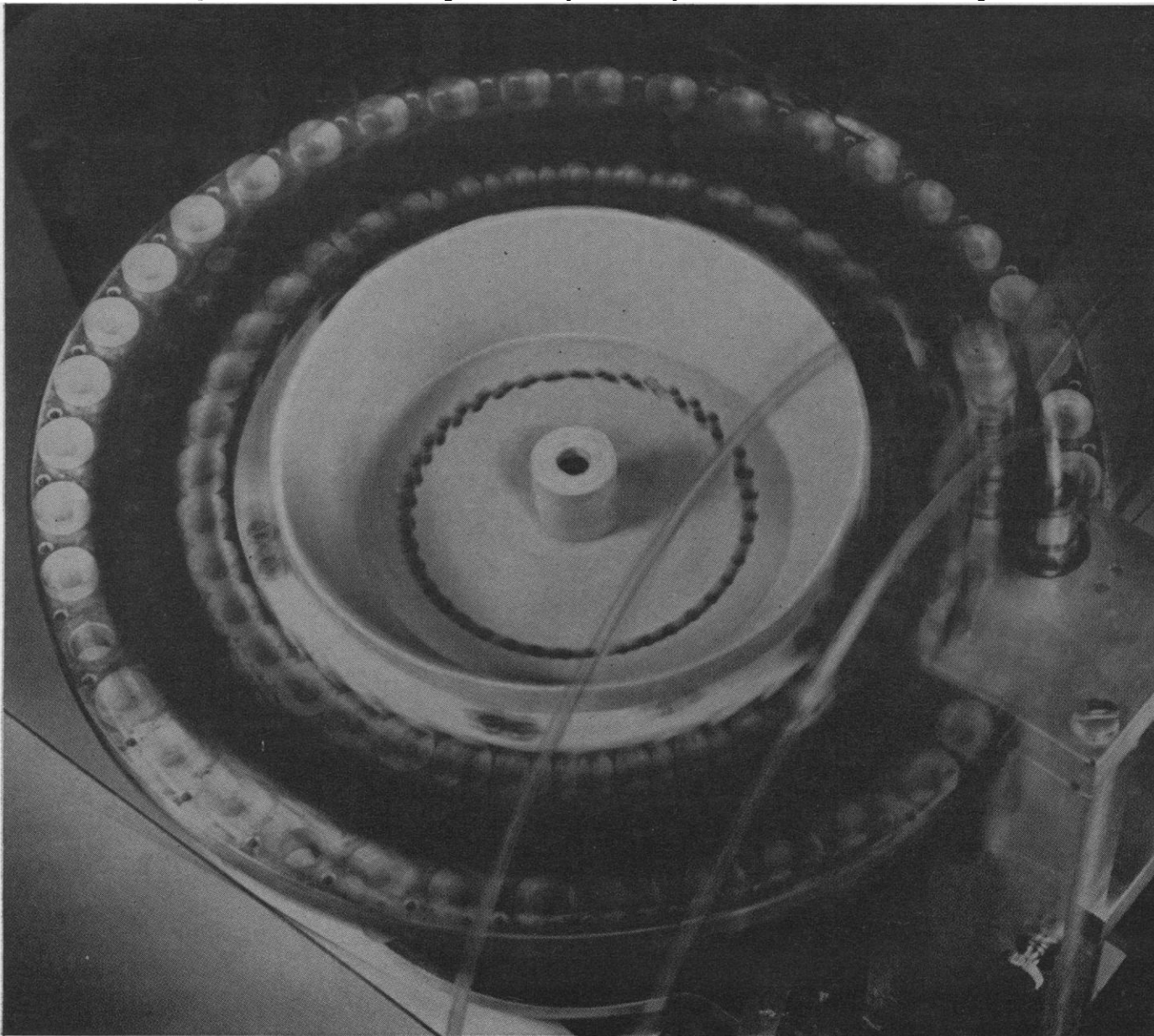
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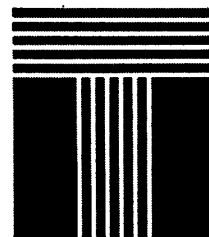
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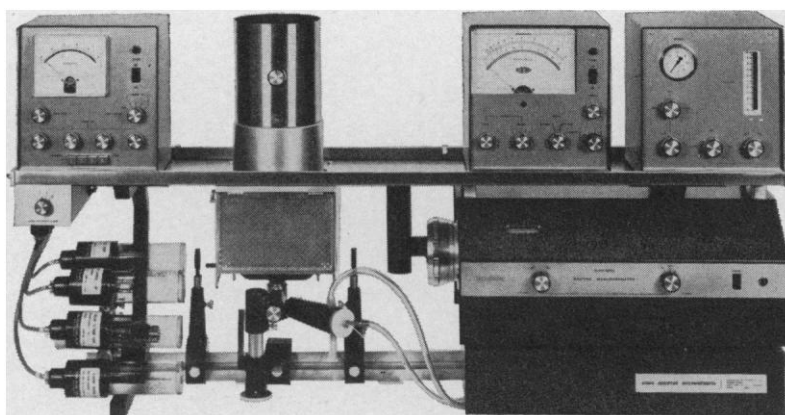
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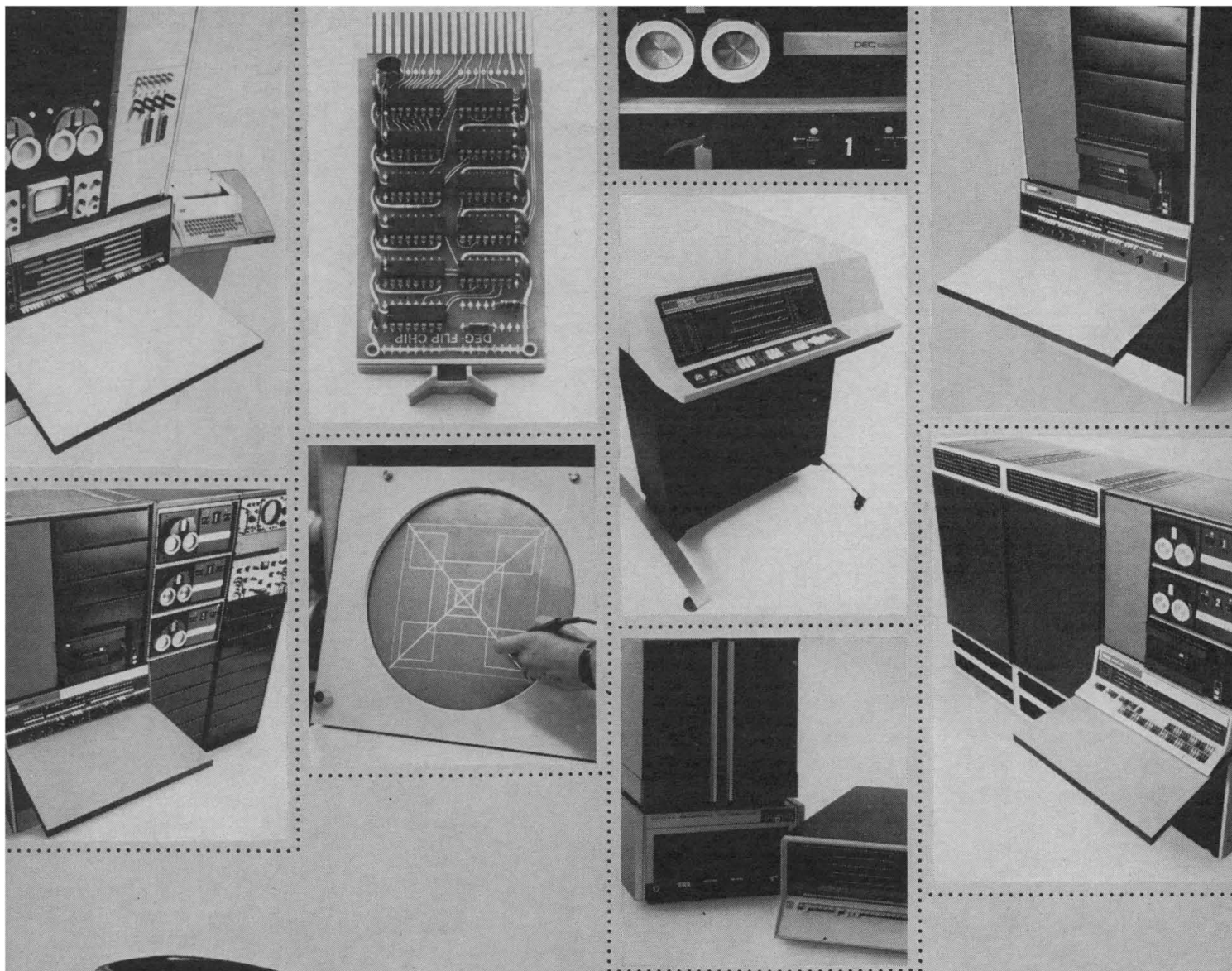
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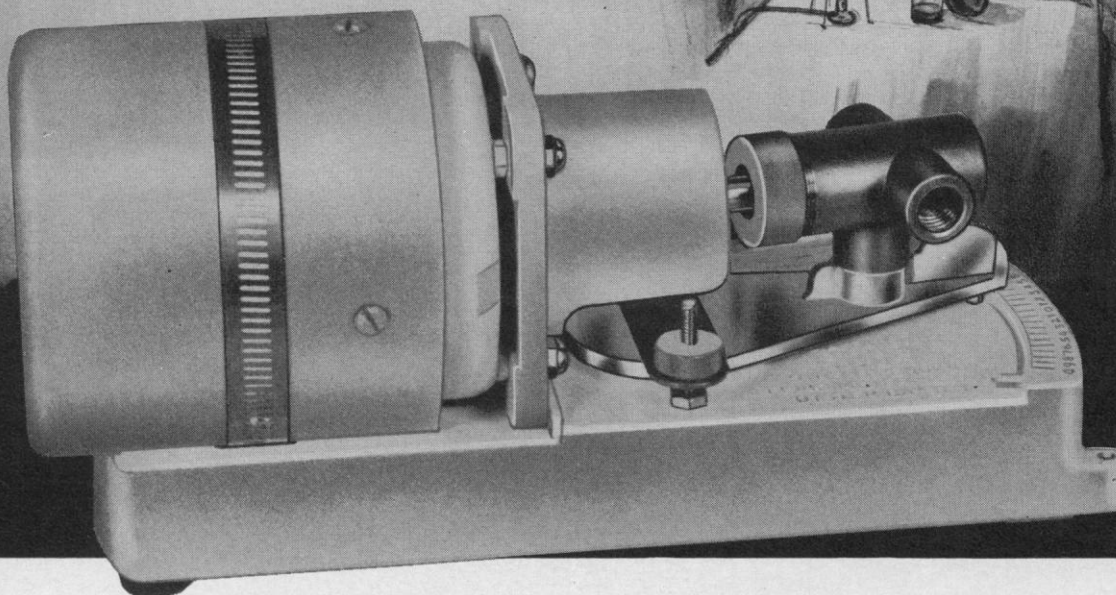
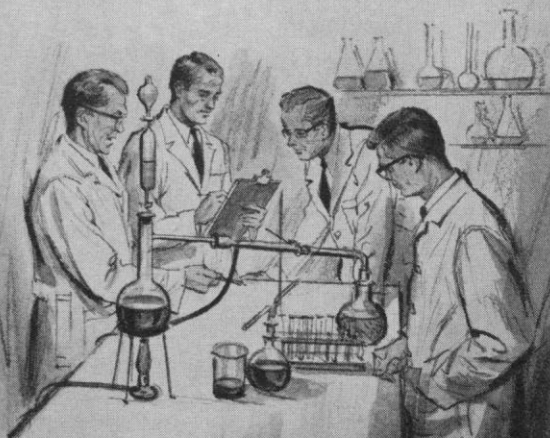
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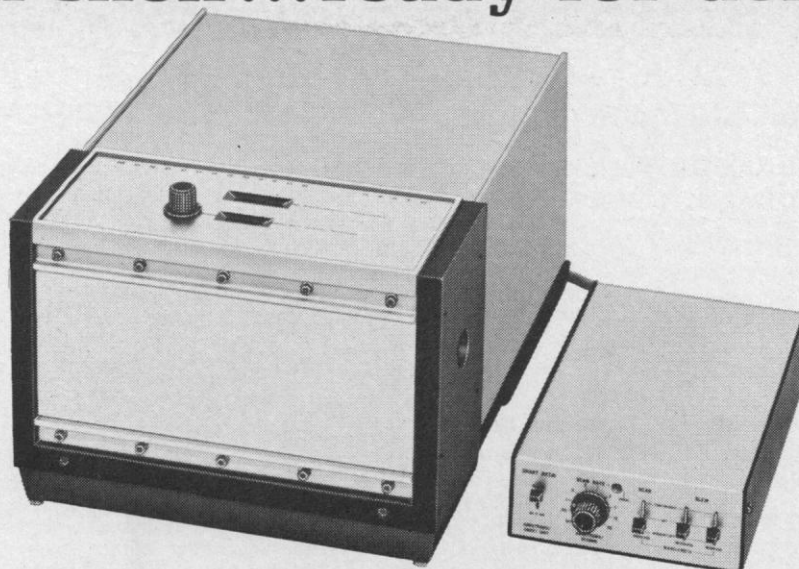
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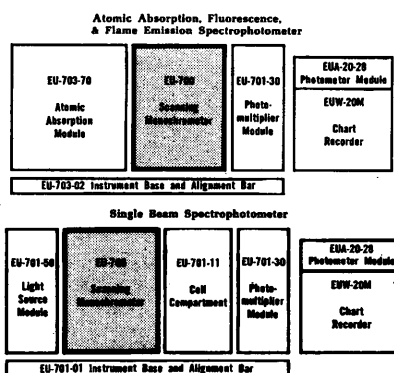
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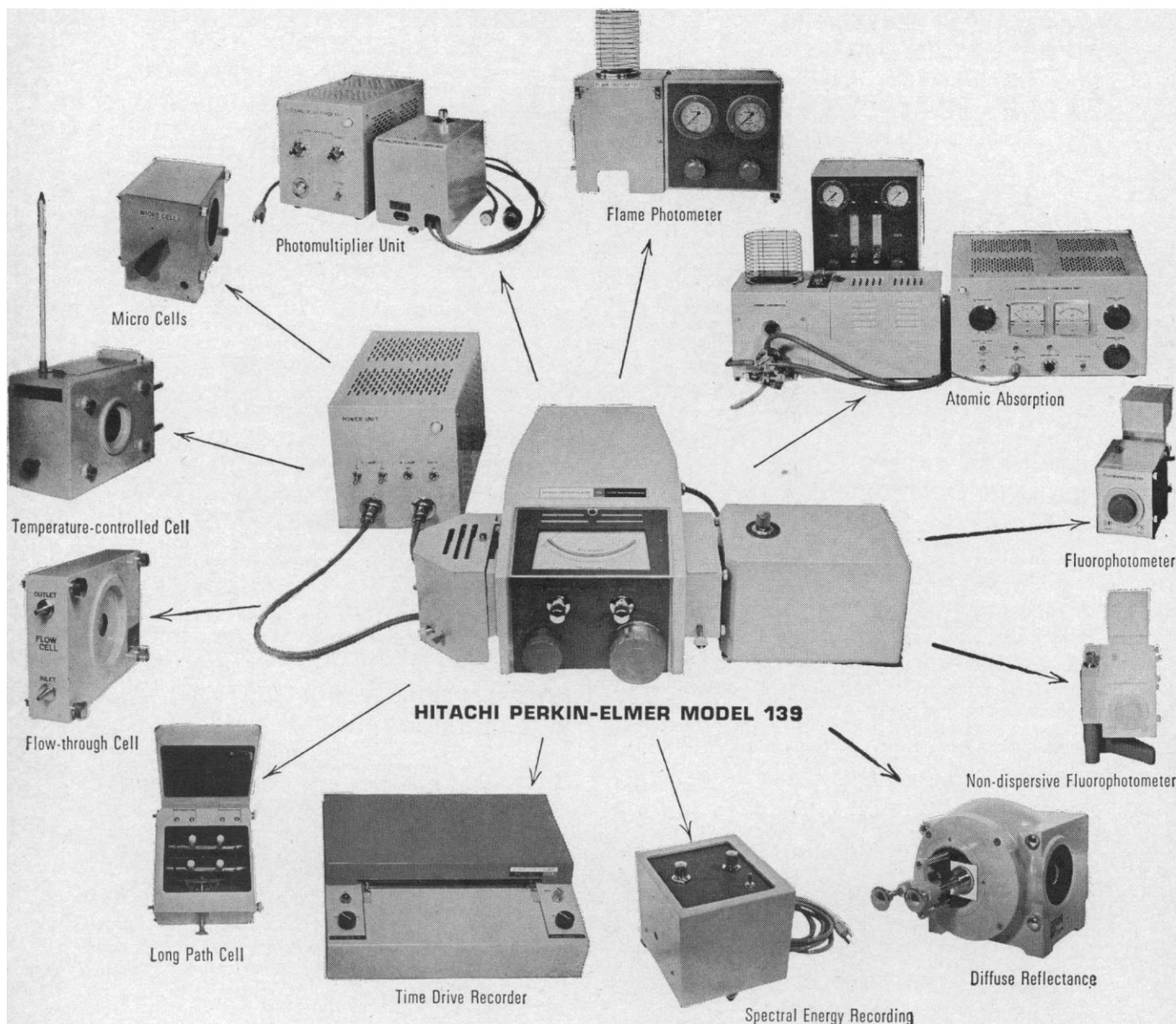
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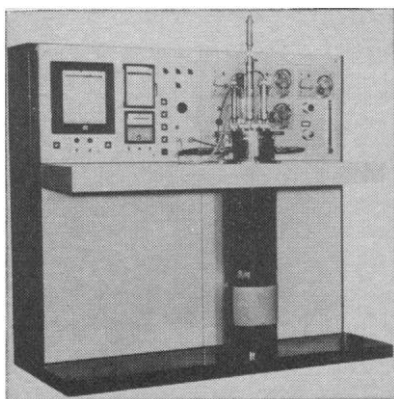
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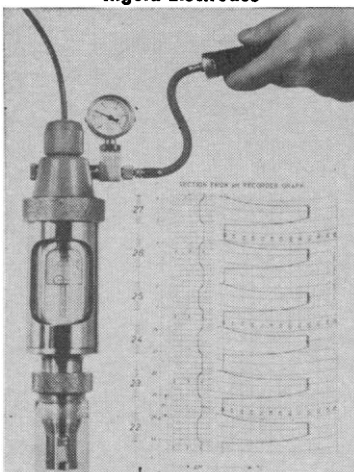
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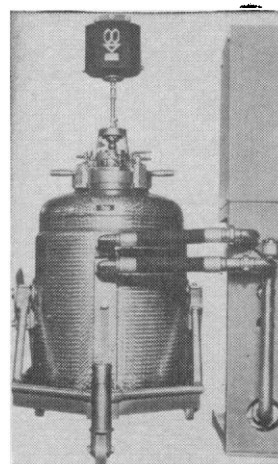
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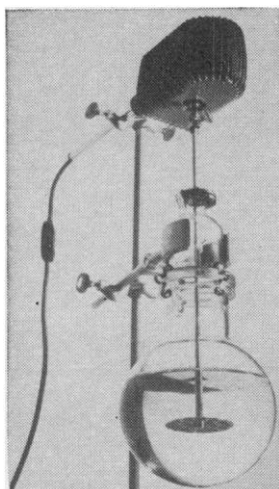
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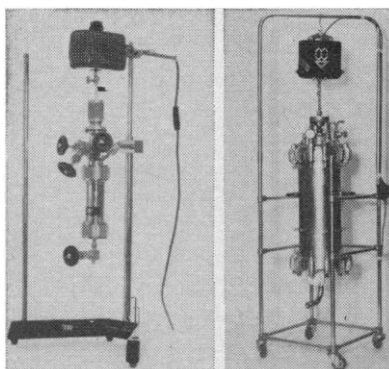
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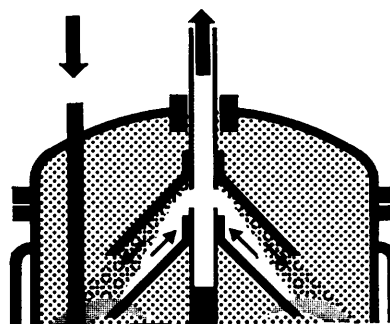
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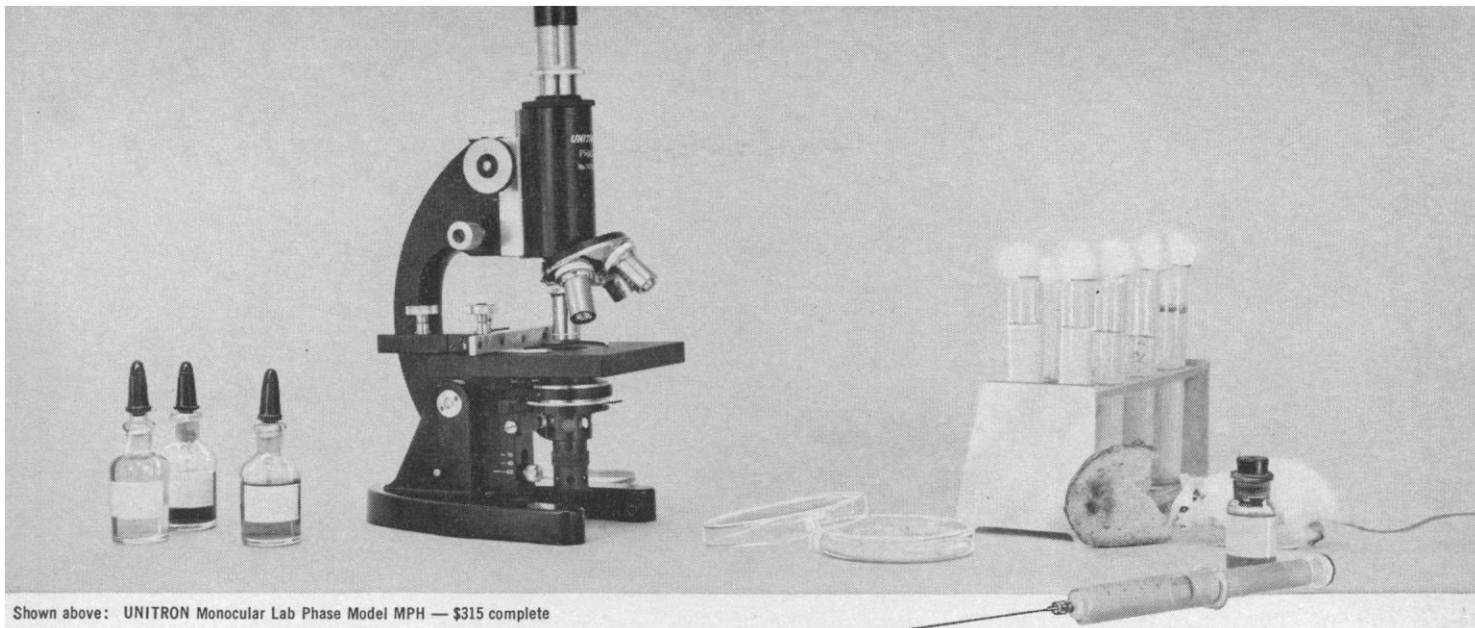
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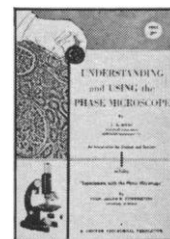
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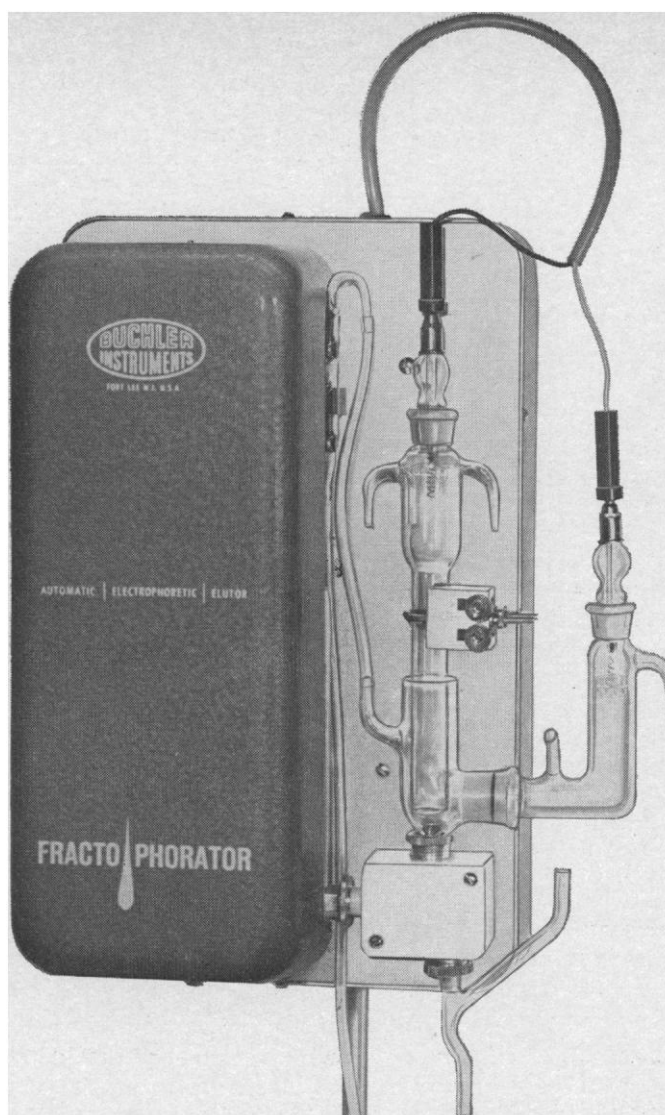


