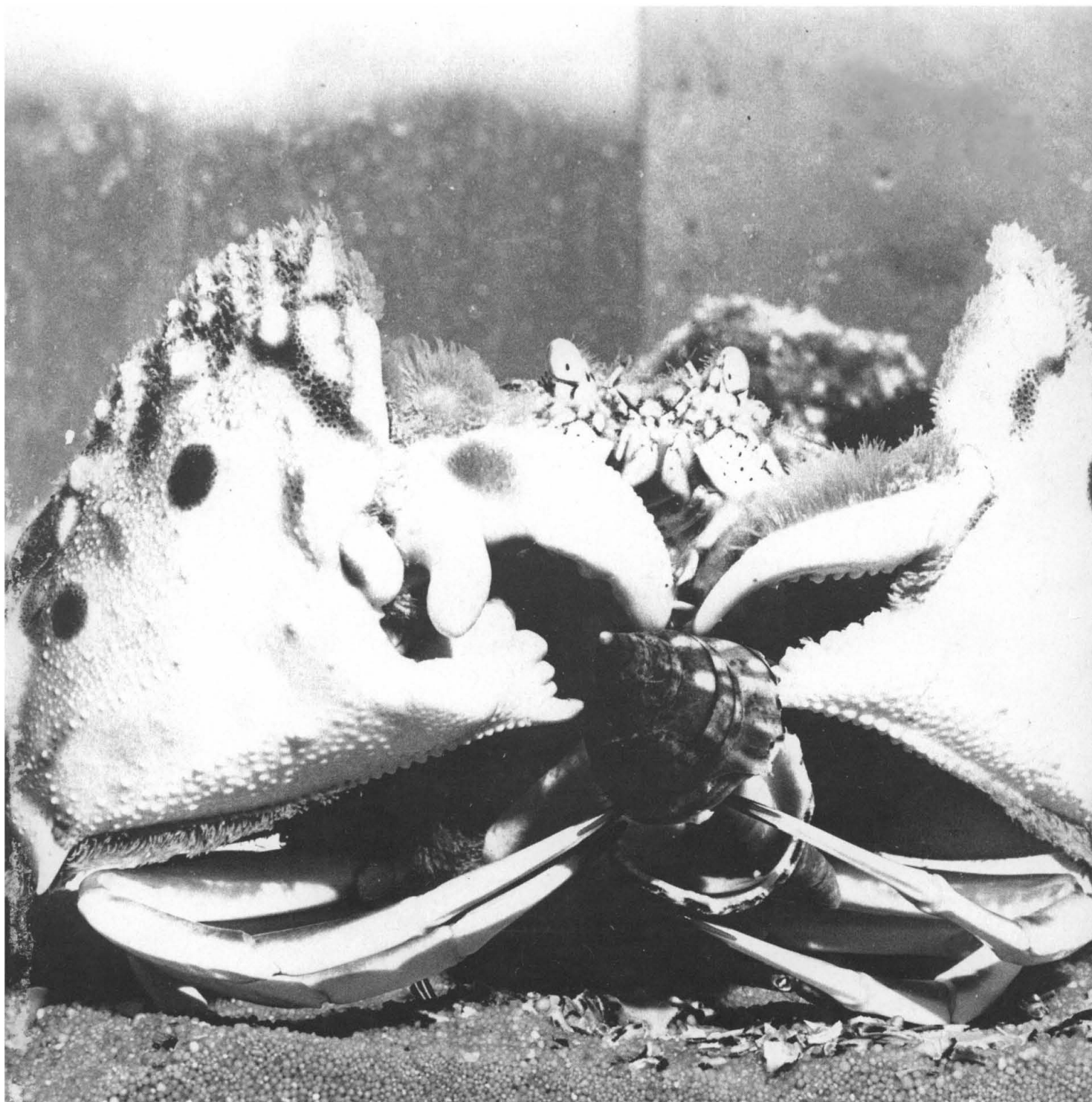


SCIENCE

24 May 1968

Vol. 160, No. 3830

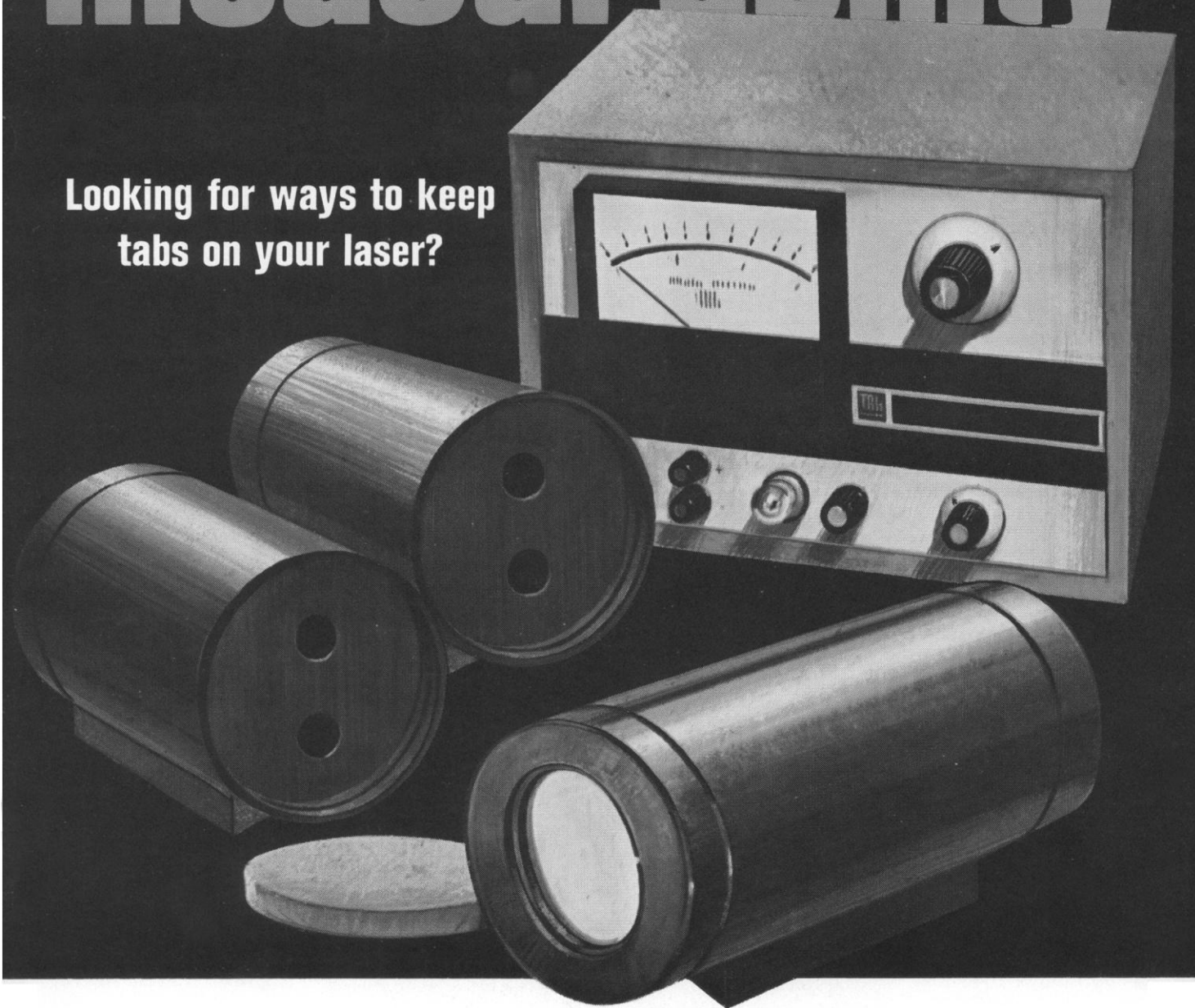
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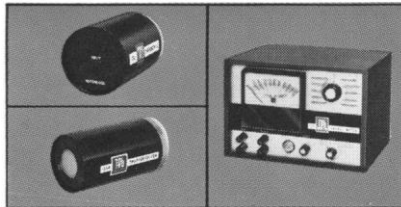
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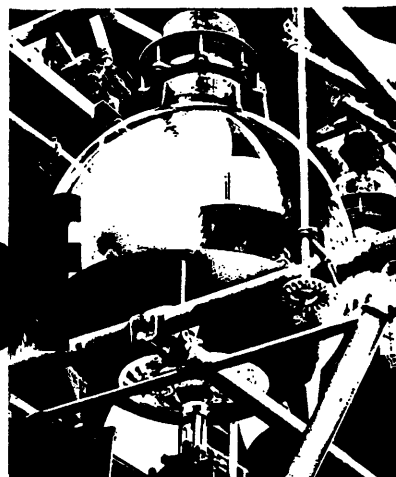
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COVER

A female *Calappa flammea* (Herbst) (width of carapace, 91 millimeters) has finished breaking open a banded tulip shell (*Fasciolaria hunteria* Perry) and is in the process of eating the hermit crab [*Clibanarius vittatus* (Bose)]. The large tooth on the right claw, the claws, and the first two pairs of walking legs manipulate the shell. See page 887. [J. B. Shoup, Institute of Marine Sciences, University of Miami, Miami, Florida]