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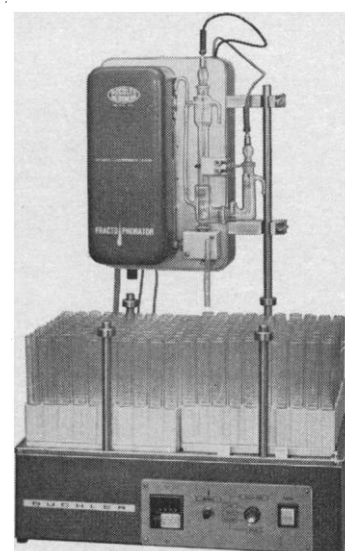


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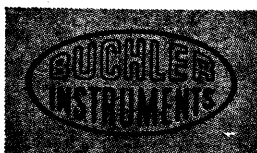
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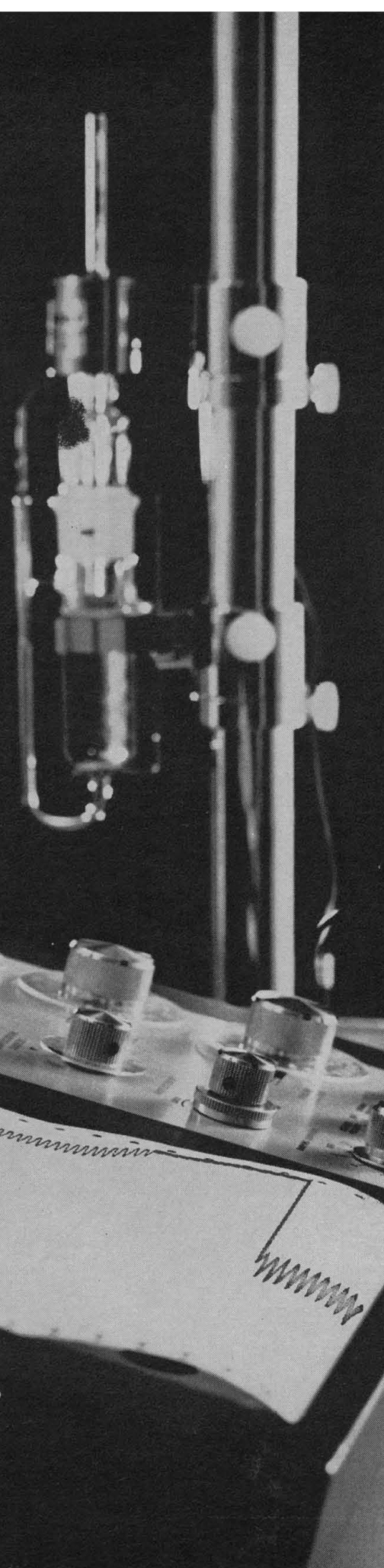
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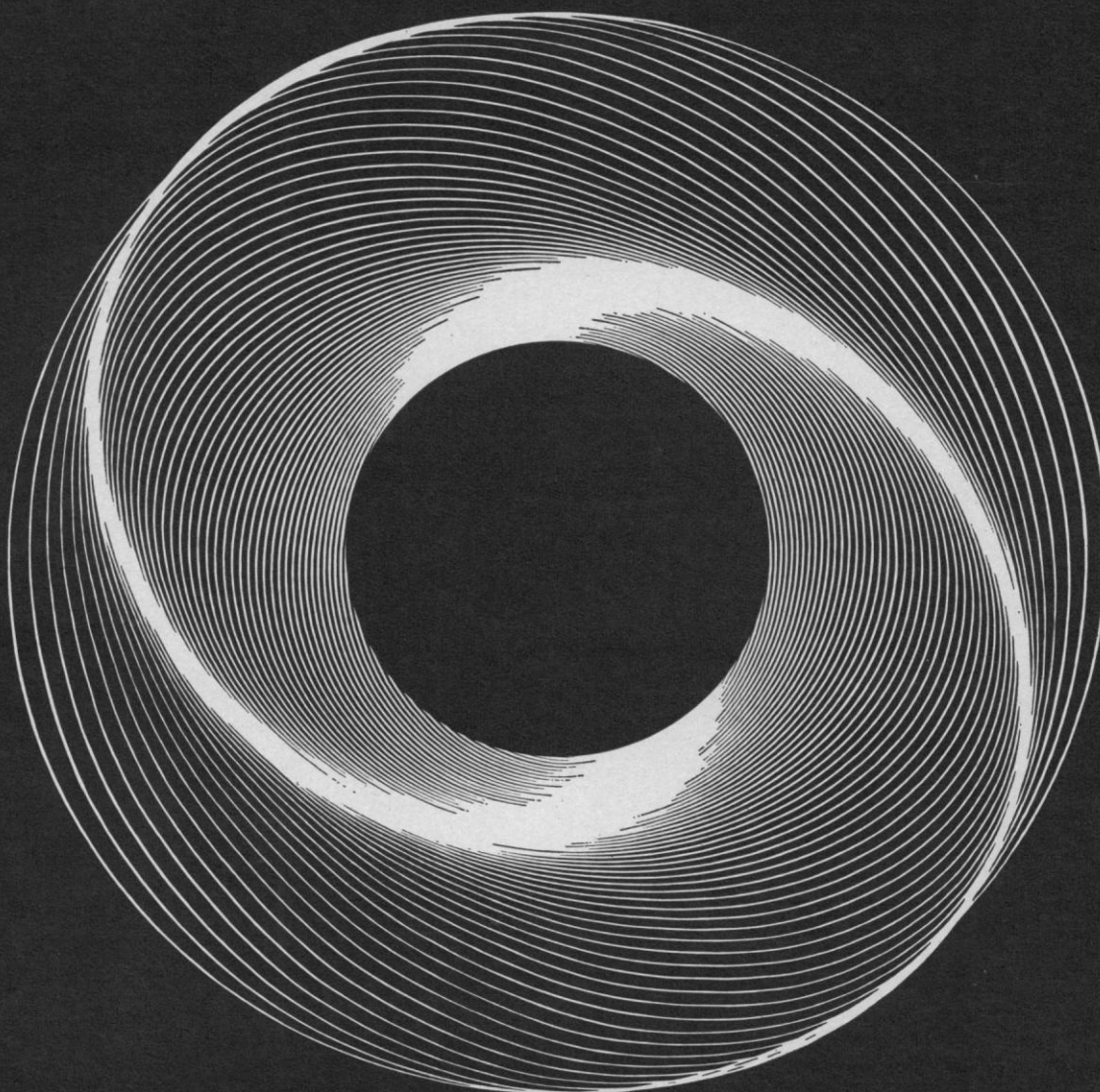
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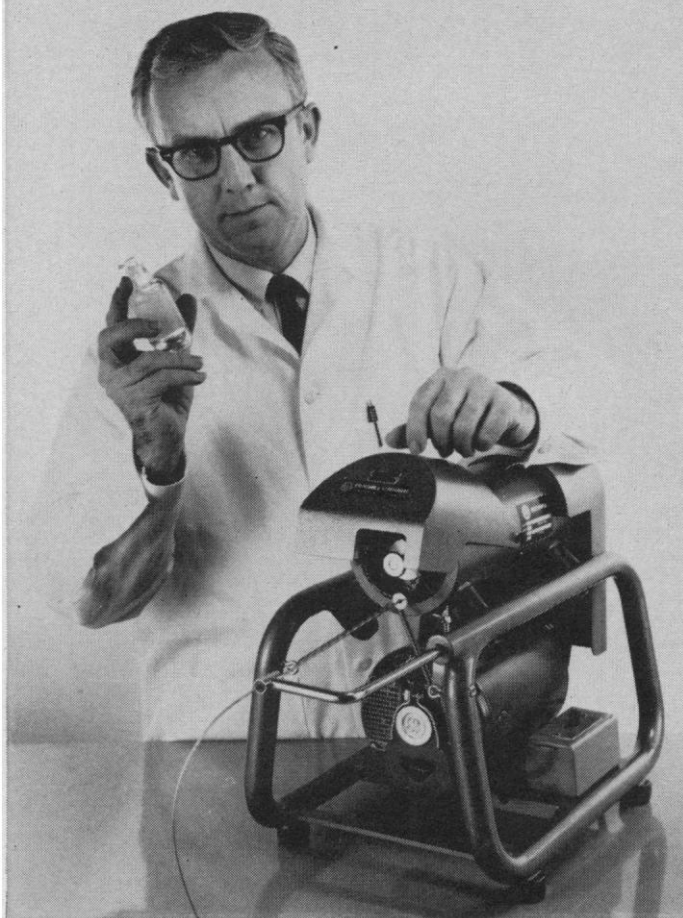
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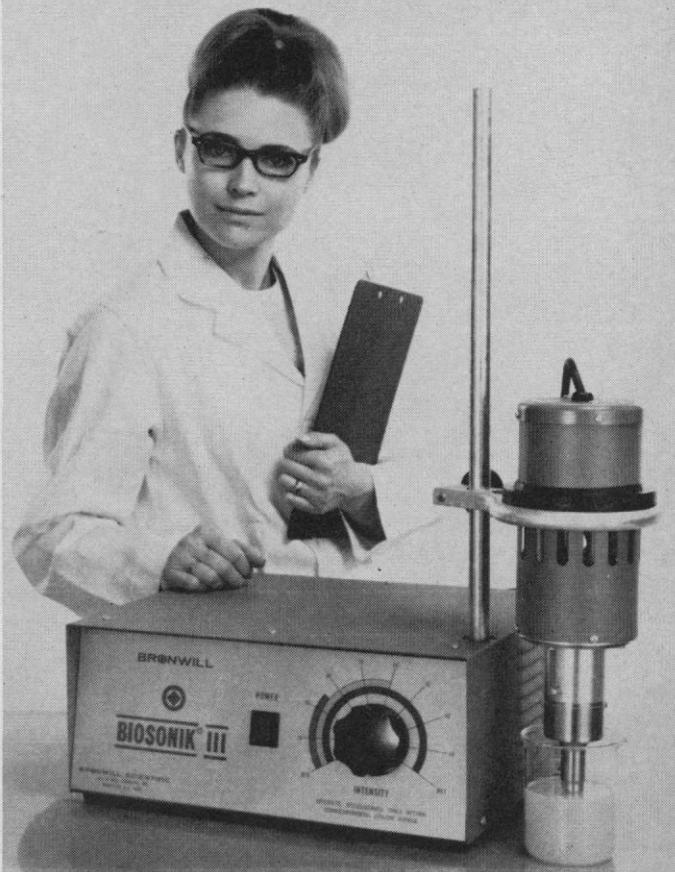
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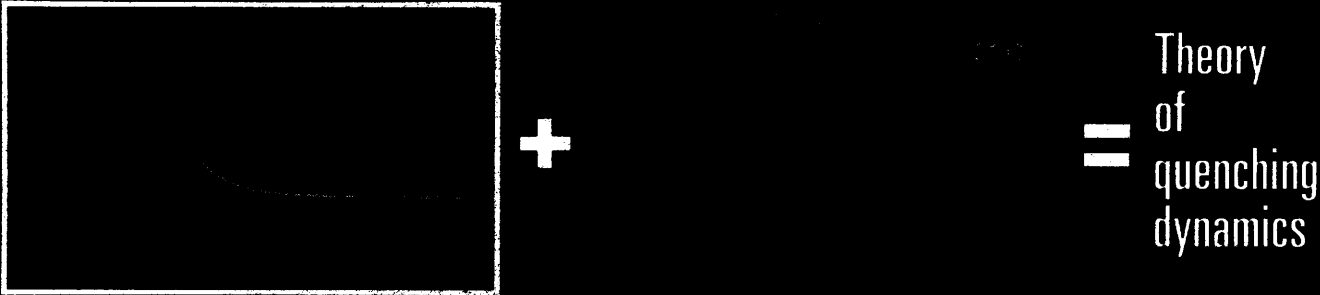
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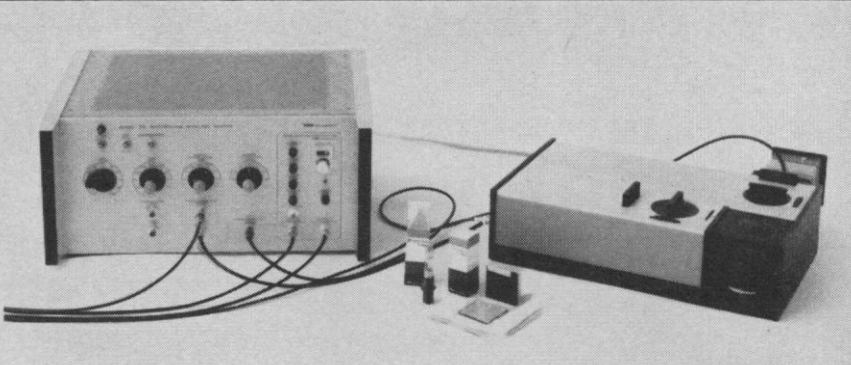
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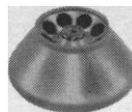
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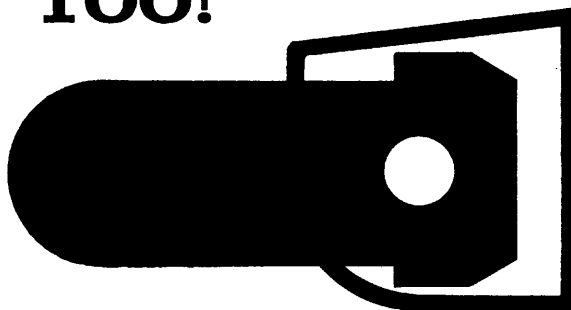
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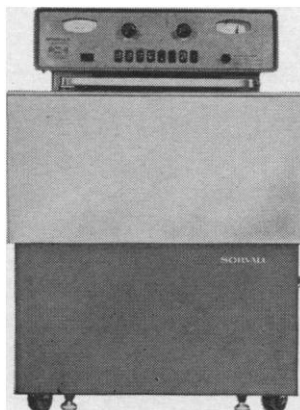


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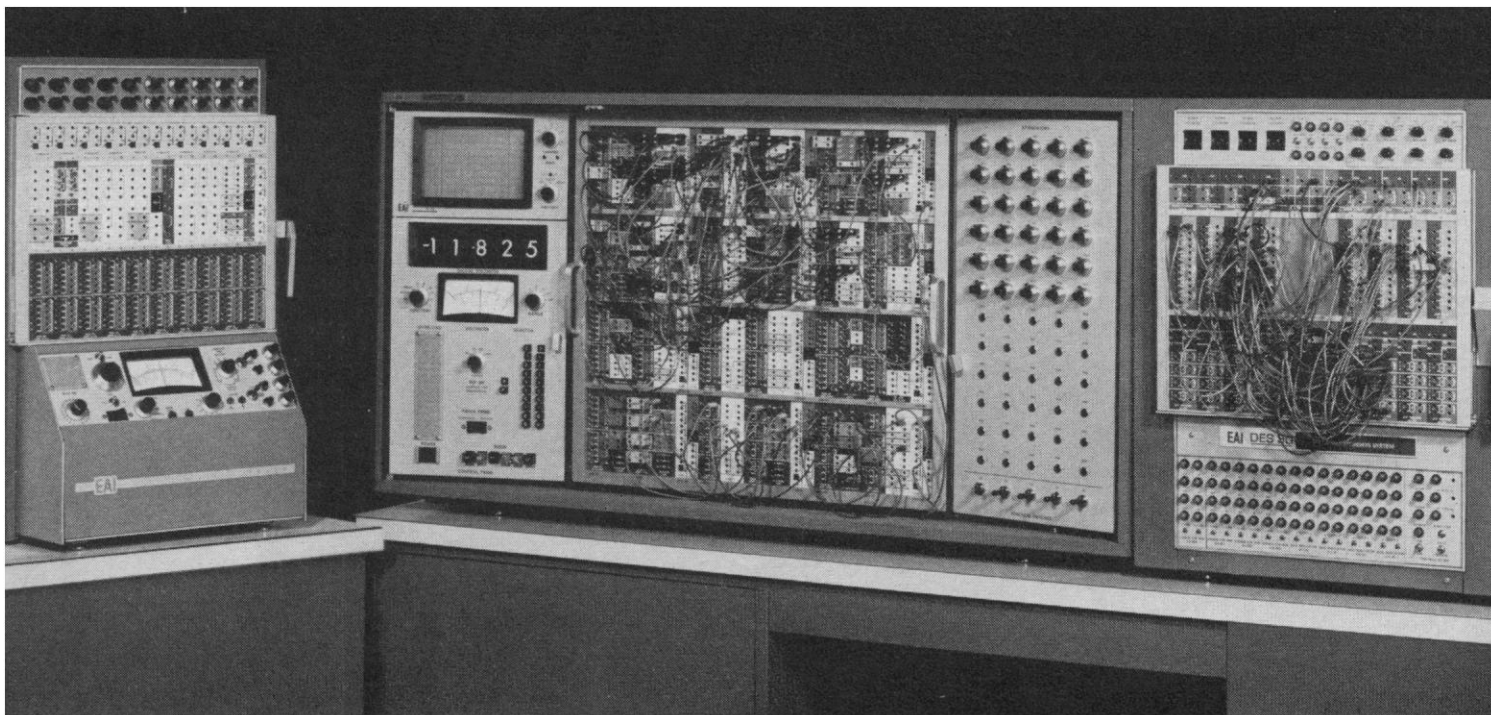