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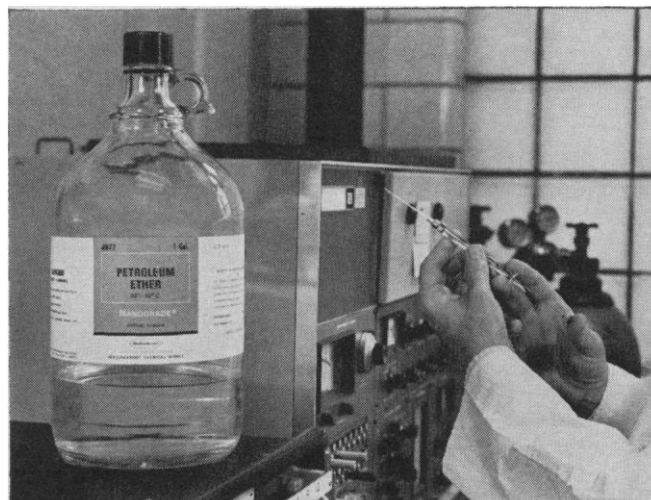


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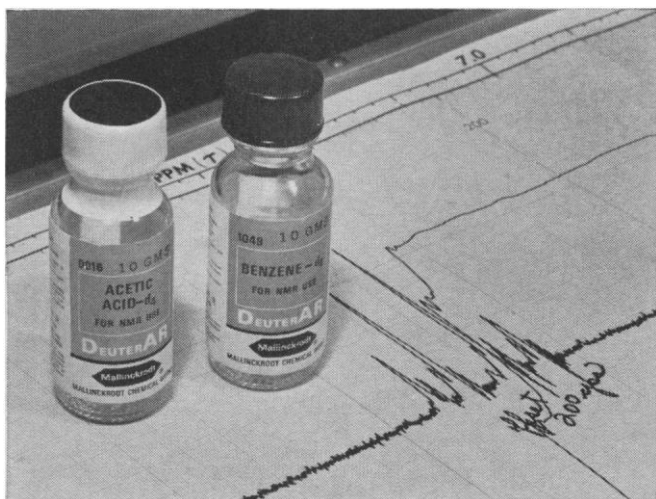
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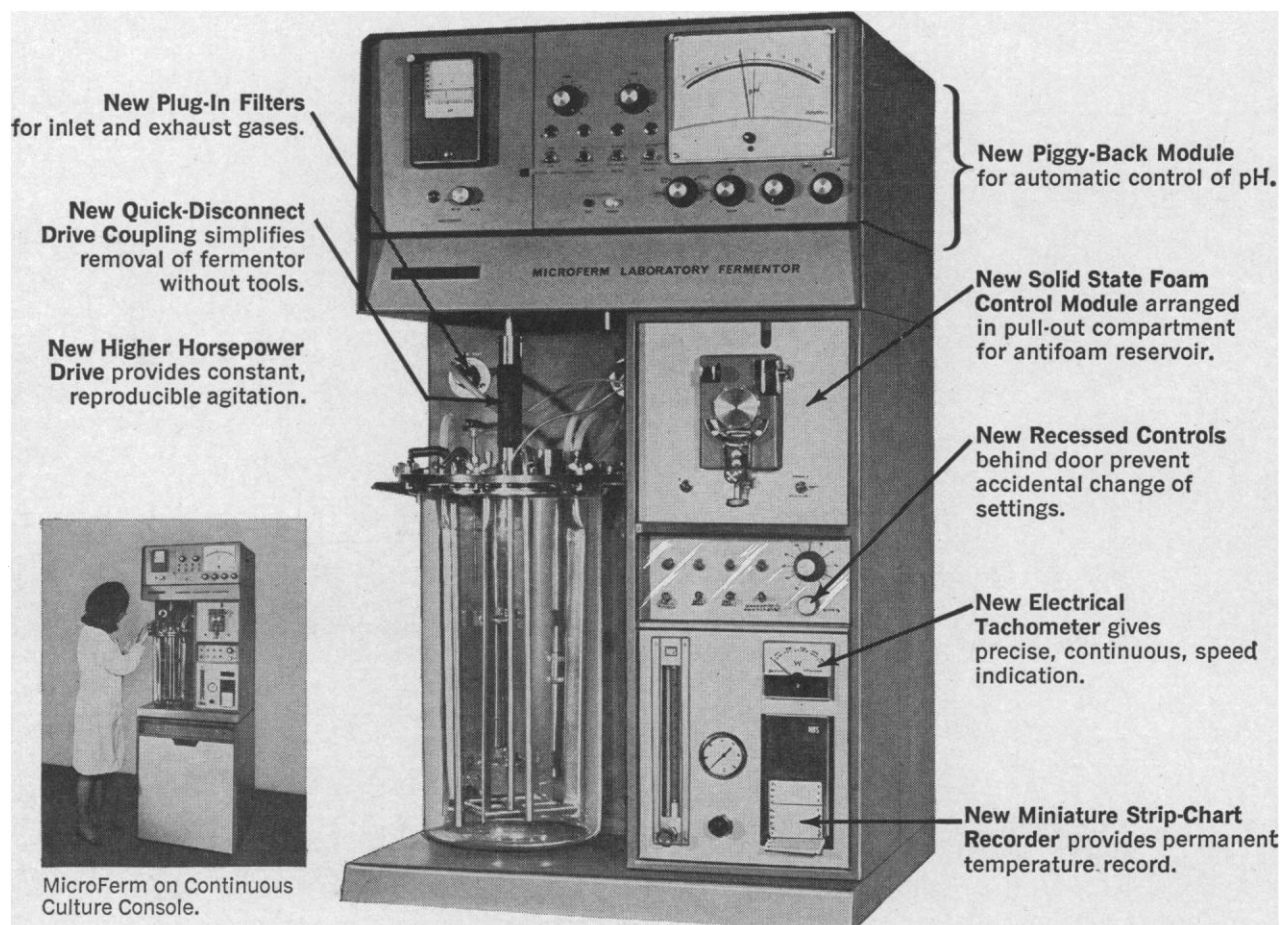
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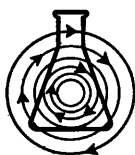
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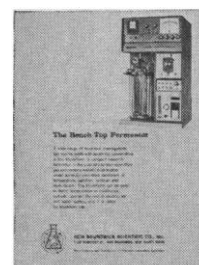
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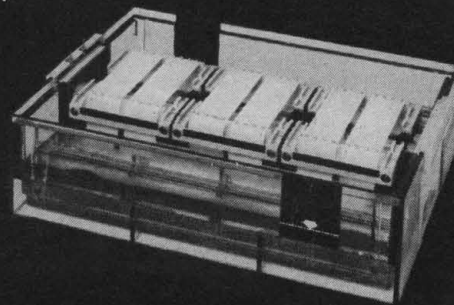
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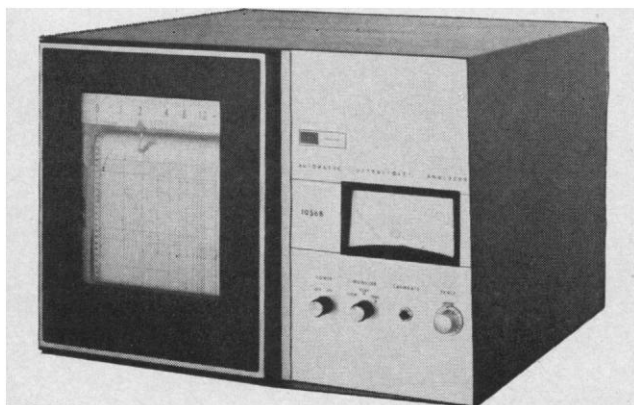