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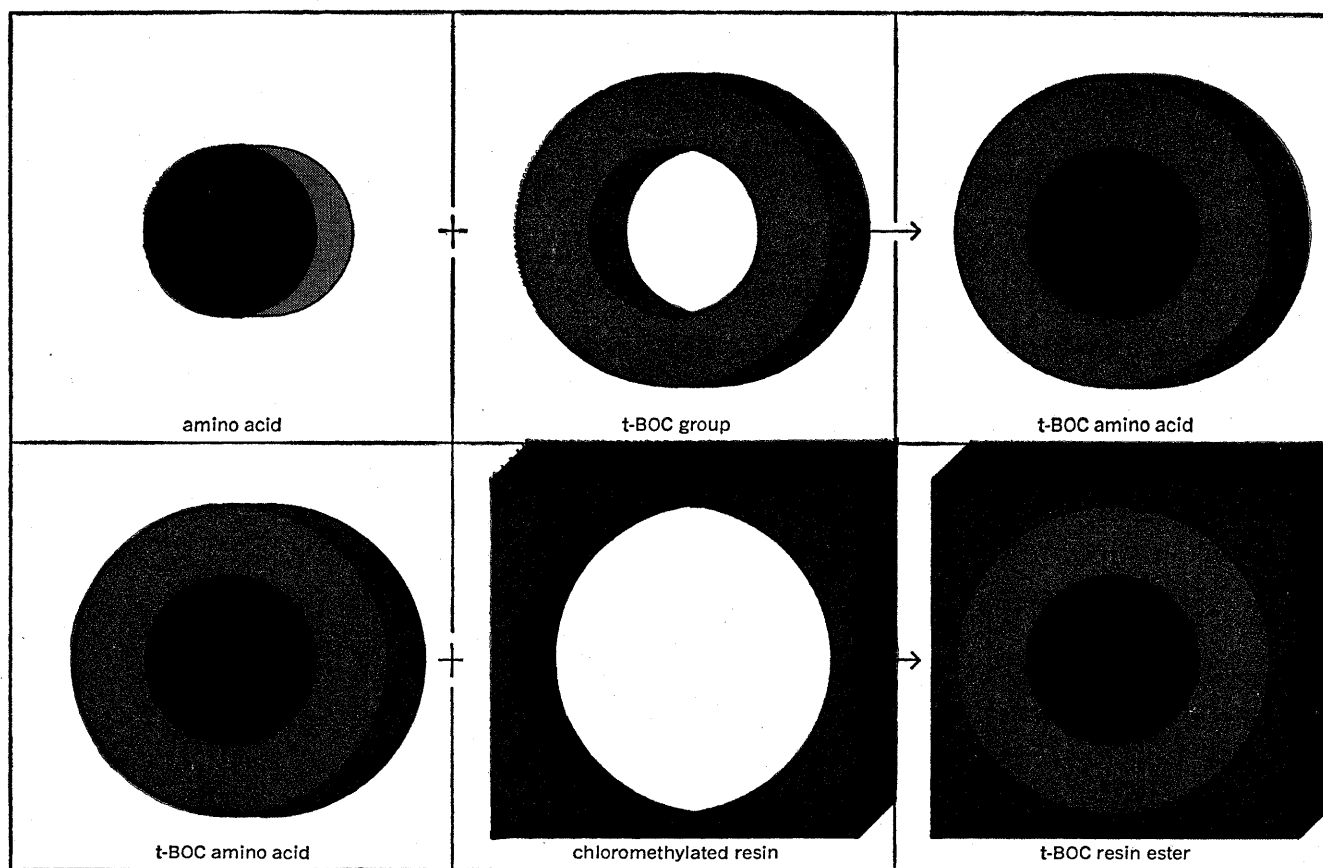


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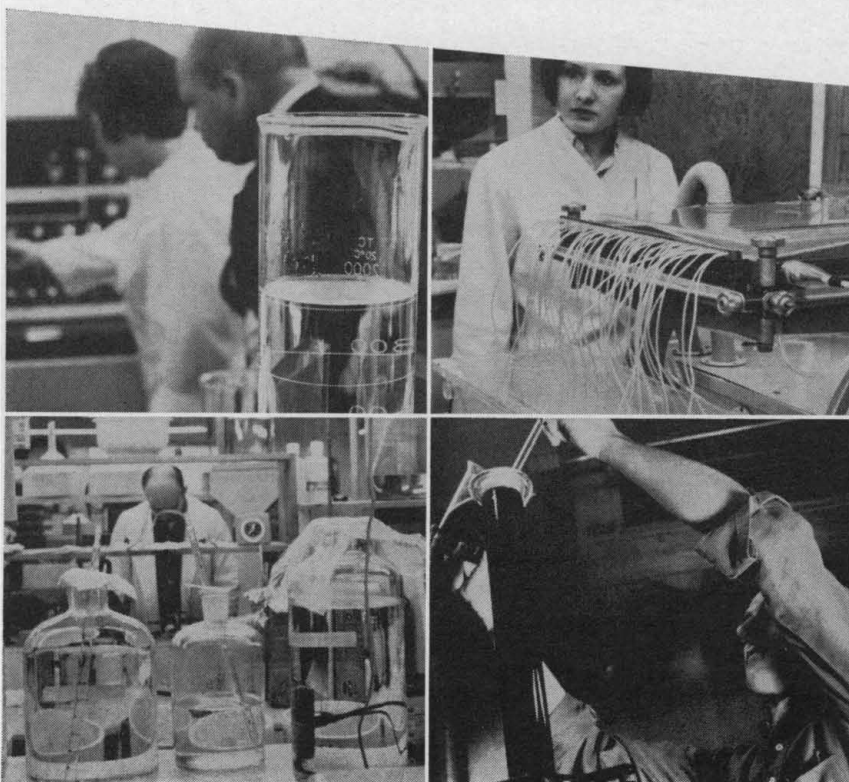
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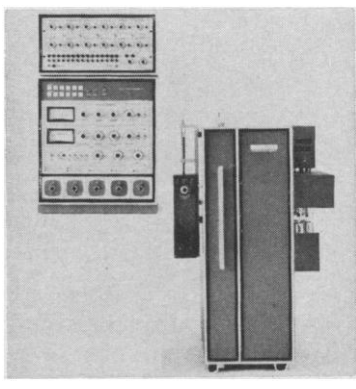
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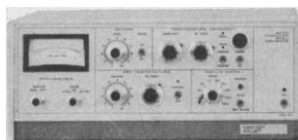
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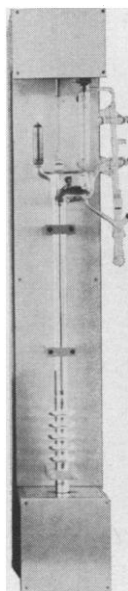


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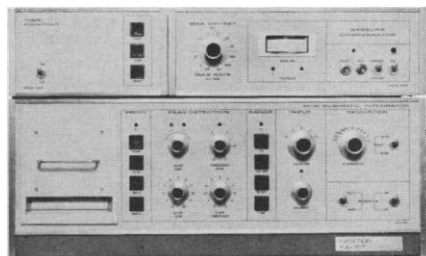
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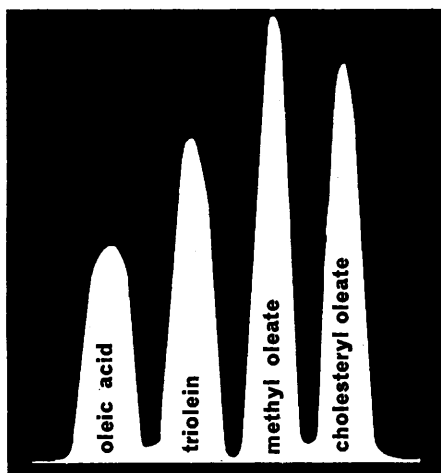


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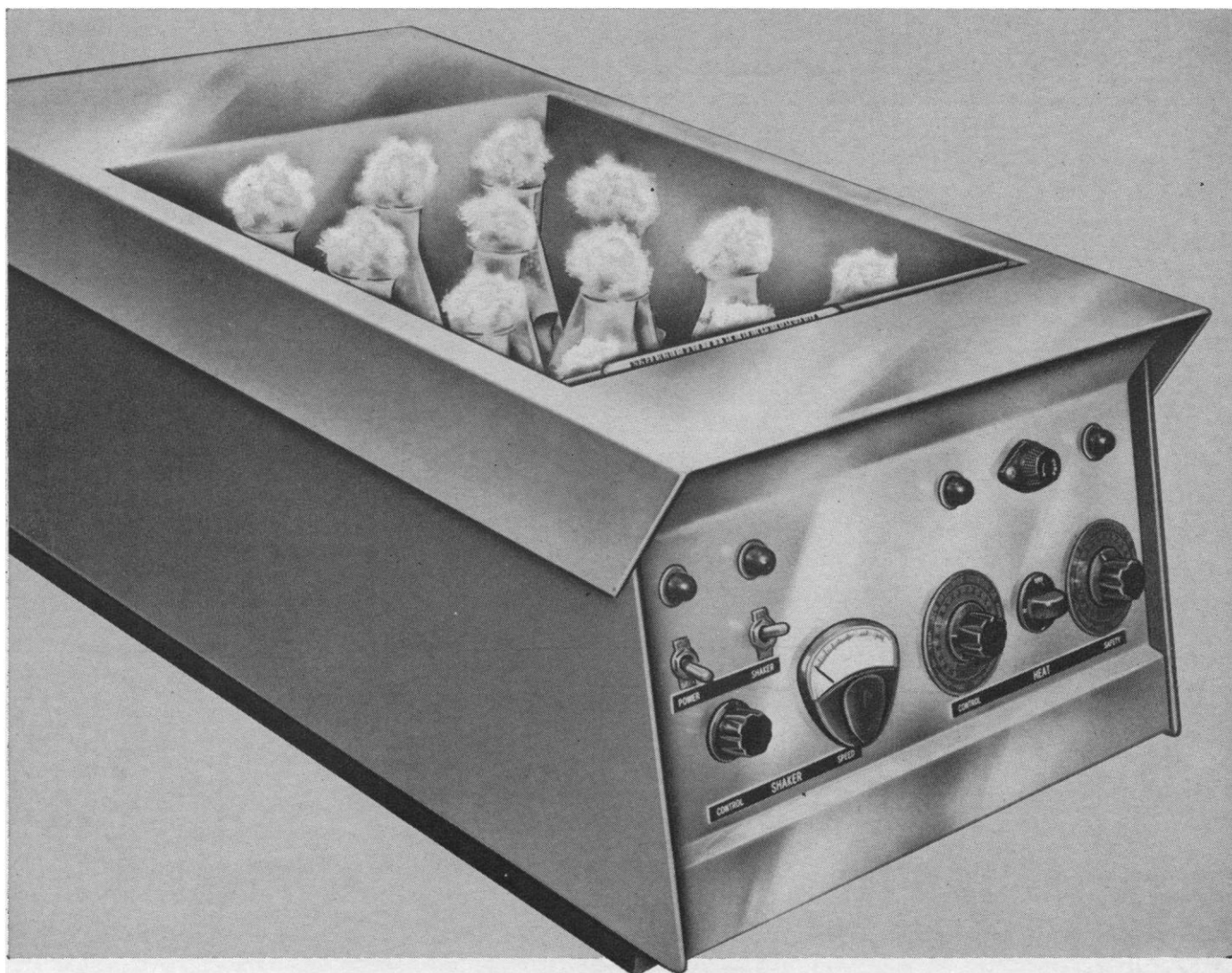
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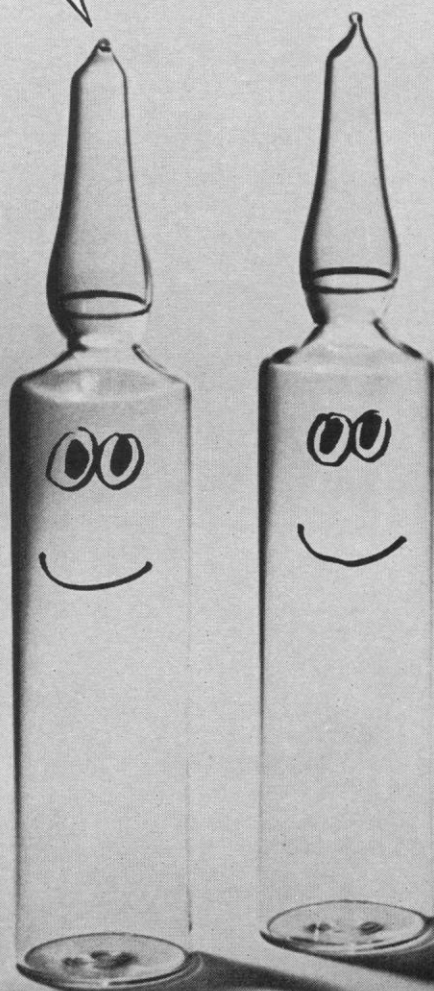
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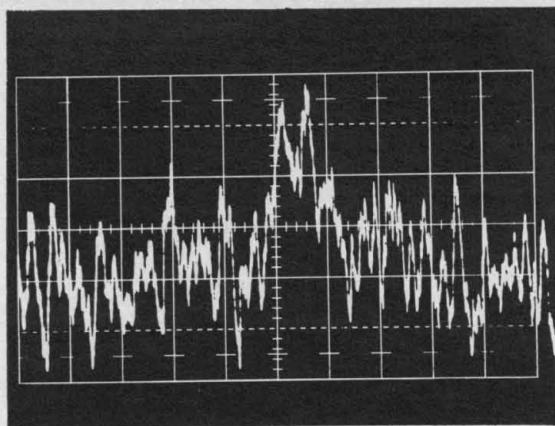
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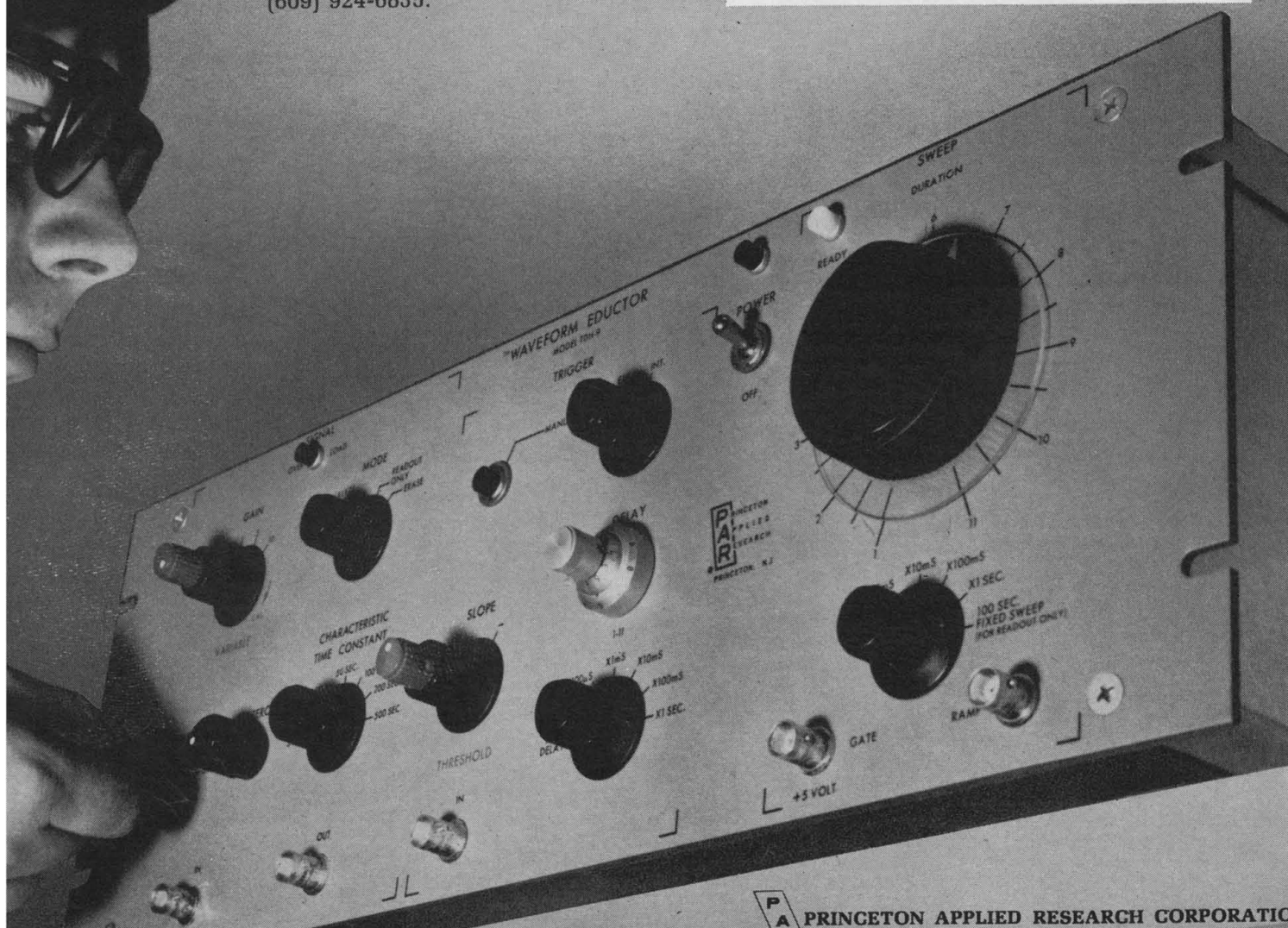
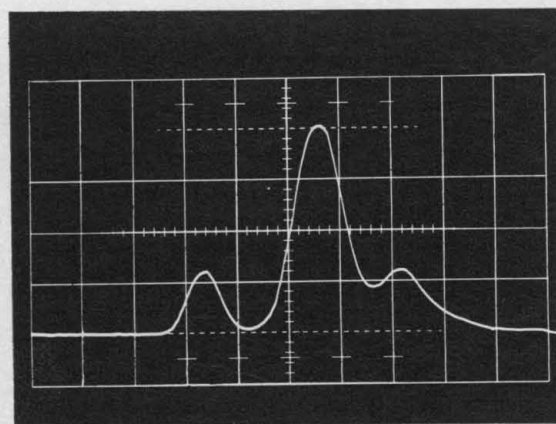


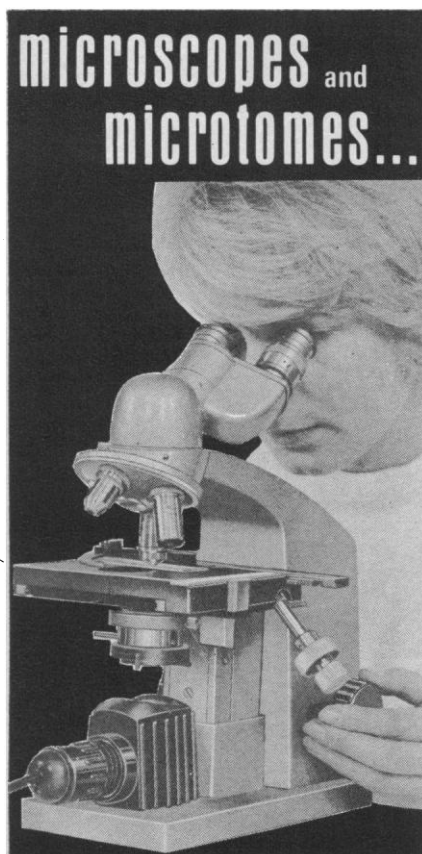
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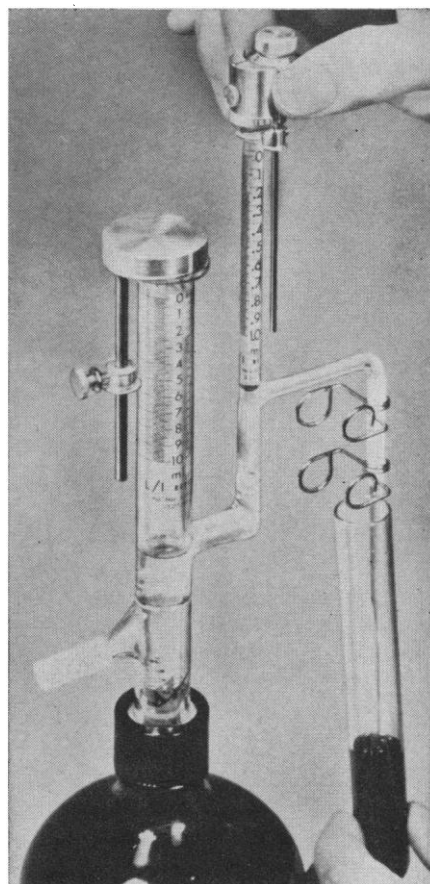
our own aspect of the human condition.

With reference to prediction, prediction by a supposedly disengaged observer is not only impossible, but if possible, would be repellent. It is impossible because to the degree that persons refuse to act historically in any positive sense, let us say in behalf of their so-called predictions, they are making their predictions less probable. It is increasingly obvious that in the modern situation, whether we engage or disengage, whether we speak or keep our mouths shut, we are nonetheless making decisions which will affect the outcome of the species.

The perspective that Steward adopts is not new; it is the perspective of the alienated professional, the specialist, the expert, no matter what his field. If anthropologists lay claim to any greater insight into alternative chains of events, then they have the responsibility to help actualize that sequence which is most conducive to the cultural development and survival of the species. If it were possible to predict, and at the same time not to act, then one must consider that both "scientifically" self-defeating and morally unjustifiable. If anthropology is a science, it is a moral science.

I find it peculiarly interesting that after at least a generation of nihilistic ruminations about the complexity of modern society, the autonomy of culture, and the irrelevance of individual behavior or of "values," the weaponry of modern war, including the means involved, and the activating decisions, are now in the hands of a few people. That is to say, fewer and fewer people can make decisions that have broader and broader consequences. This is one of the absolutely critical conditions of our time, and I think that it is about time that we all frankly admit that such decisions imply judgment, which, in fact, is ultimately moral in character. Man in the 20th century has been casual about, and contemptuous of, moral inquiry, and we scientists share a large part of the responsibility for that unconcern. But the wheel has come full circle and it is now rather clear that, whether we recognize it or not, we create, or destroy, the world in which we live.

It is clear then that I disaffiliate myself from Steward's value-free concept of modernization. On the other hand, Wolf's review would have been fairer to the contributors had he examined more carefully the premises and assumptions of each. My own contribution, for example, was clearly a protest



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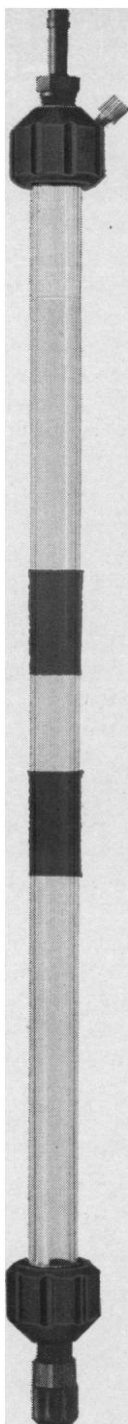
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Doctors, Patients, and Malingerers

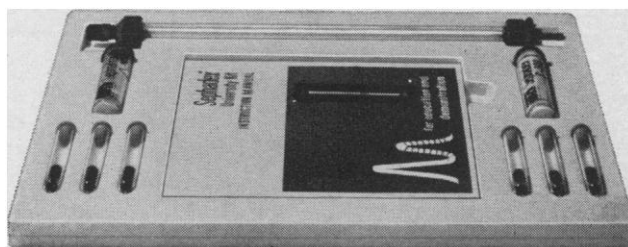
Dutton can't believe that people ever *want* to be hospitalized (Letters, 29 Dec.). Ho! Ho! Ho! I don't know where he works, but I'd wager it is not in the area of patient care. Sooner or later, every hospital and every physician makes the acquaintance of a person who *likes* hospital life. If you can afford it, and you are not very sick, it has its enticements: sympathetic people dedicated to taking care of you, and a routine which functions without any effort on your part (hot water bottles and fruit juice on request, meals served in bed with no dishes to wash, back-rubs, and clean sheets and housecleaning done by someone else). This actually appeals, if only temporarily, to the lonely and the tired—ask any mother of small children! The real malingerers will put up with the inconveniences and pain to carry out their deception.

Furthermore, it is not rare to find the malingerer not stopping with symptoms that require only x-rays or aspirin. Some submit willingly not only to having blood drawn (which is not really all that traumatic), but to spinal taps, cystoscopy, orthopedic braces, and even



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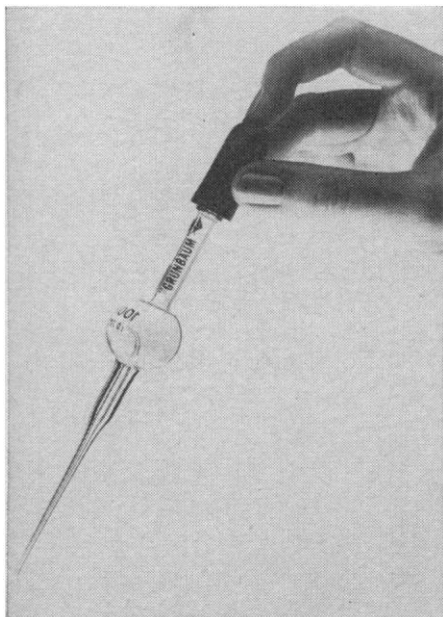


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surgery. The physician who deals with compensation (insurance) cases sees them, as does the neurologist; but so does the internist, the orthopedist, the gynecologist, and the dermatologist. Some patients go so far as to deliberately aggravate a minor condition or even inflict wounds on themselves.

Obviously, Dutton has better things to do with his time than submit to needless hospitalization—but the "unthinkable" is true. Such occurrences are far more numerous than the general public realizes, and probably more numerous than I realize, for I am not a physician.

DOROTHY BRANSON

Columbia Hospital,
Milwaukee, Wisconsin 53211

Dutton's letter is as sinister as it is disturbing in its implications. To attack the American Medical Association "persecution complex" is his royal prerogative but he ought not attribute his own Machiavellian mental concoctions "to cynical laymen in this country and foreigners." Every doctor I know is currently working behind schedule with overcrowded waiting rooms and with patients disgruntled about having to wait a week, a month, or more for appointments. Every doctor I know devotes considerable time daily at the telephone consulting with patients, trying to discourage unnecessary appointments to lighten his office load. I believe a similar situation exists throughout this country. . . . There are sufficient meritorious arguments for a National Health Service without stooping to snide remarks regarding doctors' character, honesty, and integrity. If we are going to have a National Health Service program, let it be not in retaliation against the medical profession, but rather because we believe it will improve the health standing and medical care of the American people.

THEODORE ROSEN

808 Main Street,
Manchester, Connecticut 06040

Conserving Rare Wildlife

Gregg's letter (12 Jan.) reflects the growing concern over the rapid depletion of wild animal populations. Many animals on import lists are also on the "endangered list."

Conservationists usually respond by attempts to (i) establish sanctuaries and game management laws; and (ii) reduce the export of such animals. Both efforts are often thwarted inas-

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much as many such animals come from the developing nations where conservation ranks low on the list of national priorities. National development means developing natural resources, especially arable land to feed rapidly increasing populations. Wild animals are both a resource to be exploited and a hindrance to agricultural development. They may eat, or otherwise damage crops, and game wardens are kept busy destroying animals they receive complaints about. Even where model game laws exist, enforcement is neglected. Need one cite practices in our own country with regard to golden eagles, coyotes, woves, mountain lions, crows, and such "vermin"?

Since conservationists are frustrated at the source, some advocate blocking importation of endangered animals into those developed countries which serve as the market. This negative approach—stopping destruction by stopping demand—fails on two counts. One, destruction of natural habitats and local demands remain unaffected. Two, desirable importation is hindered.

I suggest that the proper positive approach is to (i) encourage establishment of game sanctuaries and preserves; (ii) encourage establishment of enforceable game laws; (iii) encourage establishment of transplanted captive or free-ranging breeding colonies into areas which can be protected; and (iv) encourage substitutions or local breeding for endangered animals used in experiments, biological supply procedures, or displays which tend to "use up" animals.

IRWIN S. BERNSTEIN

*Yerkes Regional Primate Research
Center, Emory University,
Atlanta, Georgia 30322*

Phosphine

This is to call attention to the fact that new stocks of reagent-grade phenol crystals contain a preservative which liberates phosphine (PH_3) upon distillation. Bottles are not conspicuously labeled and should be carefully examined by those who customarily distill phenol. Most companies market USP phenol crystals that do not contain preservative. I hope the accident which nearly occurred in this laboratory may be avoided in others.

VALERIE CAMPBELL

*Department of Biochemistry,
University of Washington, Seattle*

8 MARCH 1968

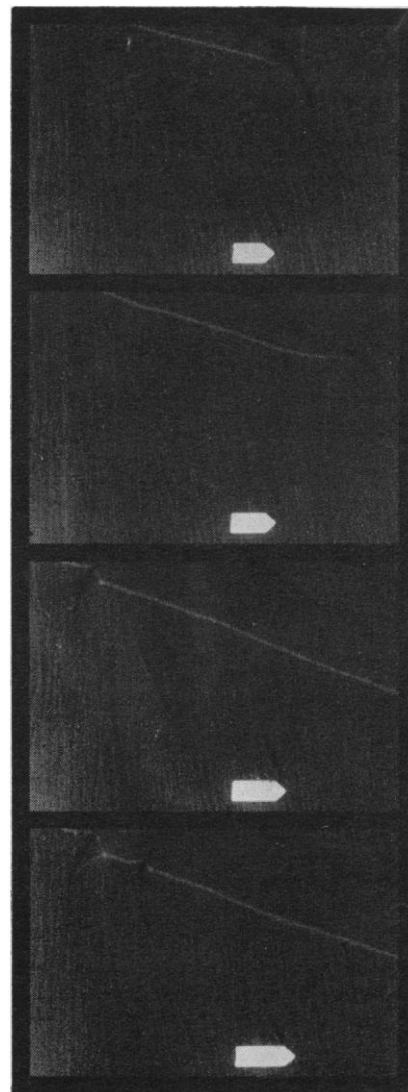


Magnetic domains made visible by the electron microscope

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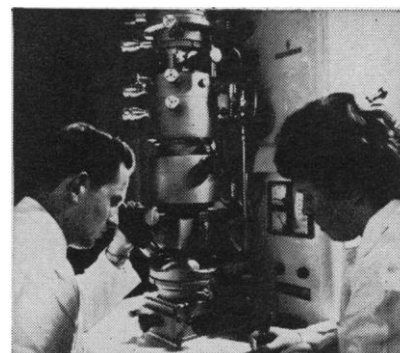
The electron microscope furnishes an inertialess image of magnetic domains with good resolution. The Lorentz Device of the electron microscope, Elmiskop I A applies well defined magnetic fields to the specimen. The dynamic alteration of the domain structure can be recorded with a built-in movie camera. (Complete film available on loan basis).

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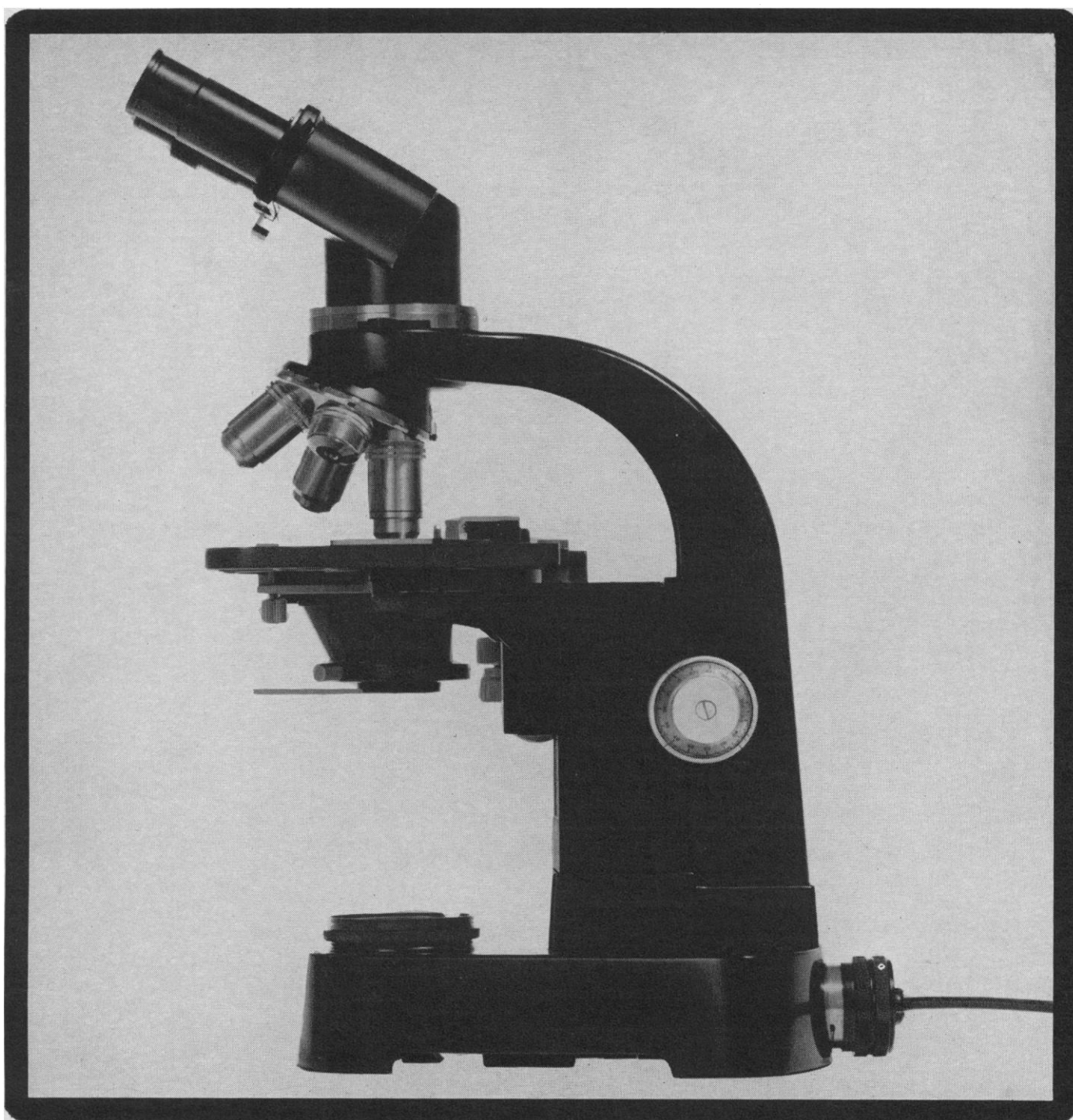


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Evolution or Catastrophe*

Ever since the days of Herbert Spencer, observers have been struck by the fact that human societies frequently seem to resemble biological systems in some aspects of both evolution and structure. The mechanisms involved, of course, have been quite different, as has been pointed out repeatedly over the years. The capacity to react sensitively to information, to conserve, communicate, and use it, and constantly to accumulate new stores is central to successful evolution in either context. But the biological mechanisms of accumulation, selection, use, and transfer of information differ in obvious and extremely important practical ways from the mechanisms involved in the accumulation, use, and transfer of social information by the processes of learning and through the medium of culture. The potential for what is in effect the inheritance of acquired characteristics confers upon the evolution of the culturally mediated society a dynamism, a flexibility, and a versatility that the biological organism or system can probably never remotely match. The obvious penalty attached to this versatility and flexibility, of course, is a degree of vulnerability also seldom matched in the biological world, as the disappearance of past great civilizations bears silent, poignant witness.

But these differences of mechanism, conspicuous and indeed basic as they are, should not obscure the parallel requirements for success that face the evolving society and the evolving organism. There are a number of such similar requirements. They are characteristically elementary, and by that very token may be especially noteworthy. Thus, precisely as in the biological world, there is a sharp limit to the rate at which evolutionary change can take place in social evolution, and to the magnitude of any given step, if the innovations are to be successful and if the society that they will affect is not to be severely disoriented or even crippled by the process. As in biological evolution, effective social evolution must be at once radical and conservative, freely embracing the new yet scrupulously preserving basic and well-tested elements that have had a high survival value in the past and which remain relevant to the present. Like successful biological evolution, successful social evolution must constantly guard against discarding the essential with the trivial.

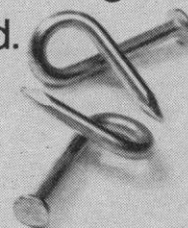
The more rapid the social evolution, the more imperative becomes this requirement and the more vigilance is demanded to satisfy it. Through history this has been one of the most difficult lessons for man to learn. Repeated failures to understand it or to act upon it adequately must have accounted for major historical debacles—and indeed for major distortions of social evolution. It is a danger if anything more acute today than ever before, because of the immensely increased dynamism of social movements and evolutionary forces with which we live, and because the stakes of failure, like those of success, are so much higher than they have ever been. It would be difficult to find a more apposite general caveat for our time than this of exercising due care that, in embracing new and experimental courses on myriad fronts of movement with the ardor that we must, we do not at the same time discard long-tested values and long-tried adaptive courses which, if they are lost, will only have, one day, to be re-won—and probably at enormous cost. This is a consideration that is before us in all our affairs, every minute of every day. —CARYL P. HASKINS

* From the *Report of the President, 1966-67* (Carnegie Institution of Washington, Washington, D.C., 1968).



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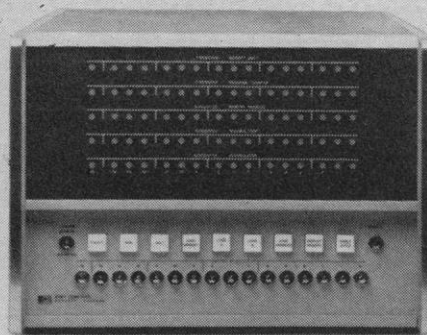


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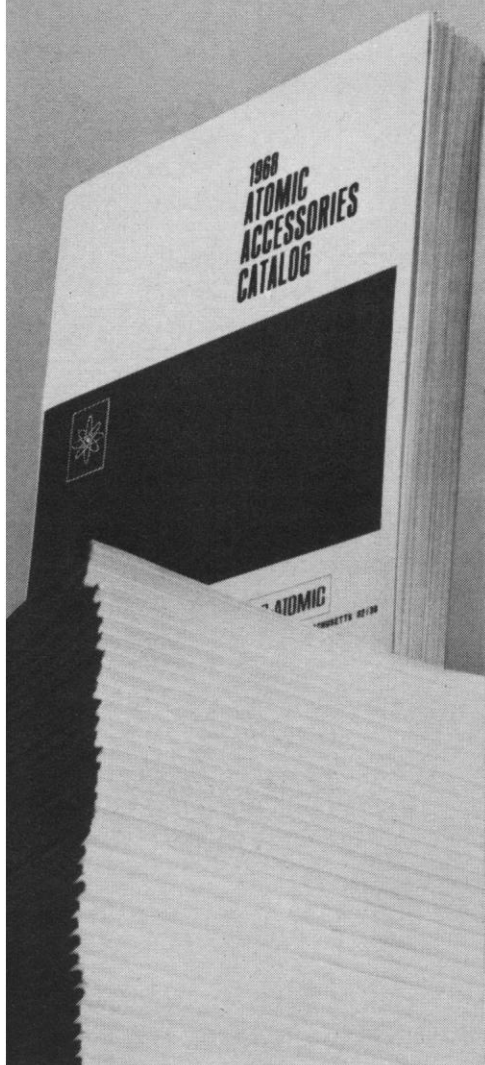
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K. L. Johnson, "The behavior of elasto-hydrodynamic oil films in combined rolling and sliding."

Lysosomes

Zanvil A. Cohn and Samuel Dales are chairman and vice chairman.

1 July. Metabolism and composition of the granulocyte: J. G. Hirsch, "Composition and fate of PMN granules"; P. Elsbach, "Lipases and phospholipases"; S. S. Spicer, "Composition and cytochemistry"; M. Karnovsky, "Metabolic consequences of phagocytosis." Functional aspects of the granulocyte: W. Barry Wood, "Formation of leukocytic pyrogen"; J. Spitznagel, "Cationic proteins"; S. Klebanoff, "Peroxidase mediated antibacterial mechanisms."

2 July. Macrophages and the RES: A. Volkman, "Origin, turnover, and function of RES macrophages"; B. Bloom, "Macrophages and delayed hypersensitivity"; Z. Cohn, "Macrophage lysosomes"; A. Novikoff, "Structure of the RES." Physiology of mononuclear phagocytes: G. Mackaness, "Mechanisms of cellular immunity"; A. Dannenberg, "Enzymes in cell immunity"; R. North, "Phagocytosis and postphagocytic events"; B. Ehrenreich, "Uptake and processing of soluble molecules."

3 July. Early events in viral penetration, uncoating, and replication: S. Silverstein, "Lysosomes in the penetration and uncoating of virus particles"; A. C. Allison, "Lysosomes in viral infection"; B. Mandel, "Interactions of antibody neutralized virus with host cells." Cellular response to viral infections: G. C. Goodman, "Cytopathogenic effects of picornavirus infections"; H. C. Bubel, "Hydrolytic enzymes in virus"; E. H. Ludwig, "Infected cells"; R. Wagner, "Studies with interferon"; R. Z. Lockart, "Use of interferon to study cell destruction by mengovirus."

4 July. Intracellular parasitism: P. D'Arcy Hart, "Mycobacteria modification of the intracellular environment"; L. Hayflick, "Interactions of mycoplasma with cultured cells"; M. Müller, "Studies with protozoa"; H. Harris, "Genetic activity in hybrid animal cells."

5 July. Genetic alterations in leukocyte functions: R. Good, "Chronic granulomatous disease of childhood"; E. Kauder (subject to be announced); F. Bang, "Murine viral hepatitis."

Radical Ions

Michael Szwarc and Glen A. Russell are chairman and vice chairman, respectively.

8 July. George K. Fraenkel, "Recent applications of ESR to organic free radicals and radical ions"; G. Vincow, "Electron spin resonance studies of radical ions"; F. W. McLafferty, "Unimolecular decompositions of gaseous radical ions."

9 July. (S. I. Weissman, discussion leader): E. de Boer, "ESR and NMR of radical ions and their ion pairs"; M. C. R. Symons, "Some aspects of ionic solvation and ion-pair formation derived from ESR studies"; G. J. Hoijtink, "Our present knowledge about aromatic ions."

10 July. (Glen A. Russell, discussion leader): Shelton Bank, "Reduction and addition reactions of aromatic radical anions"; Nathan Kornblum, "Radical anions as intermediates in substitution reactions"; Edward G. Janzen, "Radical anions and di-anions of weak carbon acids"; Nathan L. Bauld, "Radical anions, di-anions, and tri-anions."

11 July. (Ralph N. Adams, discussion leader): Raymond E. Dessy, "Organometallic electrochemistry"; Ralph N. Adams, "Electrochemical oxidation (radical cations)"; M. Levy, "Hydrodimerization of radical ions of acrylonitrile and of related monomers"; A. Weller, "Chemiluminescent reactions of radical ions"; E. Chandross, "Chemiluminescent reactions of radical ions in electrode processes."

12 July. J. Jagur-Grodzinski, "Formation of radical ions by electron transfer from carbanions"; E. M. Kosower, "Stable pyridinyl radicals."

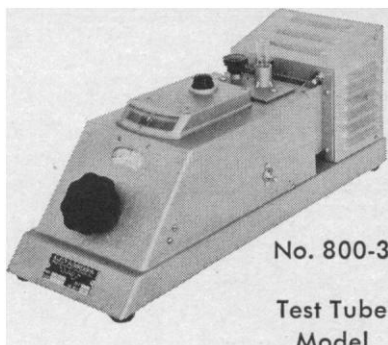
Spectral Line Shapes

Lewis S. Klein and Marshall Lapp are chairman and vice chairman, respectively.

15 July. H. Griem, "Spectral line shapes in plasmas" (A. Kolb, discussion leader); J. Cooper, "Astrophysical applications of line shapes" (W. R. Hindmarsh, discussion leader); H. L. Welsh, "Experimental studies of line shapes in collision-induced absorption"; J. Van Kranendonk, "Theoretical studies of line shapes in collision-induced absorption."

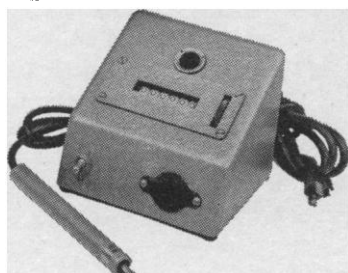
16 July. B. Zwanzig, "Liouville operator techniques in line shape theories"; E. Smith, "Relaxation theory of line

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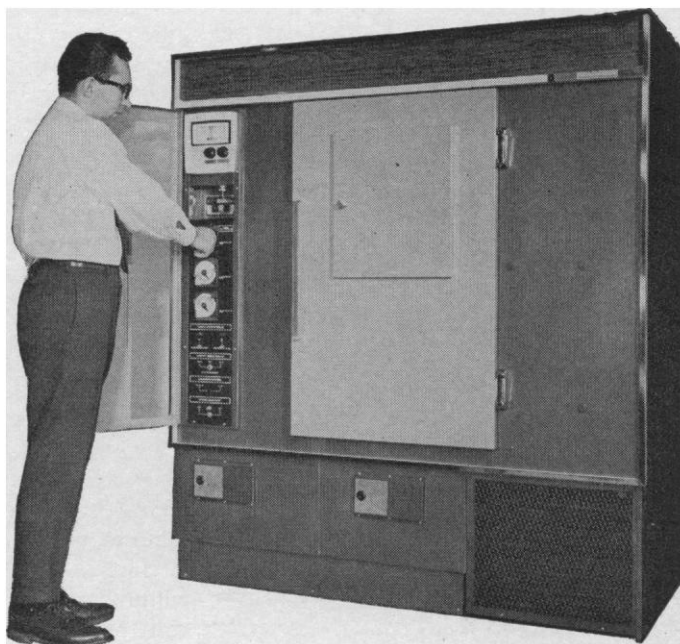
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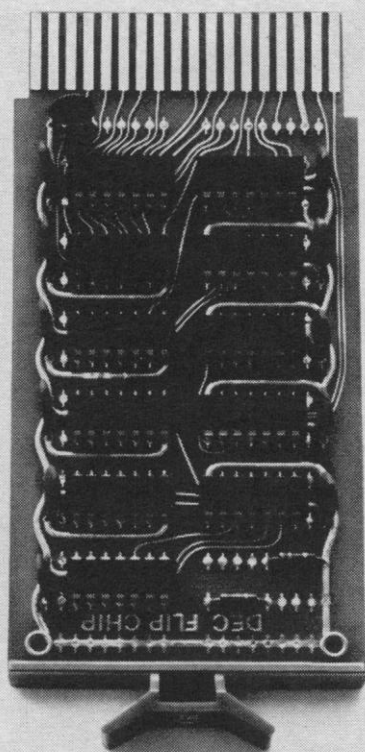
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broadening in plasmas"; (A. Ben-Reuven, discussion leader); G. Birnbaum, "Collision-induced absorption in polyatomic molecules"; L. Galatry, "Far-infrared line broadening in liquids"; R. Herman, "Impact theory of rare gas-broadened HCl lines"; (H. Jacobson, discussion leader).

17 July. C. Alkemade, "The measurement of metal vapor damping parameters"; W. Behmenburg, "The determination of interatomic potentials from line shape measurements"; (M. Lapp, discussion leader); B. Bezzerides, "Kinetic equation approach to spectral line shapes"; A. Mead, "Resolvent operator method in the theory of spectral lines"; L. Klein, "Green function theory of stark broadening."

18 July. R. A. Hill, "Current status of experiments on spectral line broadening in plasmas"; H. W. Drawin, "Stark broadening in the presence of magnetic fields"; J. R. Greig, "Recent experimental results on stark broadening" (W. Lochte-Holtgraven, discussion leader); H. Van Regemorter, "Spectral lines from stellar atmospheres"; D. Hummer, "Spectral line shapes for optically thick radiating systems" (C. Pecker, discussion leader).

19 July. S. Y. Ch'en, "Developments in neutral atom line broadening" (G. Hammond, discussion leader).

Biological Regulatory Mechanisms

H. Edwin Umbarger is chairman.

22-26 July. Mechanisms regulating protein synthesis in prokaryotic and eukaryotic forms. The goal is to proceed from the simpler systems that led to the Jacob-Monod model through yeast and neurospora to more complex forms in which hormonal controls are operating. Both negative control and positive control systems will be considered. Speakers: S. Bourgeois, M. Cohn, E. Englesberg, W. Gilbert, R. F. Goldberger, S. R. Gross, I. C. Gunsalus, U. Henning, J. G. Kaplan, W. Maas, B. Magasanik, R. G. Martin, G. M. Tomkins, L. Gorini, O. Greengard, P. A. Kitis, and B. Komisaruk.

Energy Coupling Mechanisms

Henry A. Lardy and Lester Packer are cochairmen.

29 July. Protein conformation (S. J. Singer, chairman); J. Kraut, "Protein structures viewed by x-ray crystallography"; H. M. McConnell and W. Hub-

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To be published bimonthly, the first issue of the Journal will appear in January 1969. The Journal will include original papers dealing with the theory, techniques, methods of spectral analysis, and results of magnetic resonance spectroscopy. Primary areas for subject matter are both nuclear and magnetic resonance extending to such related fields as quadrupole resonance, cyclotron resonance, the Mössbauer effect, and magnetic properties of the solid state.

Potential contributors to the Journal are advised that papers for publication may be submitted to the editor as of August 1, 1968.

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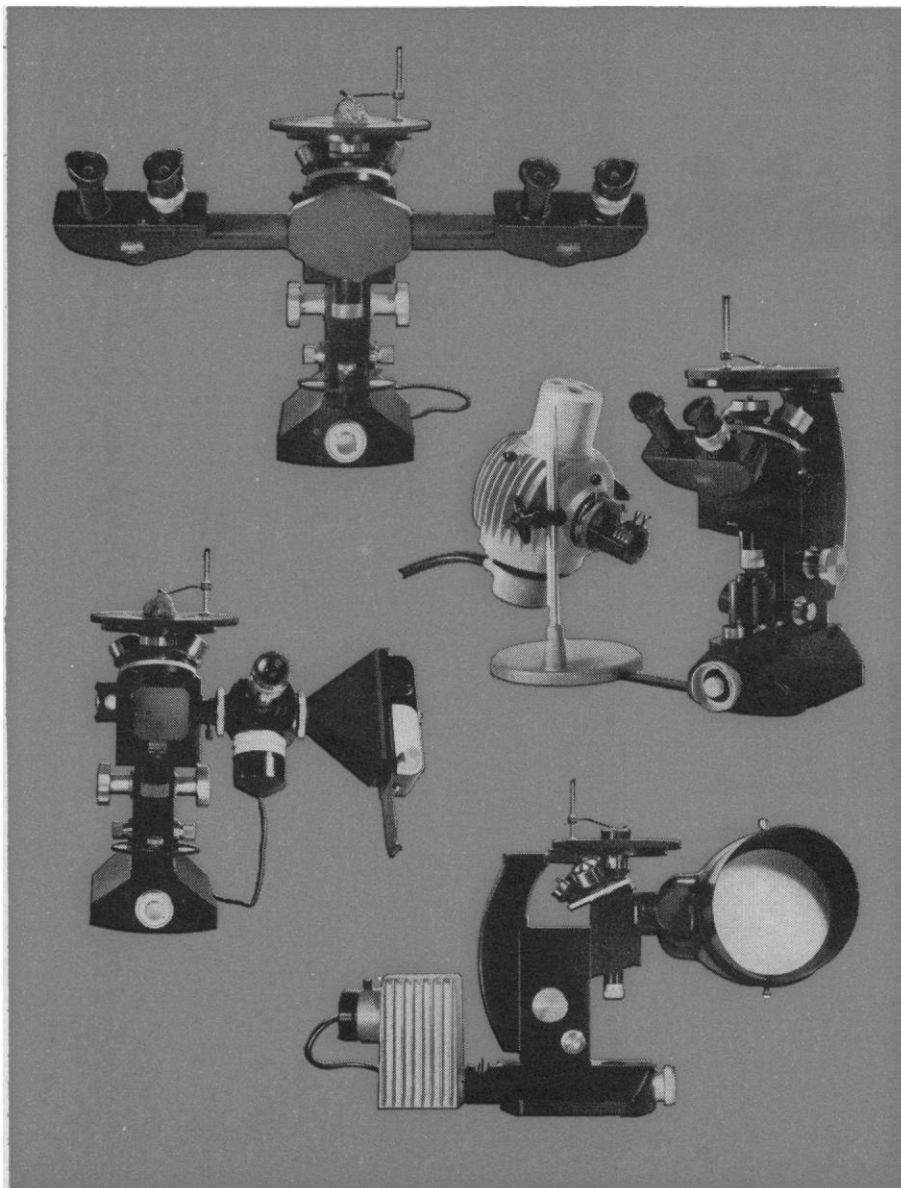
bell, "Spin label studies"; S. J. Singer, "Optical rotation and circular dichroism" (D. W. Urry, discussant). Membrane assembly (P. Siekevitz, chairman): D. Woodward, "Genetic control of mitochondrial proteins"; E. Racker, "Assembly of mitochondrial proteins"; S. Fleisher, "Membrane arrangements" (E. Wintersberger, discussant).

30 July. Outer mitochondrial membrane (D. F. Parsons, chairman): L. Ernster, J. Greenwalt, and D. Allman, "Composition and function"; O. Kreutziger, "Structure by freeze etching." Inner mitochondrial membrane—macromolecular conformation (W. Stoeckenius, chairman): D. E. Green, "Conformation and energy coupling"; L. Packer and J. Wrigglesworth, "Molecular and macromolecular correlations"; C. R. Hackenbrock, "Electron transport-dependent ultrastructural transformation" (P. V. Blair, discussant).

31 July. Inner mitochondrial and microbial membranes—energy transduction (H. A. Lardy, chairman): B. Chance, "Coupling and control mechanisms"; C. P. Lee and L. Ernster, T. Onishi and H. Schleyer, "Discussion of coupling at site I"; J. Mattoon, "A genetic defect of oxidative phosphorylation in yeast mitochondria"; R. Eisenhardt, "Energy transduction in brown fat"; M. Cusanovich, "Light-induced electron transport in chromatium chromatophores"; D. de Vault, "Redox carriers and coupling mechanisms"; A. Caswell, "Cytochrome *c* potentials during metabolic perturbations"; A. Brodie, "Coupling factors from *M. pheli*"; R. Sanadi, "Coupling factors in partial reactions of oxidative phosphorylation"; J. Fesenden, "Coupling factors in partial reactions of oxidative phosphorylation"; G. Pinchot, "The purification and nature of the high-energy intermediates"; (E. C. Slater, chairman): P. D. Boyer, "Paths of phosphate oxygen in oxidative and photosynthetic phosphorylation"; A. Loyter, "Calcium accumulation by submitochondrial particles"; E. Carafoli and A. Lehninger, "Movements of H^+ and K^+ in relation to energy coupling in mitochondria"; R. Cockrell, "Synthesis of ATP driven by an ion gradient"; J. Howland, "Ion movements associated with tetramethyl-*p*-phenylenediamine oxidation."

1 August. Photosynthetic membrane—energy transduction (A. San Pietro, chairman). Electron transport and phosphorylation: N. Good and S. Izawa, W. Lynn, and R. E. McCarty, "Plants"; B. Chance, M. Baltscheffsky,

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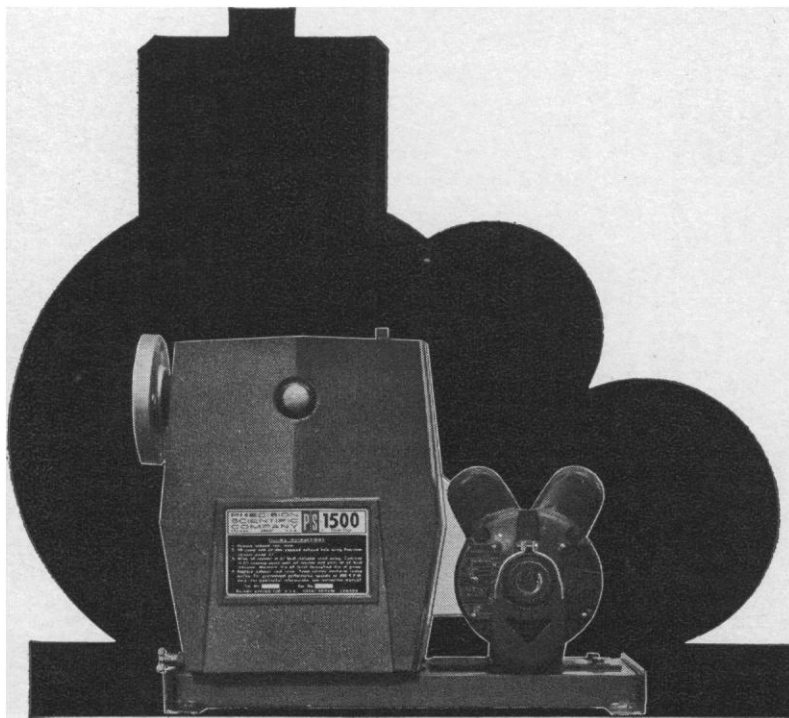
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and M. Nishimura, L. Vernon, R. E. McCarty, "Bacteria"; R. Dilley, N. Shavitt, G. Hind, and D. W. Deamer, "Ion movements." Special lecture: E. C. Slater, "Coupling mechanisms."

2 August. Electron transport mechanisms (H. Kamin, chairman): V. Massey, "Electron transfer from flavins to sulfur and iron" (G. Foust and J. Vorhaben, discussants). H. Beinert, "Interaction between flavins and metals" (K. V. Rajagopalan, L. Siegel, and T. Singer, discussants). J. Wang, "Model mechanisms for electron transport and oxidative phosphorylation" (J. Peisach, L. Parkhurst, and M. Morrison, discussants).

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Animal Cells and Viruses

David M. Prescott and George K. Hirst are chairman and vice chairman, respectively.

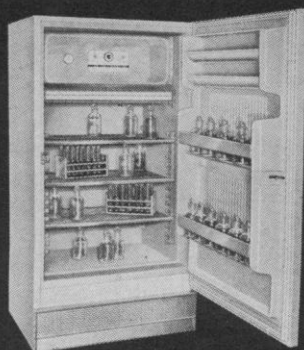
10-14 June. The structure of chromosomes: H. Swift, J. H. Taylor, H. Ris, E. Stubblefield, A. Cole, D. Wolstenholme, and J. Vinograd. Cell transformation: H. Koprowski, W. Nichols, H. Green, W. Eckart, H. Eagle, and G. Todaro. Viral RNA synthesis: R. Franklin, M. Girard, J. Bader, and M. Pons. Genetics of RNA viruses: E. Pfefferkorn, B. Fields, and R. Simpson. DNA tumor viruses: E. Winocour and W. Doerfler.

Science and Technology of Biomaterials

Charles P. Bean and Robert I. Leininger are chairman and vice chairman, respectively.

17 June. Electrodes I (Sumner N. Levine, chairman): Sumner N. Levine, "Electrodes in biological environments"; Alan R. Kahn, "Tissue impedance and electrodes." Electrodes II (speaker to be announced), "Implanted electrodes"; R. N. Scott, "Myoelectric control."

18 June. Charged surfaces (Robert I. Leininger, chairman): Richard Falb, "Protein absorption on charged electrodes"; William V. Sharp, "Bioelectric polyurethanes"; Preston Murphy, "Electrets as nonthrombogenic surfaces." Polymers (Donald Lyman, chairman): C. W. Cooper, "Specification of the mechanical properties of polymers"; John A. Lontz, "Cranial implant with dilatational polymers"; (speaker to be



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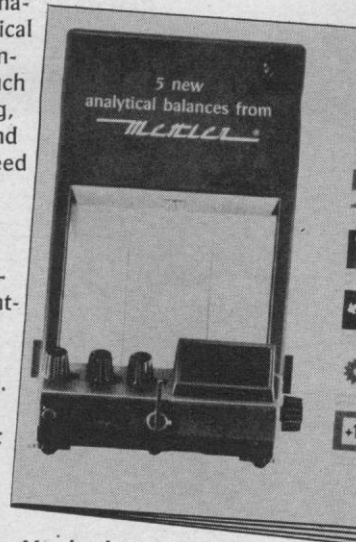
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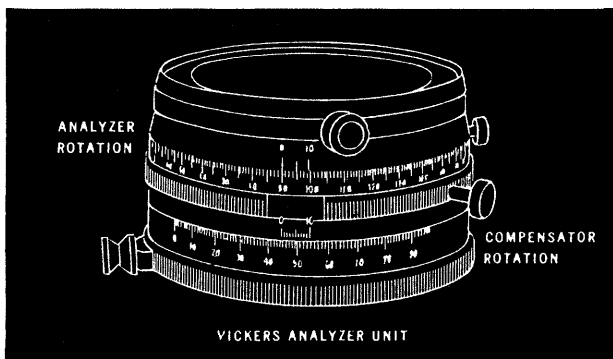


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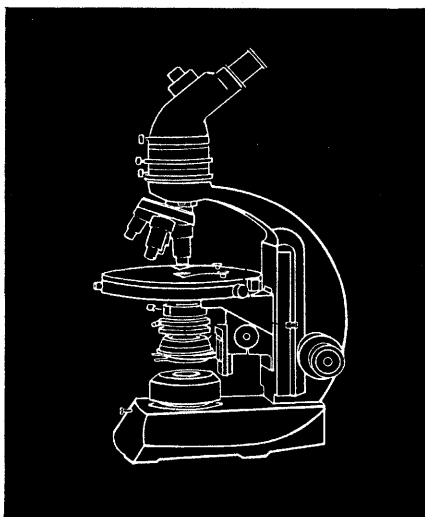
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announced), "Materials and piezoelectric energy sources."

19 June. Mechanical properties of teeth and restorations (John W. Stanford, chairman): George R. Dickson, "Mechanical properties of the tooth structure"; David Mahler, "Mechanical properties of restorative materials"; Robert Craig, "Stresses in teeth and restorations." Bones and joints (Harlan Amstutz, chairman): Edward Korostoff, "Electrical properties of dentin and bone"; Ernest Gardner, "Anatomy and physiology of joints"; Charles McCutchen, "What's good about synovial fluid?"

20 June. Friction, wear, and adhesion (John Wulff, chairman): John Wulff, "Mechanism of friction and wear of metals"; Donald G. Flom, "Friction and wear of polymers"; L. Lurie, "Acrylic adhesives"; Henry Lee, "Epoxy and polyurethanes as adhesives for hard tissues." (Edward I. Salkovitz, chairman): John Charnley, "The development of arthroplasty."

21 June. Progress in biomaterials (James A. Bougas, chairman).

Chemistry and Physics of Isotopes

A. J. Kresge and W. Spindel are chairman and vice chairman, respectively.

24 June. (R. E. Weston, Jr., chairman): M. Wolfsberg, "Magnetic resonance"; (L. Friedman, chairman): J. L. Beauchamp, "Ion-molecule reactions."

25 June. (L. Melander, chairman): P. C. Myhre, "Organic systems"; (S. Seltzer, chairman): V. J. Shiner, Jr., "Secondary isotope effects."

26 June. (R. N. Clayton, chairman): T. A. Rafter, "Geochemistry"; (W. Spindel, chairman): J. Mühlenpfordt, A. Liberti, "Isotope separation."

27 June. (G. M. Harris, chairman): J. B. Hunt, "Inorganic systems"; (J. J. Katz, chairman): H. L. Crespi, "Biochemical systems."

28 June. (F. A. Long, chairman): R. P. Bell, "Proton transfer."

Lasers in Medicine and Biology

Myron L. Wolbarsht and Elmer N. Zeitler are cochairmen; H. Christian Zweng is vice chairman.

1-5 July. (W. J. Mautner, moderator): "Physical models of laser effects on biological materials"; (M. Cox, moderator): "Safety procedures for research and general usage"; (R. W.

Neidlinger, moderator): "Effects of laser radiation on the eye"; (R. Stern, moderator): "Special effects of lasers on teeth, bone, and skin"; (R. J. Rockwell, moderator): "Instrumentation and calibration"; (B. Chance, moderator): "Analysis and stoichiometry"; (L. Rose, moderator): "Medical aspects"; (R. C. Rosan, moderator): "Pathology"; (E. Zeitler and M. Wolbarsht, moderators): "Miscellaneous subjects."

Myocardial Contractility

William W. Sleator, Jr., is chairman.

Cellular Control of Cardiac Contraction

12 August. W. Trautwein, R. W. Tsien, K. Peper, and H. A. Fozzard, "Ionic mechanisms of the action potential plateau"; J. W. Woodbury, Lloyd Barr, M. M. Dewey, and E. A. Johnson, "Propagation of the action potential."

13 August. Ernest Page, J. Sommer, E. A. Johnson, and P. Müller, "Excitation-contraction coupling I: Structural consideration"; H. A. Fozzard, D. Hellam, M. Morad, and W. Trautwein, "Excitation-contraction coupling II: Voltage control of tension."

14 August. R. F. Furchgott, S. Winegrad, F. Jobsis, and John Blinks, "Excitation-contraction coupling III: Where does the calcium come from?"; W. W. Sleator, M. Reiter, and P. Braveny, "Relations between frequency, force, and action potential configuration."

15 August. Setsuro Ebashi and A. Martonosi, "Subcellular studies of proteins and calcium"; R. E. Davies, C. L. Gibbs, and G. Langer (subject to be announced).

16 August. H. Morgan, J. Williamson, and T. Cooper, "Metabolic controls."

Metals and Metal Binding in Biology

Frank R. N. Gurd and Paul D. Saltman are chairman and vice chairman.

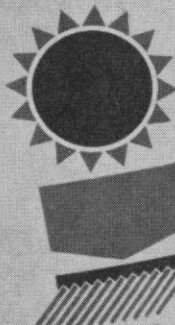
19 August. Stereochemistry, structure, and reactivity in small complexes (R. H. Holm, chairman); Large complexes (M. Cohn, chairman).

20 August. Ligand exchange reactions (D. Margerum, chairman); Metal ion catalysis (R. G. Pearson, chairman).

21 August. Electron-transfer processes (H. Taube, chairman); Properties of nonheme iron (A. Bearden, chairman).

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TABLE I

Grating Length (mm)	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290		
35-51-10-10	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600

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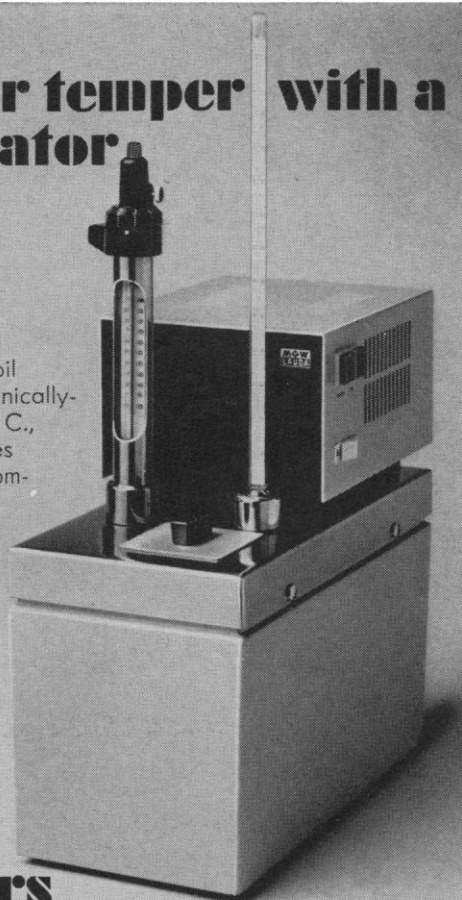
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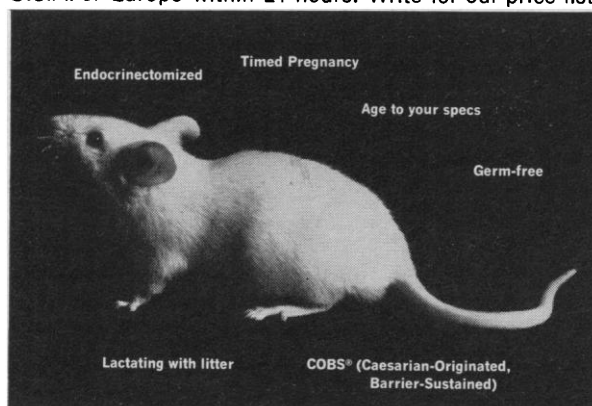


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22 August. Biological nonheme iron systems (J. Rabinowitz, chairman); Presentation and discussion of molecular models (R. E. Marsh, chairman).

23 August. Biological transport mechanisms (J. B. Neilands, chairman).

Geochemistry

S. R. Silverman is chairman.

26 August. Geochemistry of organic matter in recent sediments (W. G. Meinschein, chairman): W. G. Meinschein and J. M. Mitchell, "Lipids in hydrothermal sediments"; additional speakers and subjects to be announced. Physics and chemistry of organic substances in aqueous media (P. A. Dickey, chairman): P. A. Witherspoon, "Diffusion of hydrocarbons in water"; R. L. Wershaw, "Particle size determination of humic acid fractions by low-angle x-ray scattering"; P. A. Dickey and J. C. Oartmill, "Capillary processes in primary oil accumulation."

27 August. Geochemistry of organic matter in ancient sediments (W. E. Robinson, chairman): E. Hare, "Amino acid diagenesis in fossil shells and associated sediments"; D. H. Welts, "Isoprenoid hydrocarbons produced by low temperature pyrolysis of kerogen and biochemical substances"; D. Anders, "Geochemistry of Green River oil shale bitumen"; W. E. Robinson, "Geochemistry of kerogen in Green River formation"; A. L. Burlingame, H. K. Schnoes, P. A. Haug, and D. R. Simoneit, "Carboxylic acid content of organic matter in Green River formation"; B. Nagy, "Ozonolysis of kerogen"; W. Van Hoveen, J. R. Maxwell, and M. Calvin, "Fatty acids in ancient sediments."

28 August. Symposium—Environments of coal deposition (P. H. Given, chairman): W. Spackman, "Dependence of coal types on the environment of deposition"; A. Traverse, "Structure and formation of jets"; D. J. Swaine, "Boron as an environmental indicator in Australian coals"; F. M. Swain, "Distinction between primary and diagenetic variations in Minnesota peats." Coal geochemistry (P. H. Given, chairman): J. D. Brooks and J. Smith, "Diagenesis and metamorphism of lipids and cuticles"; F. J. Stevenson, "Chemistry of humic substances"; J. P. Martin, "Formation of humic substances by fungi"; P. H. Given, "Carbon isotope studies of peat constituents and corresponding living plant material."

29 August. Petroleum geochemistry (E. E. Bray, chairman): W. L. Orr,

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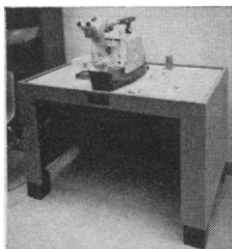
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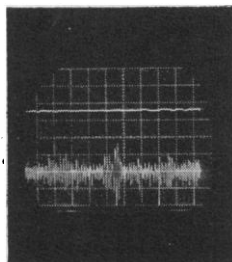
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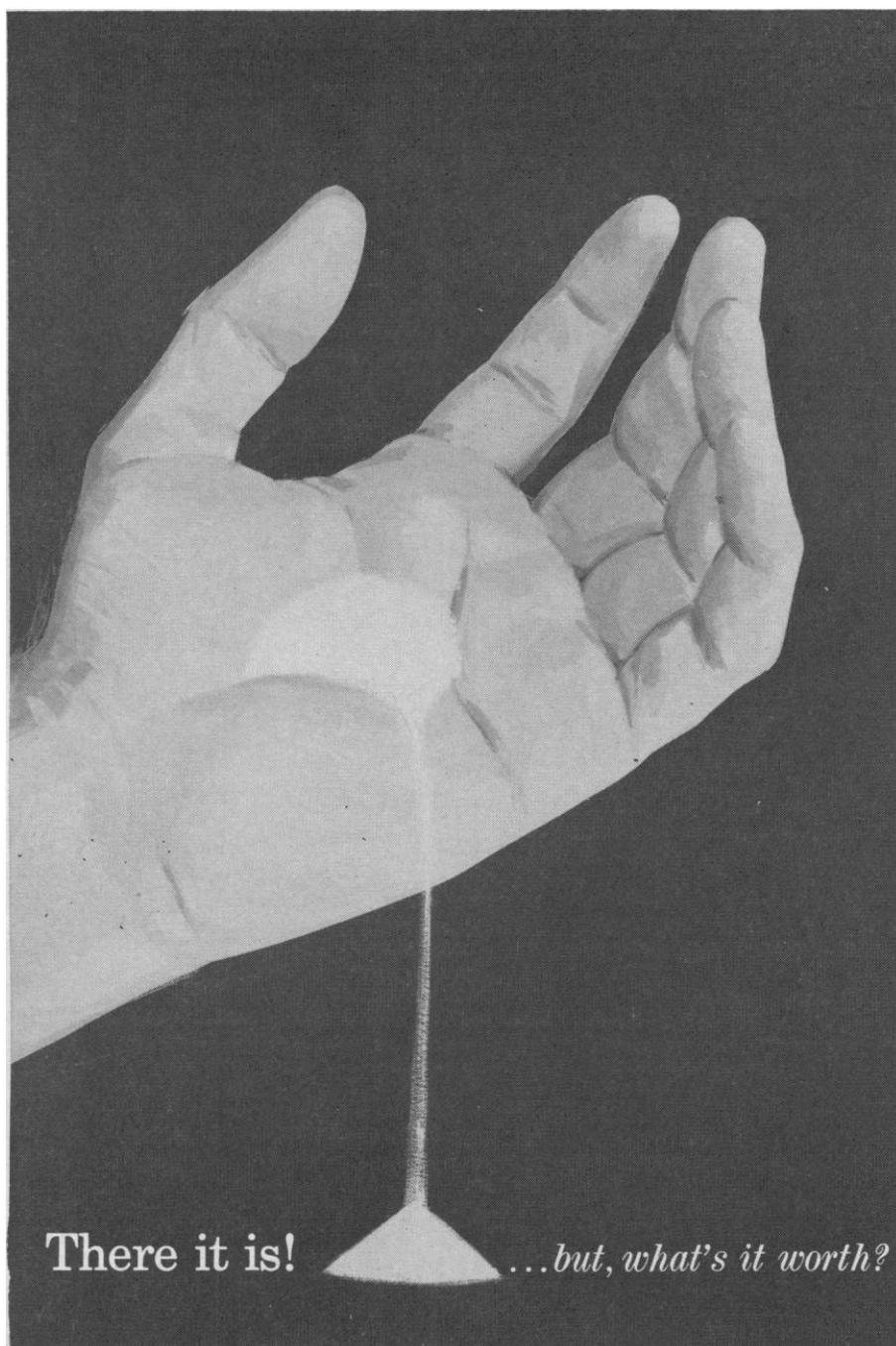
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"Sulfur compounds in the maturation of petroleum"; W. D. Redfield, "Optical rotation in petroleum"; F. H. Meister, "Distribution of carbon isotopic compositions of Permian basin crude oils." Origin of petroleum (J. G. Erdman, chairman): G. T. Phillippi, "The deep subsurface temperature-controlled origin of petroleum"; E. V. Whitehead, "Fossil fuels: their composition and evolution in relationship to living organism"; W. M. Sackett, "Kinetic isotope effects in the formation of natural gas and petroleum"; S. R. Silverman, "Carbon isotopic evidence for the origin and transformation of petroleum and gas."

30 August. Special topics in organic geochemistry (S. R. Silverman, chairman): R. A. Friedel, "Some spectral applications in organic geochemistry"; C. Ponnampuruma, "Abiogenic hydrocarbons"; M. Duel and G. J. Schrayner, "Evolution and migration of methane and heavier hydrocarbons in coal beds."

Crystal Inn

Theoretical Chemistry

John A. Pople and Albert Moscowitz are chairman and vice chairman, respectively.

24 June. L. C. Snyder, "Heats of reaction from Hartree-Fock energies of closed shell molecules"; D. A. Ramsey, "Recent problems in the electronic spectra of polyatomic molecules"; D. H. Levy, "Gas-phase electron resonance"; K. Ruedenberg, "*Ab initio* separated pair wave functions for some diatomic molecules."

25 June. J. L. Whitten, "*A priori* studies of excited electronic states of intermediate size molecules"; M. B. Robin, "Electronic states of small ring molecules"; J. N. Murrell, "Calculation of predissociation rates."

26 June. M. Karplus, "Correlation calculations and perturbed Hartree-Fock theory"; G. A. Segal, "Theory of electric dipole derivatives"; J. Hinze, "General multiconfiguration formalism."

27 June. S. F. Boys, "Correlation effects in many-electron wave functions"; I. Shavitt, "Configuration interaction calculations"; R. L. Stewart, "Study of electron density by x-ray and neutron diffraction."

28 June. H. F. Hameka, "Green function techniques in atomic and molecular calculations"; R. L. Somorjai, "A model of a linear chain of hydrogen bonds."

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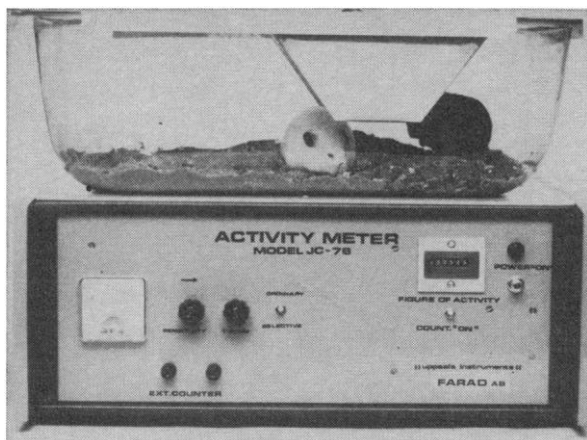
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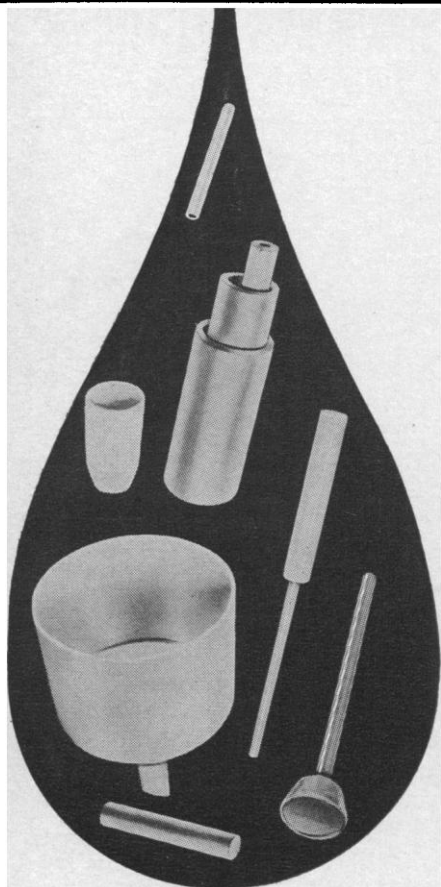
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Chemistry and Physics of Coatings and Films

J. E. Guillet and Walter S. Ropp are chairman and vice chairman, respectively.

1 July. Warren Johnson, "Coatings requirements for high-performance aircraft and space vehicles"; John R. Chalmers, "Investigation of polyimides as coatings and laminates."

2 July. Irving Einhorn, "Thermal degradation of high-performance coatings"; Ronald Rheinisch, "Photodegradation of polymers in space environments."

3 July. H. Nelson Wright, "Photochemical deposition of protective coatings"; J. Hinsch, "Radiation cure of organic coatings."

4 July. S. G. Mason, "Microrheology of suspensions"; Irving Krieger, "Rheology of monodisperse latices."

5 July. R. N. O'Brien, "The use of interferometry in the study of film properties"; F. W. Poling, "Application of infrared techniques to study absorbed and deposited films." Discussion leaders: Field H. Winslow, Walter S. Ropp, Raymond R. Meyers, Frank W. Maine, and Percy Pierce.

Physical Metallurgy

Paul G. Shewmon and Johannes Weertman are chairman and vice chairman, respectively.

8 July. M. J. Stowell, "Epitaxial growth"; Kenneth Russell, "Nucleation kinetics" (G. M. Pound, discussion leader). Wolfgang Pitsch, "Nucleation in solids" (John Hilliard, discussion leader).

9 July. R. Armstrong, "Twinning and martensite"; Paul Shewmon, "Mobility of coherent interfaces" (R. Fullman, discussion leader). K. R. Kinsman and H. I. Aaronson, "Coherent precipitation growth" (Gareth Thomas, discussion leader).

10 July. H. Gleiter, "Structure of grain boundaries"; B. B. Rath and H. Hu, "Grain boundary mobility" (M. Ashby, discussion leader). John Cahn, "Massive transformations" (Walter Owen, discussion leader).

11 July. Fred Bolling, "Cellular precipitation"; Martin Glicksman, "Solidification at large ΔT " (Fred Weinberg, discussion leader). Cyril S. Smith, "On interfaces in general."

12 July. (Presentations brought by conferees); (Paul Shewmon, discussion leader).

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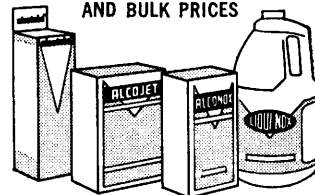
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Molecular Pathology

Earl P. Benditt and Robert M. O'Neal are chairman and vice chairman.

15-19 July. "Control mechanisms and their aberrations." Some facts and fancies about and errors in regulation of DNA, RNA, and protein synthesis will be discussed. Drs. Baserga, Coffey, Gelboin, H. Harris, Lagunoff, Pitot, Smuckler, Van Lanker, Van Potter, and others will participate. Two sessions will be devoted specifically to DNA, two to RNA, two to protein synthesis, and the remainder to other general and specific aspects of regulatory phenomena.

Quantum Solids and Fluids

T. H. Geballe and S. Doniach are cochairmen.

Local Moments in Metals and Weak Magnetism

22 July. Localized magnetic moments: H. Suhl, "Theory of moment formation"; B. T. Matthias, "Experimental moment formation"; B. R. Coles, "Experimental studies: spin resonance, neutron diffraction, optical methods"; F. T. Hedgecock, "Semiconductors as solvents."

23 July. Compensated kondo states: W. Steyert, "Experiments"; P. W. Anderson, "Theory"; K. Yosida, "Theory: singled bound state of a localized spin"; A. C. Gossard and A. Narath, "NMR results."

24 July. Further compensated state experiments: J. Applebaum, "Tunneling"; R. D. Parks, "Superconductors"; A. J. Heeger, "Interaction effects."

25 July. Magnetic excitations, weakly magnetic and nearly magnetic metals: P. M. Platzmann, "Electron spin resonance in metals"; A. W. Overhauser, "Charge and spin density waves"; T. M. Rice and A. R. Mackintosh, "Chromium and rare earth metals."

26 July. Nearly ferromagnetic metals and alloys: W. F. Brinkmann and J. R. Schrieffer, "Theory"; S. Foner, "High field properties"; S. Ogawa, "Weakly magnetic compounds: $ZrZn_2$."

High-Temperature Chemistry

Daniel D. Cubicciotti, Jr., and Robert J. Thorn are chairman and vice chairman, respectively.

29 July. Keynote address: Leo Brewer, "Significant new directions in high-temperature research"; Electron impact

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INSTITUTE. 1967/786 PP./218 FIGS./INDEX/
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CONTENTS

THE ETIOLOGY OF LYMPHOMAS AND LEUKEMIAS: How is the mouse leukemia virus transmitted from host to host under natural life conditions? In vitro methods for detection and assay of leukemia viruses. Bovine leukemia—current status. The comparison of virus particles associated with Burkitt lymphoma with other herpes-like viruses. The cause of human leukemia—viruses or mycoplasmas? Lymphoblastoid transformation of bone marrow cultures and viral interference in acute leukemia and in infectious mononucleosis. Studies on the herpes-like virus recovered from the SL₄ line of the Burkitt tumor. Koch's postulates and viral oncogenesis in nonpermissive hosts: an experimental model. Certain forms of leukemia as immunoproliferative disorders. The causative viruses of murine leukemia and their identification through immune responses of the host. Method for estimating LD₅₀ in virus titrations using information from other preparations. Search for viral etiology of human leukemia and lymphomas: past efforts and future perspectives. Recent studies in human leukemia. **CARCINOGENESIS IN MAMMARY TISSUES:** Viral factors in mammary tumorigenesis. Relationship between mammary tumor virus and other oncogenic viruses in mouse mammary tumorigenesis. Comments on mouse mammary tumor viruses. Host-virus interactions in the mouse mammary tumor system. Chemical factors in mammary tumorigenesis. Genetic factors in mammary tumorigenesis. Immunology of spontaneous mammary carcinomas in mice: studies on the nature of the protective antigens. **CARCINOGENESIS IN THE LIVER:** Activation of carcinogenic aromatic amines and amides by N-hydroxylation in vivo. The possible significance of alkylation of nucleic acids in carcinogenesis of the liver and other organs. Reaction of N-2-fluorenylhydroxylamine with nucleic acids in vitro. Mold products, including antibiotics, as carcinogens. On the possible involvement of the plasma membrane in the carcinogenic process. Ultrastructure of a chemically-induced hepatoma and its transplants of early passages. **DEDIFFERENTIATION AND TRANSFORMATION OF CULTURED ANIMAL CELLS TO NEOPLASTIC STATES:** The development of the transformed state in mammalian cells infected with oncogenic viruses. Transformation and cancerization of adult mouse lung tissue cells in vitro. Reversible changes of specific function in beating heart cells in culture. Biochemical dedifferentiation in the in vitro mammary secretory cell. Discussion: "The Transformation" of cultural mammalian cells. **THE GENERAL STATUS OF CHEMICAL AND PHYSICAL AGENTS IN CARCINOGENESIS:** Comparative observations on radiation carcinogenesis in man and animals. Irradiation of oncogenic viruses: dissociation of viral functions. The interaction of unrelated tumor viruses (SV40 and adenoviruses). Pulse-doses of carcinogens. Biological mechanisms in carcinogenesis. Index.

Other publications from The University of Texas M. D. Anderson Hospital and Tumor Institute: Developmental and Metabolic Control Mechanisms and Neoplasia (1966/515 pp./201 figs./index/\$16) Cellular Radiation Biology (1965/630 pp./figs., tables, index/\$16) Viruses, Nucleic Acids and Cancer (1963/704 pp./288 figs./index/\$16).



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cross sections (F. E. Stafford, chairman): F. E. Stafford, "Introductory remarks"; J. Kistemaker, "Physical processes occurring during the passage of energetic ions through matter"; R. H. McFarland, "Electron impact cross sections by crossed beam methods"; E. N. Lassettre, "Excitation of atoms and molecules by electron impact"; M. Inokuti, "Some theoretical aspects of collision cross sections."

30 July. Theoretical aspects of bonding in high-temperature molecules (K. D. Carlson, chairman): K. D. Carlson, "Introductory comments"; E. Clementi, "Theoretical chemistry and high-temperature chemistry: recent *ab initio* computations on carbon vapor"; L. C. Allen (subject to be announced); A. C. Wahl, "*A priori* thermodynamics of alkali dimer vapors"; Donald F. Gibbons, "Electronic structure of solid refractory metals, compounds, and alloys."

31 July. Surface phenomena at high temperatures (G. M. Rosenblatt, chairman): G. A. Somorjai, "Low-energy electron diffraction"; G. Ehrlich, "Atomic view of surface diffusion and bonding"; W. P. Ellis, "Low-energy electron diffraction"; G. M. Rosenblatt, "Experimental studies of vaporization mechanisms."

1-2 August. Transport and chemical reactions in nonstoichiometric solids (R. J. Thorn, chairman): R. J. Thorn, "Introductory comments"; B. Fendér, "Ordering in FeO"; M. O'Keeffe, "Diffusion in highly disordered solids"; J. B. Wagner, "Transport in transition metal compounds."

This program is supported in part by the Directorate of Chemical Sciences, Air Force Office of Scientific Research.

Toxicology and Safety Evaluations

Joseph C. Calandra and Mitchell R. Zvon are chairman and vice chairman, respectively.

5 August. (Robert P. Giovacchini, moderator): Howard I. Maibach *et al.* "The mechanisms of skin sensitization and photosensitization"; "The molecular basis of delayed-type hypersensitivity." (Sheldon D. Murphy, moderator): James W. Gillett, "Comparative metabolism of insecticides"; Donald I. Mount, "Comparative toxicity of chemicals to fish."

6 August. (Alfred E. Earl, moderator): William P. Purcell, "Physico-chemical factors determining structure-activity relationships in toxicology";

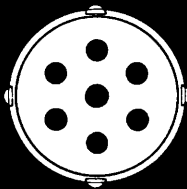
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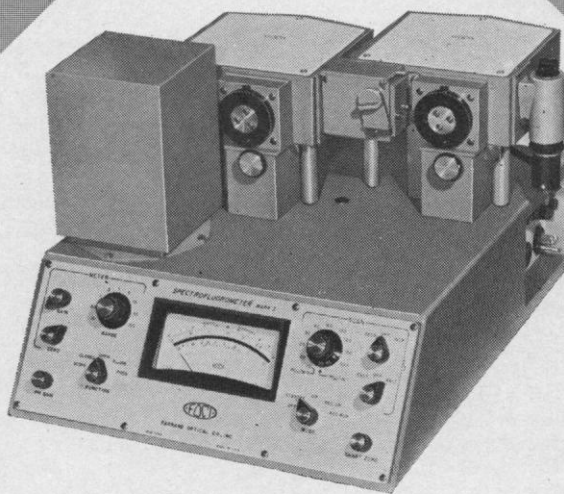
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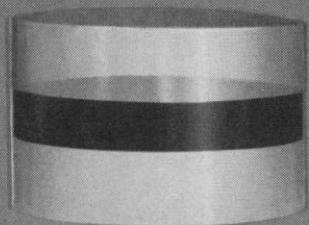
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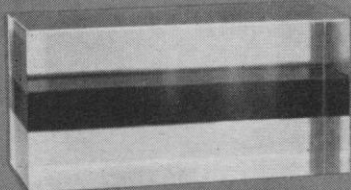
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Leo Friedman, "A biochemical screening approach to toxicology." (Milton Eisler, moderator): Marvin Legator, "The role of pharmacogenetics in toxicology"; Warren W. Nichols, "Virus-drug chromosome relationships."

7 August. (Earl H. Dearborn, moderator): Jean Sice *et al.*, "Drug or chemical interaction and toxicology: (a) biotransformation mechanisms, (b) transport and distribution processes, (c) intestinal absorption." (Mitchell R. Zavon, moderator): Robert E. Eckardt, "The interaction of toxicology and biology in the evaluation of environmental health"; Paul Kotin, "The interaction of man and his environment."

8 August. (O. Garth Fitzhugh moderator): H. Druckrey, "The contribution of new carcinogens to the understanding of carcinogenesis"; Leon Golberg, "Subcutaneous sarcomas as an index of carcinogenic potential." (Verald K. Rowe, moderator): Bruce W. Halstead, "Marine biotoxicology."

9 August. (Paul J. Schouboe, moderator): Robert E. J. Moddes, "Cybernetics and toxicology"; Lloyd W. Hazelton, "Systems analysis in toxicology."

Chemistry and Physics of Paper

Bengt Rånby and Bengt Leopold are chairman and vice chairman, respectively.

12 August. S. G. Mason, "The microrheology of dispersions"; P. H. Norberg, "Studies of fiber curling in high-consistency refined pulps"; K. E. Eriksson, "Enzymatic attack on surfaces of wood fibers."

13 August. Mrs. R. Marton, "Anatomical and pulping properties of normal and fast-grown softwoods and hardwoods"; P. H. Norberg, "Morphology of native barks and their properties in pulping processes"; A. M. Scallan, "The concept of accessibility in cellulose."

14 August. D. L. Brink, "Component analysis of fiber and fiber properties"; B. B. Thomas, "Observations on fiber and paper relations"; J. K. Craver, "Sonic modulus techniques."

15 August. E. Strazdins, "Role of surface charge in the interaction of stock additives with cellulose fibers"; N. A. Bates, "Retention and curing behavior of polyamide-epichlorohydrin resin"; V. Stannett, "Sonic observations on the mechanisms of wet strength."

16 August. Discussion of new directions in paper research: D. A. I. Gor-

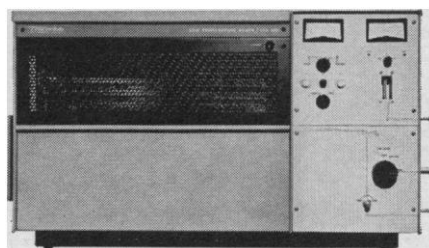
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ing, "Surface modifications in a corona discharge"; B. Rånby, "Some new paper fiber and synthetic polymer combinations."

Biology and Chemistry of Pyrrole Compounds

Donald P. Tschudy and Lawrence Bogorad are chairman and vice chairman, respectively.

19 August. Porphyrin and metalloporphyrin chemistry: David Mauzerall, Winslow Caughey, and Joseph J. Katz. Metalloporphyrin biosynthesis and its control: David Shemin, June Lascelles, Gerald Marks, Bruce Burnham, and S. Aranoff.

20 August. Metalloporphyrin biosynthesis and its control (continued): S. Granick, Harvey Marver, Robert F. Labbe, Herbert Schwartz, and Goro Kikuchi. Metalloporphyrin biosynthesis and its control (continued): Lawrence Bogorad, Richard Levere, A. Kappas, E. Y. Levin, and R. J. Porra.

21 August. Hemoproteins and control of hemoglobin synthesis: Emanuel Margoliash, Samuel P. Bessman, Arthur Grayzel, and Marco Rabinovitz. Clinical aspects of porphyrin metabolism: Allan C. Redeker, Lennox Eales, and Marilyn Cowger.

22 August. Clinical aspects of porphyrin metabolism (continued): Donald P. Tschudy, George Ludwig, and Leonard Harber. Bile pigment chemistry and metabolism: C. J. Watson, Roger Lester, Barbara Billing, and Lionel Israels.

23 August. Bile pigment chemistry and metabolism (continued): Rudi Schmid, Paul Berk, Irwin Arias, and Samuel Schwartz.

Calendar of Events

National Meetings

March

18-21. American Physical Soc., Berkeley, Calif. (W. Whaling, California Institute of Technology, Pasadena 91109)

18-21. American Radium Soc., annual mtg., Miami Beach, Fla. (J. L. Pool, Executive Secretary, Memorial Hospital, 444 E. 68 St., New York, N.Y.)

18-22. National Assoc. of Corrosion Engineers, 24th annual conf. and show, Cleveland, Ohio. (T. J. Hull, 980 M & M Building, Houston, Tex. 77002)

19-20. Equipment Manuals Symp., Washington, D.C. (National Security In-

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ington, D.C. 20005)

19-20. **Ocean Sciences and Engineering
of the Atlantic Shelf**, natl. symp., Phila-
delphia, Pa. (T. Evans, Conference Man-
agement Organization, Inc., Sheraton Park
Hotel, 2660 Connecticut Ave., NW, Wash-
ington, D.C. 20008)

19-21. **American Railway Engineering
Assoc.**, Chicago, Ill. (E. W. Hodgins, Ex-
ecutive Secretary, 59 E. Van Buren St.,
Chicago 60605)

20. **Suicidology**, 1st natl. conf., Chicago,
Ill. (E. S. Shneidman, Center for Studies
of Suicide Prevention, National Inst. of
Mental Health, 5454 Wisconsin Ave.,
Chevy Chase, Md. 20203)

20-22. **American Petroleum Inst.**, south-
western district meeting, Tyler, Tex.
(American Petroleum Inst., 1271 Avenue
of the Americas, New York 10020)

20-22. **Institute of Management Sci-
ences**, Atlanta, Ga. (E. T. Alsaker, Lock-
heed-Georgia Co., Dept. 88-1a, Zone 283,
Marietta, Ga. 30060)

20-22. **Progress in Operable Heart
Disease**, American College of Cardiology,
New York, N.Y. (W. D. Nelligan, Execu-
tive Director, 9650 Rockville Pike, Wash-
ington, D.C. 20014)

20-23. **American Orthopsychiatric As-
soc.**, 45th annual, Chicago, Ill. (The As-
sociation, 1790 Broadway, New York
10019)

21-22. **Modulation Transfer Function**,
Boston, Mass. (Society of Photo-Optical
Instrumentation Engineers, P.O. Box 288,
Redondo Beach, Calif. 90277)

21-23. **Symp. on Microwave Power**, 3rd
symp., Boston, Mass. (C. Olsen, % Eimac,
Division of Varian Assoc., 301 Industrial
Way, San Carlos, Calif. 94070)

21-24. **Radiographic Diagnosis of Head
and Neck**, Miami Beach, Fla. (L. R.
Kelley, Dept. of Radiology, Jackson Mem-
orial Hospital, Miami, Fla.)

22-23. **Montana Medical Assoc.**, Helena.
(L. R. Hegland, The Association, P.O.
Box 1692, Billings, Mont. 59103)

22-23. **Socio-Economics of Health Care**,
2nd natl. congr., Chicago, Ill. (H. W. Doan,
Dept. of Health Care Services, American
Medical Assoc., 535 N. Dearborn St.,
Chicago 60610)

22-27. **California Medical Assoc.**, San
Francisco. (R. L. Thomas, 693 Sutter St.,
San Francisco 94102)

23. **New Jersey Post Graduate Anes-
thesia Seminar**, 9th annual, Cherry Hill.
(P. A. Tucci, 22 The Fairway, Upper
Montclair, N.J. 07043)

23-24. **Missouri Soc. of Anesthesiolo-
gists**, Kansas City. (G. W. N. Eggers, Jr.,
Univ. of Missouri Medical Center, Colum-
bia 65201)

23-25. **Postdoctorate Seminar in Profes-
sional Development**, Philadelphia, Pa.
(L. Hymes, Pennsylvania College of Pod-
iatry, Pine at Eighth, Philadelphia 19107)

24-27. **American Assoc. of Dental
Schools**, 45th annual session, San Fran-
cisco, Calif. (D. E. Mattson, 211 E. Chi-
cago Ave., Chicago, Ill. 60611)

24-29. **American College of Allergists**,
24th annual congr., Denver, Colo. (E.
Bauers, 2160 Rand Tower, Minneapolis,
Minn. 55402)

24-30. **American Soc. of Clinical Pa-
thologists**, New Orleans, La. (L. H. Hoyt,
Methodist Hospital, Indianapolis, Ind.)

25-26. **Geochemistry of Subsurface
Brines**, symp., Lawrence, Kans. (E. E.
Angino, State Geological Survey, Univ. of
Kansas, Lawrence 66044)

25-27. **Electrocardiographic Interpre-
tation of Arrhythmias: A Physiological Ap-
proach**, American College of Cardiology,
Indianapolis, Ind. (W. D. Nelligan, Execu-
tive Director, 9650 Rockville Pike,
Washington, D.C. 20014)

25-27. **Operations Research Symp.**, 2nd,
Pittsburgh, Pa. (H. O. Teeple, TAPPI, 360
Lexington Ave., New York 10017)

25-27. **Simulation and Support Conf.**,
AIAA 2nd flight test, Los Angeles, Calif.
(Meetings Manager, American Inst. of
Aeronautics and Astronautics, 1290 Sixth
Ave., New York 10019)

25-28. **National Plant Engineering and
Maintenance Show and Conf.**, Philadel-
phia, Pa. (K. E. Knowles, 245 Park Ave.,
New York 10017)

25-28. **Organic Solid State Chemistry
Symp.**, Upton, N.Y. (G. Adler, Brook-
haven National Lab., Upton, L.I., N.Y.
11973)

25-28. **Southeastern Surgical Congr.**,
Washington, D.C. (A. H. Letton, 340
Boulevard NE, Atlanta, Ga. 30312)

27. **Oral Cancer Symp.**, 6th, Pough-
keepsie, N.Y. (M. A. Engelman, One East
Academy St., Wappingers Falls, N.Y.
12590)

27. **Association for the Advancement of
Psychoanalysis**, New York, N.Y. (E.
Schattner, Secretary, 147 E. 50 St., New
York 10022)

27-28. **Railroad Conf.**, Chicago, Ill.
(Institute of Electrical and Electronics
Engineers, Inc., 345 E. 47 St., New York
10017)

27-29. **Linear Free Energy Relation-
ships**, 2nd conf., Irvine, Calif. (J. E. Lef-
fler, Dept. of Chemistry, Florida State
Univ., Tallahassee 32306)

28-29. **American Assoc. of Petroleum
Geologists**, Pacific Section, Bakersfield,
Calif. (E. W. Ellsworth, Convention Man-
ager, 1444 South Boulder, Box 979,
Tulsa, Okla. 74101)

28-30. **Etiology, Diagnosis, and Treat-
ment of Thromboembolism**, American
College of Chest Physicians, Philadelphia,
Pa. (H. L. Kruse, 112 E. Chestnut St.,
Chicago, Ill.)

28-30. **American Fertility Soc.**, San
Francisco, Calif. (H. H. Thomas, 944 S.
18 St., Birmingham, Ala. 35205)

28-31. **Missouri State Medical Assoc.**,
Kansas City. (R. McIntyre, The Associa-
tion, 515 E. High St., Jefferson City, Mo.
65101)

29. **Symbiosis**, symp., Fullerton, Calif.
(L. A. Stevens, Div. of Life Sciences,
Fullerton Junior College, 321 Chapman
Avenue, Fullerton 92634)

29-2. **National Science Teachers Assoc.**,
natl. conv., Washington, D.C. (R. H.
Carleton, NSTA, 1201 16th St., NW,
Washington, D.C. 20036)

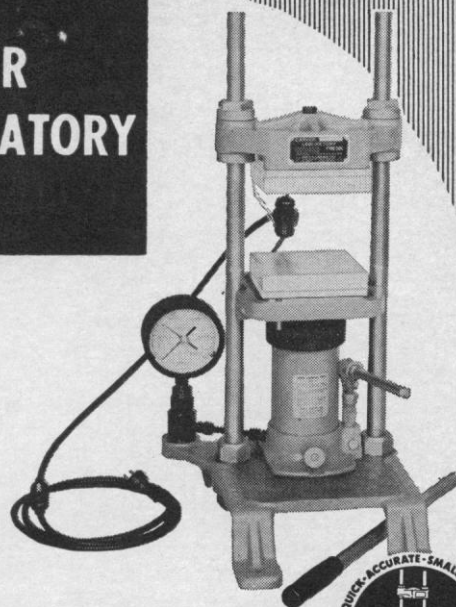
29-30. **Rural Health**, 21st natl., Seattle,
Wash. (B. L. Bible, 535 N. Dearborn St.,
Chicago, Ill. 60610)

29-31. **American Nuclear Soc.**, student
conf., Tucson, Ariz. (K. D. Kearns, Dept.
of Nuclear Engineering, Univ. of Arizona,
Tucson 45215)

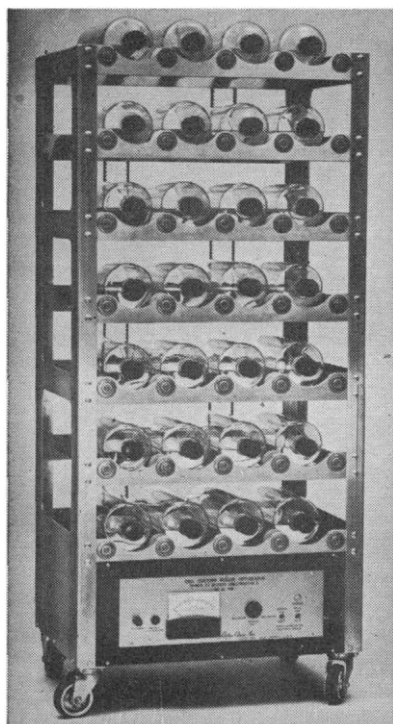
29-31. **Clinical Pharmacology of Cardio-
vascular Drugs**, American College of
Cardiology, Nutley, N.J. (W. D. Nelligan,

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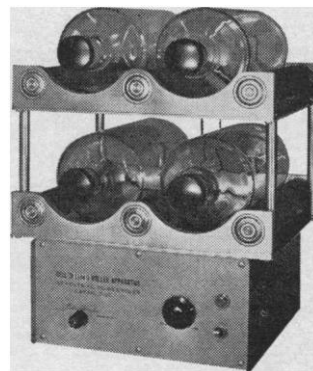
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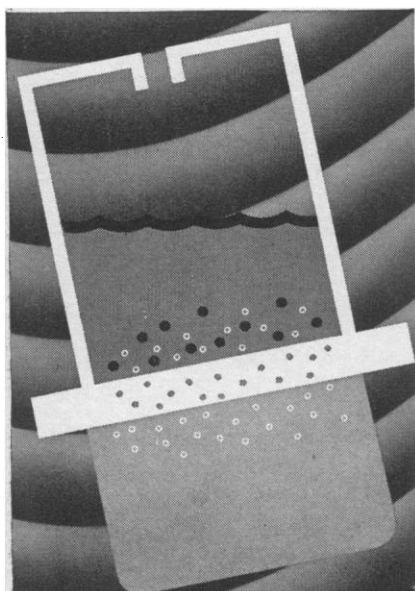
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29-31. American Psychosomatic Soc., Inc., Boston, Mass. (H. Weiner, Secretary-Treasurer, 265 Nassau Road, Roosevelt, N.Y. 11575)

29-31. American Soc. of Group Psychotherapy and Psychodrama, New York, N.Y. (H. B. Weiner, 1323 Avenue N, Brooklyn, N.Y. 11230)

29-31. American Soc. of Internal Medicine, Boston, Mass. (E. E. Daleske, 3410 Geary Blvd., San Francisco, Calif. 94118)

29-31. Arizona Chest Disease Symp., Tucson. (L. D. Hudson, P.O. Box 6067, Tucson 85716)

30-3. American Soc. of Abdominal Surgeons, Chicago, Ill. (B. F. Alfano, 675 Main St., Melrose, Mass. 02176)

30-3. Technical Assoc. of Pulp and Paper Industry, 5th water conf., Portland, Ore. (The Association, 360 Lexington Ave., New York 10017)

31-3. American Mosquito Control Assoc., New Orleans, La. (G. Carmichael, New Orleans Mosquito Control, 6601 Lakeshore Dr., New Orleans 70126)

31-3. Erosion as Related to Air and Water Pollution, Las Vegas, Nev. (R. B. Reams, Desert Research Inst., Univ. of Nevada, Reno 89507)

31-4. American Assoc. of Cereal Chemists, 53rd annual, and American Oil Chemists Soc., 58th annual, joint mtg., Washington, D.C. (R. J. Tarleton, 1955 University Ave., St. Paul, Minn. 55104)

31-4. Materials Engineering and Sciences, conf. and exposition, Philadelphia, Pa. (C. S. Grove, Jr., 5110 Brockway Lane, Fayetteville, N.Y. 13066)

31-5. American Chemical Soc., 155th spring natl. mtg., San Francisco, Calif. (A. T. Winstead, 1155 16th St., NW, Washington, D.C. 20036)

31-7. North American Clinical Dermatologic Soc., New Orleans, La. (E. F. Finnerty, The Society, 510 Commonwealth Ave., Boston, Mass. 02115)

April

1-3. Specialized Inst. on Data Processing, American Assoc. of Medical Record Librarians, Boston, Mass. (M. C. Beard, Director, Institute Dept., 840 N. Lake Shore Dr., Chicago, Ill. 60611)

1-3. Open Hearth and Basic Oxygen Steel Conf., 51st natl., Atlantic City, N.J. (J. V. Richards, 345 E. 47 St., New York 10017)

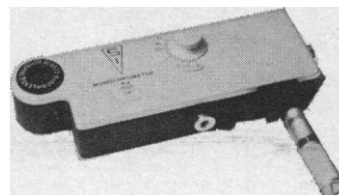
1-4. Materials Engineering/Sciences Exposition and Conf., Philadelphia, Pa. (H. F. Grebe, Reber-Friel Co., 117 S. 17 St., Philadelphia 19103)

1-4. Thermophysical Properties, 4th symp., College Park, Md. (A. B. Conlin, Jr., Meetings Manager, 345 E. 47 St., New York 10017)

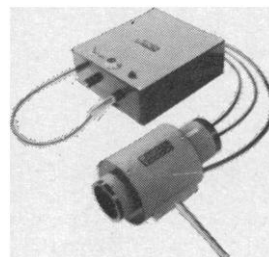
1-5. American College of Physicians, 49th annual, Boston, Mass. (E. C. Rose-nov, Jr., Executive Director, 4200 Pine St., Philadelphia, Pa. 19104)

1-5. American Welding Soc., Chicago, Ill. (American Welding Soc., 345 E. 47 St., New York 10017)

2-4. American Astronomical Soc., Charlottesville, Va. (A. K. Pierce, Kitt Peak National Observatory, P.O. Box 4130, Tucson, Ariz. 85717)



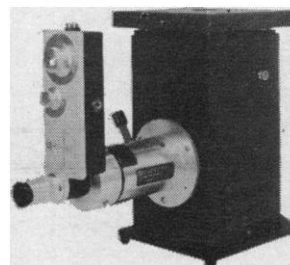
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2-4. **Fast Reactor Systems, Materials and Components**, Cincinnati, Ohio. (C. S. Robertson, Jr., General Electric Co., P.O. Box 132, Cincinnati 45215)

2-5. **National Council on Alcoholism**, New York, N.Y. (The Council, 2 E. 103 St., New York 10029)

3-4. **Institute of Electrical and Electronics Engineers and American Soc. of Mechanical Engineers**, joint railroad conf., Chicago, Ill. (Office of the Technical Activities Board, IEEE, 345 E. 47 St., New York 10017)

3-5. **National Soc. for the Prevention of Blindness**, New York, N.Y. (V. S. Boyce, Assistant Executive Director, 79 Madison Ave., New York 10016)

3-5. **Numerical Control Soc.**, 5th annual, Philadelphia, Pa. (Miss M. A. De Vries, 44 Nassau St., Princeton, N.J. 08540)

3-5. **Structures, Structural Dynamics, and Materials**, 9th conf., Palm Springs, Calif. (Meetings Manager, American Inst. of Aeronautics and Astronautics, 1290 Sixth Ave., New York 10019)

4-5. **Numerical Simulation of Reservoir Performance**, symp., Dallas, Tex. (D. L. Riley, 6200 N. Central Expressway, Dallas 75206)

4-6. **American Nuclear Soc.** student conf., Gainesville, Fla. (J. E. Swander, Dept. of Nuclear Engineering Sciences, Univ. of Florida, Gainesville 32601)

4-6. **Health Education of the Public**, 3rd natl. conf., Chicago, Ill. (Dept. of Health Education, American Medical Assoc., 535 N. Dearborn St., Chicago 60610)

4-6. **South Central Assoc. of Blood Banks**, Dallas, Tex. (J. A. Barney, Executive Secretary, 301 Pasteur Building, Oklahoma City, Okla. 73103)

4-7. **American Assoc. of Endodontists**, 25th annual, New York, N.Y. (J. F. Bucher, Secretary, 6828 Winterberry Lane, Bethesda, Md. 20034)

5-12. **Laboratory Methods in the Diagnosis of Viral Exanthems**, Atlanta, Ga. (U.S. Public Health Service, National Communicable Disease Center, Atlanta 30333)

7-9. **Exercise and Heart Disease**, San Francisco, Calif. (W. D. Nelligan, American College of Cardiology, 9650 Rockville Pike, Washington, D.C. 20014)

7-11. **American Assoc. of Neurological Surgeons** (Harvey Cushing Soc.), Chicago, Ill. (B. B. Whitcomb, Executive Secretary, 85 Jefferson St., Hartford, Conn. 06103)

7-11. **American Radium Soc.**, Miami Beach, Fla. (F. C. Bloedorn, Executive Secretary, Univ. of Maryland Hospital, Baltimore 21201)

7-11. **Oil and Gas Power Conf. and Exhibit**, New Orleans, La. (Meetings Manager, American Soc. of Mechanical Engineers, 345 E. 47 St., New York 10017)

8-9. **Histochemical Soc.**, 19th annual, New Orleans, La. (G. M. Lehrer, Program Chairman, c/o Division of Neurochemistry, Mount Sinai School of Medicine, 11 E. 100 Street, New York 10029)

8-10. **Aerodynamic Testing**, 3rd conf., San Francisco, Calif. (Meetings Manager, American Inst. of Aeronautics and Astronautics, 1290 Sixth Ave., New York 10019)

8-10. **Communications Satellite**, 2nd mtg., San Francisco, Calif. (Meetings

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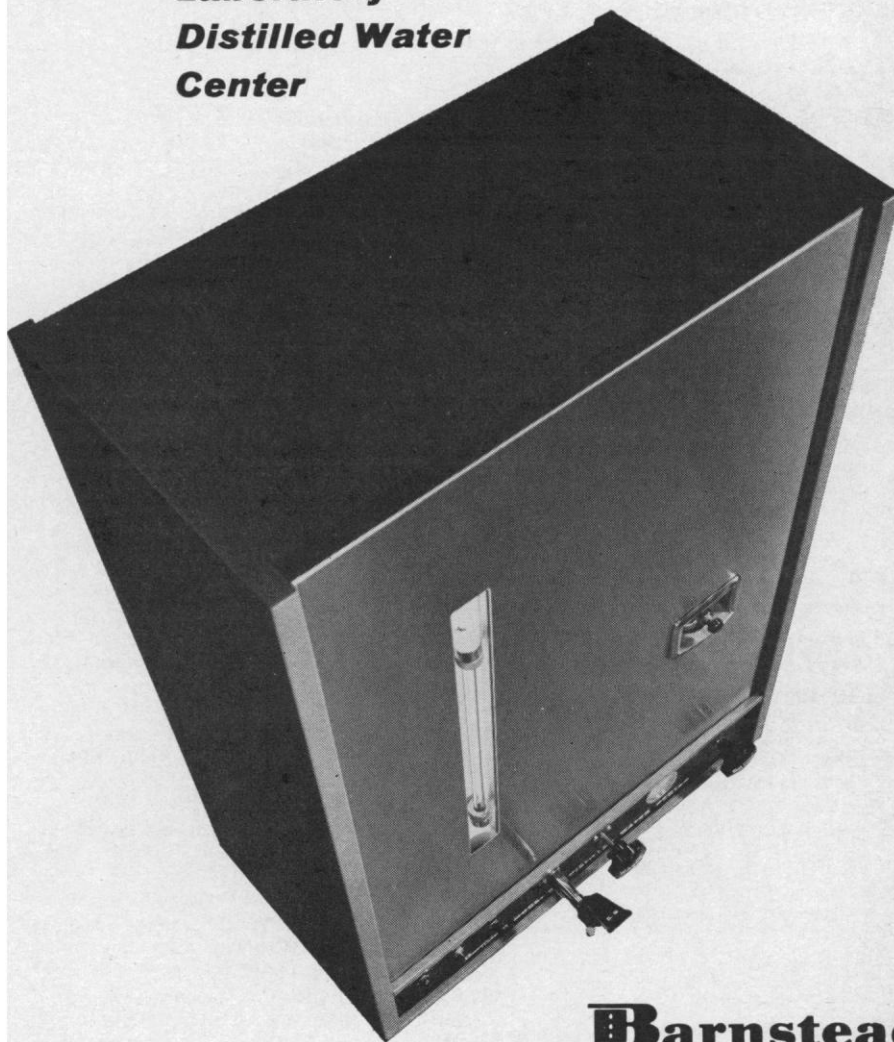
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8-11. American **Meteorological Soc.** (with the American Geophysical Union), Washington, D.C. (K. C. Spengler, Executive Director, 45 Beacon St., Boston, Mass. 02108)

8-12. **Laboratory Methods in Medical Mycology** (refresher), Atlanta, Ga. (U.S. Public Health Service, National Communicable Disease Center, Atlanta 30333)

9-11. **Telemetering**, natl. conf., Houston, Tex. (R. M. Emberson, 345 E. 47 St., New York 10017)

9-12. American Assoc. of **Anatomists**, 81st annual, New Orleans, La. (J. C. Finerty, Louisiana State Univ. School of Medicine, 1542 Tulane Ave., New Orleans 70112)

10. American Soc. of **Clinical Oncology**, Inc., Atlantic City, N.J. (M. Sears, M. D. Anderson Hospital, Texas Medical Center, Houston 77025)

10. American Soc. of **Therapeutic Radiologists**, Miami Beach, Fla. (J. A. del Regato, Executive Secretary, 2215 N. Cascade St., Colorado Springs, Colo. 80907)

10-12. **Latent Inherited Diseases**, National Foundation for Neuromuscular Disease Workshop, Harriman, N.Y. (P. S. Gerlad, Children's Hospital Medical Center, 300 Longwood Ave., Boston, Mass. 02115)

10-12. **Plastic Surgery Research Council**, annual mtg., Chapel Hill, N.C. (E. E. Peacock, Jr., Dept. of Surgery, Univ. of North Carolina, Chapel Hill 27514)

11-12. **Seismological Soc. of America**, annual meeting, Tucson, Ariz. (D. Tocher, The Society, P.O. Box 826, Berkeley, Calif. 94701)

11-13. American Assoc. for **Cancer Research**, 59th annual, Atlantic City, N.J. (H. J. Creech, 7701 Burholme Ave., Philadelphia, Pa. 19111)

11-13. Society for **Philosophy and Psychology**, 60th annual, Louisville, Ky. (D. Browning, Dept. of Philosophy, Univ. of Miami, Coral Gables, Fla. 33124)

15-18. American Acad. of **Oral Pathology**, Scottsdale, Ariz. (S. M. Standish, Indiana Univ. School of Dentistry, 1121 W. Michigan St., Indianapolis, Ind. 46202)

15-19. **Laboratory Methods in Medical Mycology** (advanced), Atlanta, Ga. (U.S. Public Health Service, National Communicable Disease Center, Atlanta 30333)

15-20. Federation of American Societies for **Experimental Biology**, annual, Atlantic City, N.J. (H. B. Lemp, Convention Manager, 9650 Rockville Pike, Bethesda, Md. 20014)

16-17. American Assoc. of **Planned Parenthood Physicians**, 6th annual, San Antonio, Tex. (G. J. Langmyhr, Planned Parenthood Federation, 515 Madison Ave., New York 10022)

16-18. National Conf. on **Instrumentation for the Iron and Steel Industry**, Pittsburgh, Pa. (T. Cauley, Crucible Steel Co., P.O. Box 998, Pittsburgh 15230)

16-18. William Hunt Eisenman Conference on **Heat Treating**, Cleveland, Ohio (American Soc. for Metals, Metals Park, Ohio 44073)

16-20. American Assoc. of **Immunologists**, Atlantic City, N.J. (Convention Manager, 9650 Wisconsin Ave., Bethesda, Md. 20014)

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16-20. American Inst. of **Nutrition**, Atlantic City, N.J. (Convention Manager, 9650 Wisconsin Ave., Bethesda, Md. 20014)

16-20. American **Physiological Soc.**, Atlantic City, N.J. (Convention Manager, The Society, 9650 Wisconsin Ave., Bethesda, Md. 20014)

16-20. American Soc. of **Biological Chemists, Inc.**, Atlantic City, N.J. (Convention Manager, The Society, 9650 Wisconsin Ave., Bethesda, Md. 20014)

16-20. American Soc. of **Experimental Pathology**, Atlantic City, N.J. (Convention Manager, The Society, 9650 Wisconsin Ave., Bethesda, Md. 20014)

16-20. American Soc. for **Pharmacology and Experimental Therapeutics, Inc.**, Atlantic City, N.J. (Convention Manager, The Society, 9650 Wisconsin Ave., Bethesda, Md. 20014)

17. Association for the Advancement of **Psychoanalysis**, New York, N.Y. (E. Schattner, Secretary, 147 E. 50 St., New York 10022)

17-19. American **Surgical Assoc.**, Boston, Mass. (H. B. Schumacker, Jr., Indiana Univ. Medical Center, 1100 W. Michigan, Indianapolis, Ind. 46207)

17-19. Southwestern Inst. of **Electrical and Electronics Engineers**, 20th annual, Houston, Tex. (J. V. Leeds, ML 106—SWIEEEO, Rice Univ., Houston 77001)

17-20. American Assoc. for the **History of Medicine**, St. Louis, Mo. (J. B. Blake, National Library of Medicine, Bethesda, Md. 20014)

17-21. **Atomic Physics Conf.**, New York, N.Y. (C. C. Butler, Secretary General, Intern. Union of Pure and Applied Physics, Imperial College of Science and Technology, Prince Consort Rd., South Kensington, London, S.W.1, England)

18-19. American Assoc. of **Railway Surgeons**, Houston, Tex. (C. Y. Werelius, 5800 Stony Island Ave., Chicago, Ill. 60637)

18-19. **Fiber Soc.**, New Orleans, La. (L. Rebenfeld, Box 625, Princeton, N.J.)

18-19. **Production Automation Symp.**, Hobbs, N.M. (American Inst. of Mining, Metallurgical and Petroleum Engineers, 345 E. 47 St., New York 10017)

18-20. American **Otological Soc.**, Hollywood Beach, Fla. (W. H. Bradley, 1100 E. Genesee St., Syracuse, N.Y.)

18-20. Eastern **Psychological Assoc.**, 39th annual, Washington, D.C. (W. W. Cumming, Dept. of Psychology, Columbia University, New York 10027)

18-24. American **Leprosy Missions**, Carville, La. (O. W. Halleblad, 297 Park Ave. S., New York 10010)

19-20. Ohio Acad. of **Science**, 77th annual, Bowling Green, Ohio. (J. H. Melvin, 505 King Ave., Columbus, Ohio)

19-20. **Population Assoc. of America**, Boston, Mass. (D. M. Heer, Harvard School of Public Health, 665 Huntington Ave., Boston 02115)

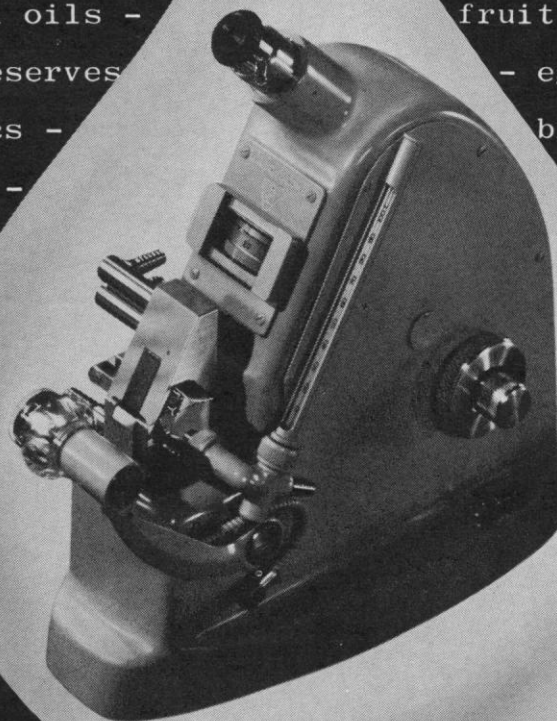
19-21. Cooper **Ornithological Soc.**, Salt Lake City, Utah. (W. H. Behle, 203 Biology Building, Univ. of Utah, Salt Lake City 84112)

20-25. American **Ceramic Soc.**, 70th annual, Chicago, Ill. (R. S. Sheldon, 4055 N. High St., Columbus, Ohio 43214)

21-22. American **Broncho-Esophagological Assoc.**, Hollywood, Fla. (J. R. Ausband, Bowman Gray School of Medicine, Winston-Salem, N.C. 27103)

8 MARCH 1968

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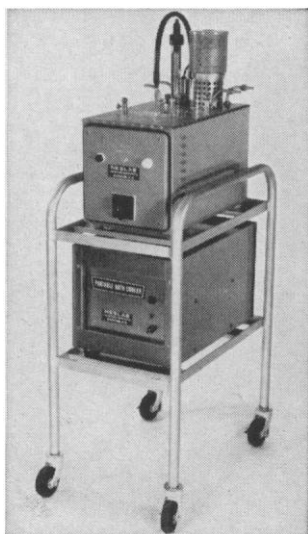
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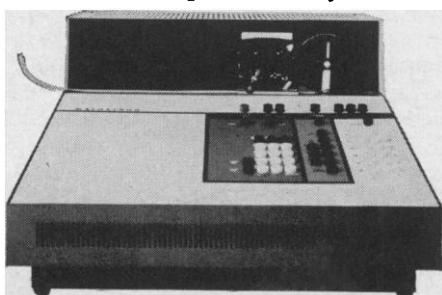


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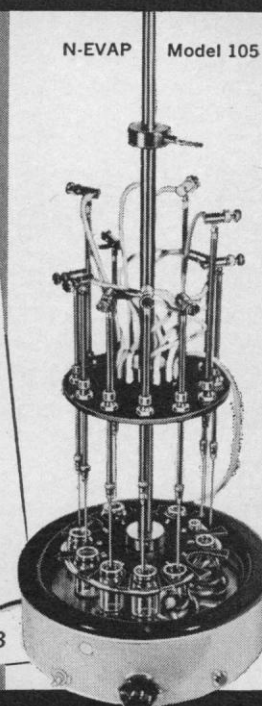
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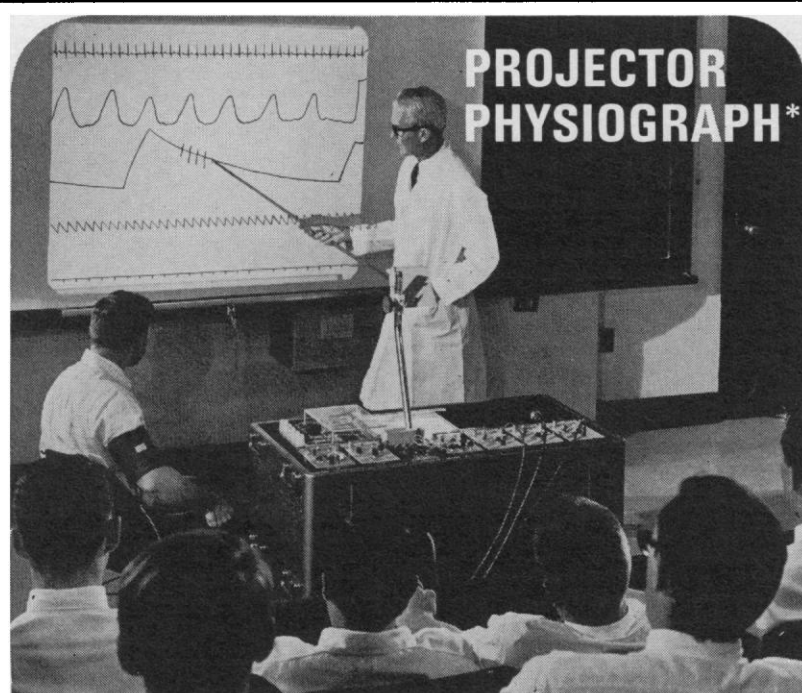
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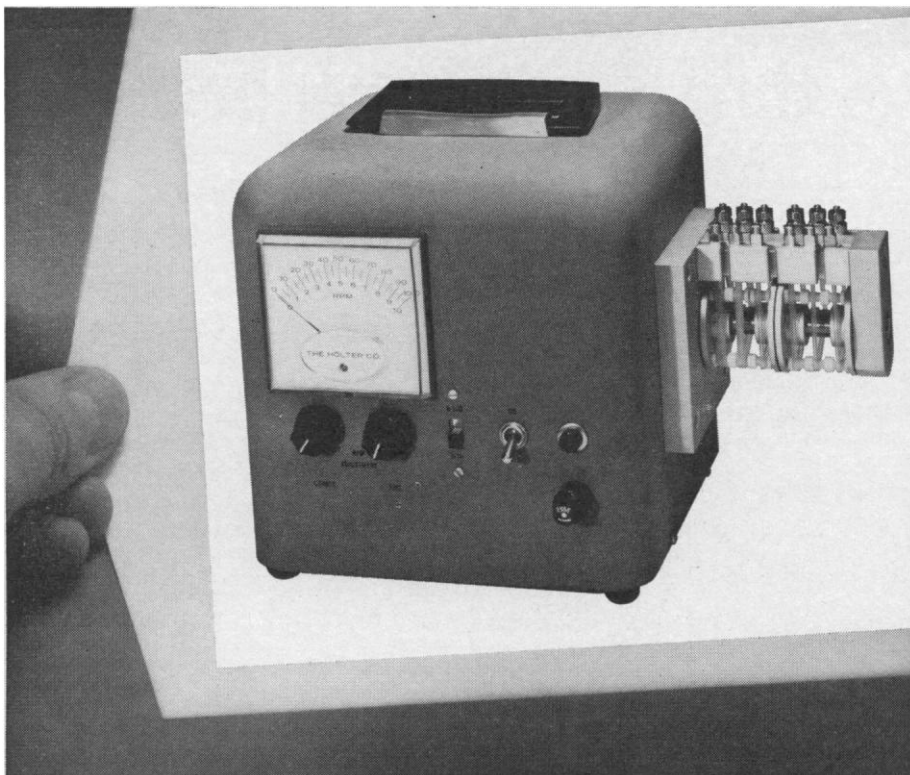


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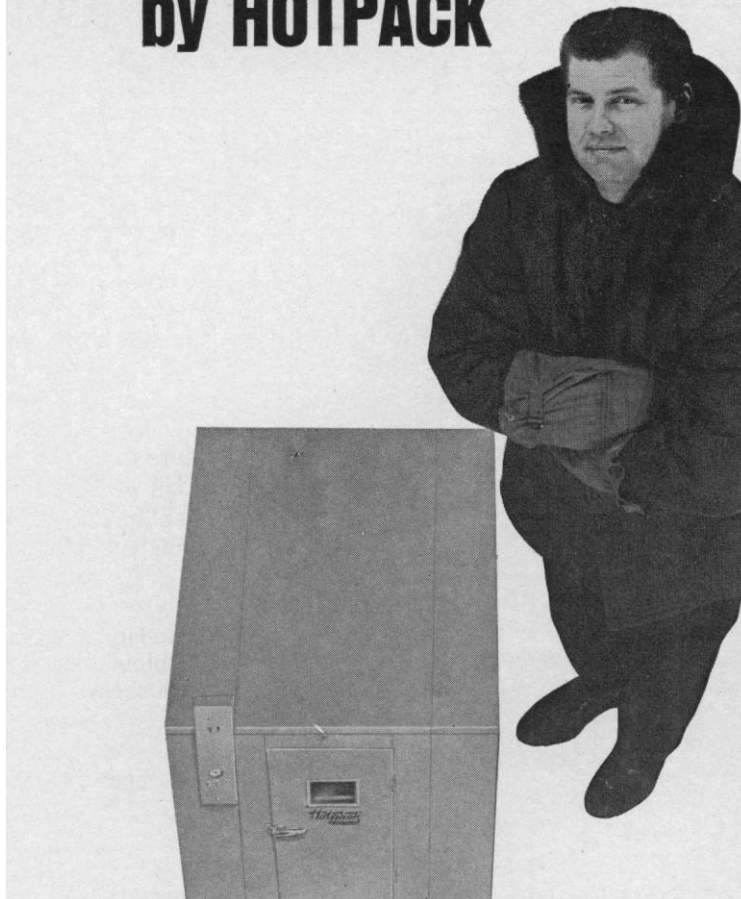
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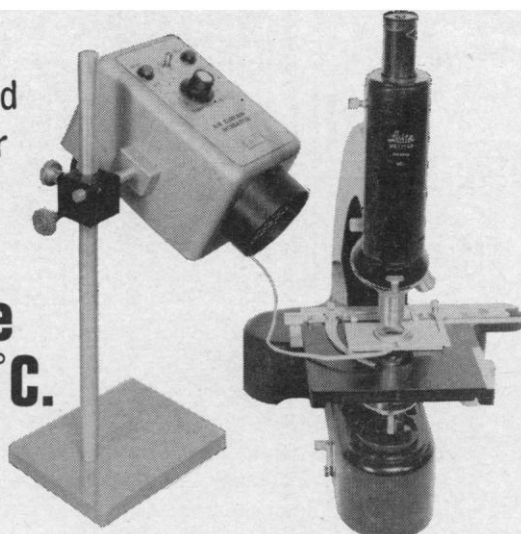
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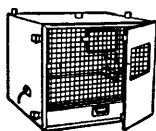
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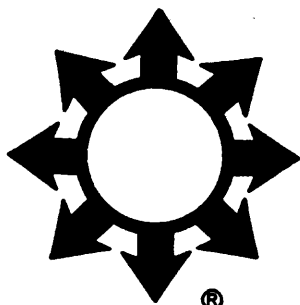
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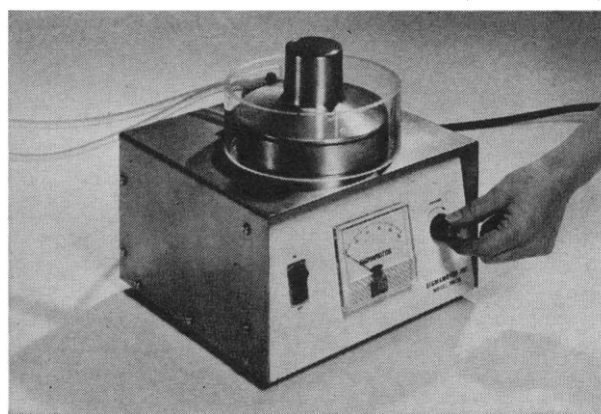
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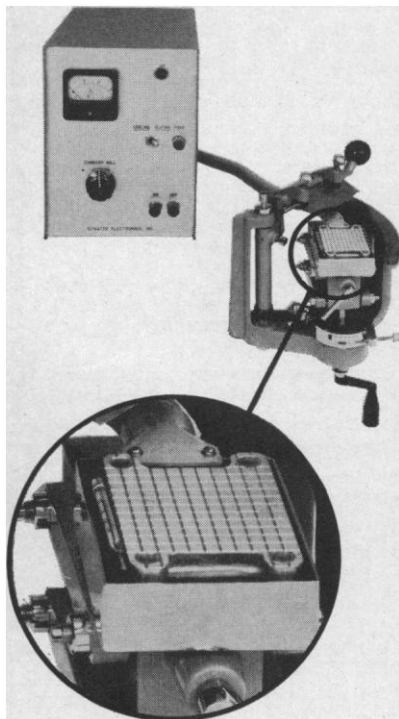
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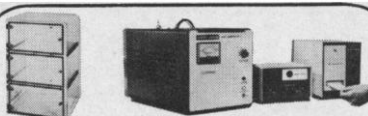
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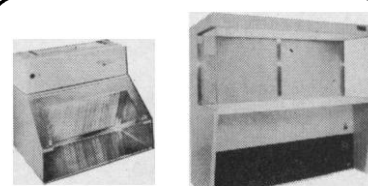
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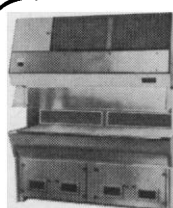
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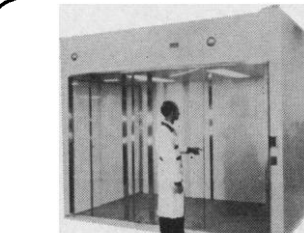
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