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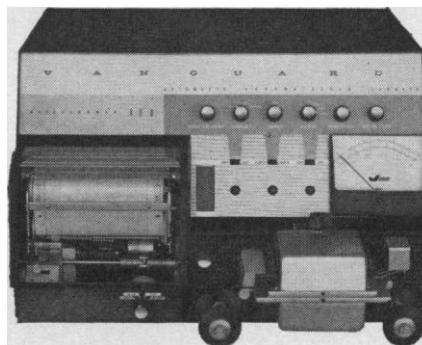
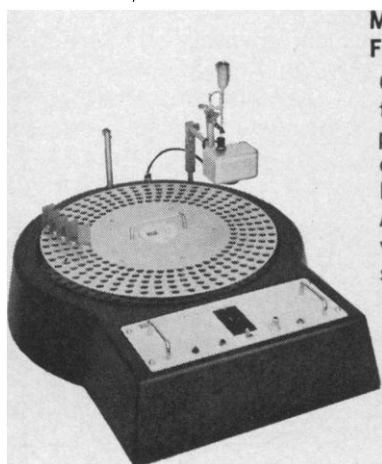
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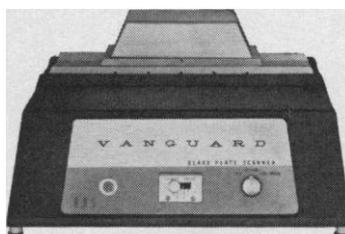
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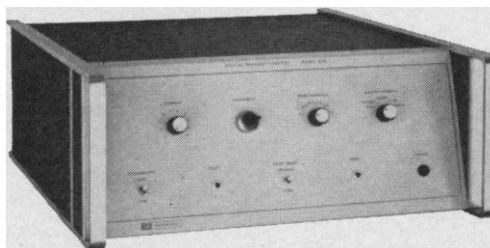
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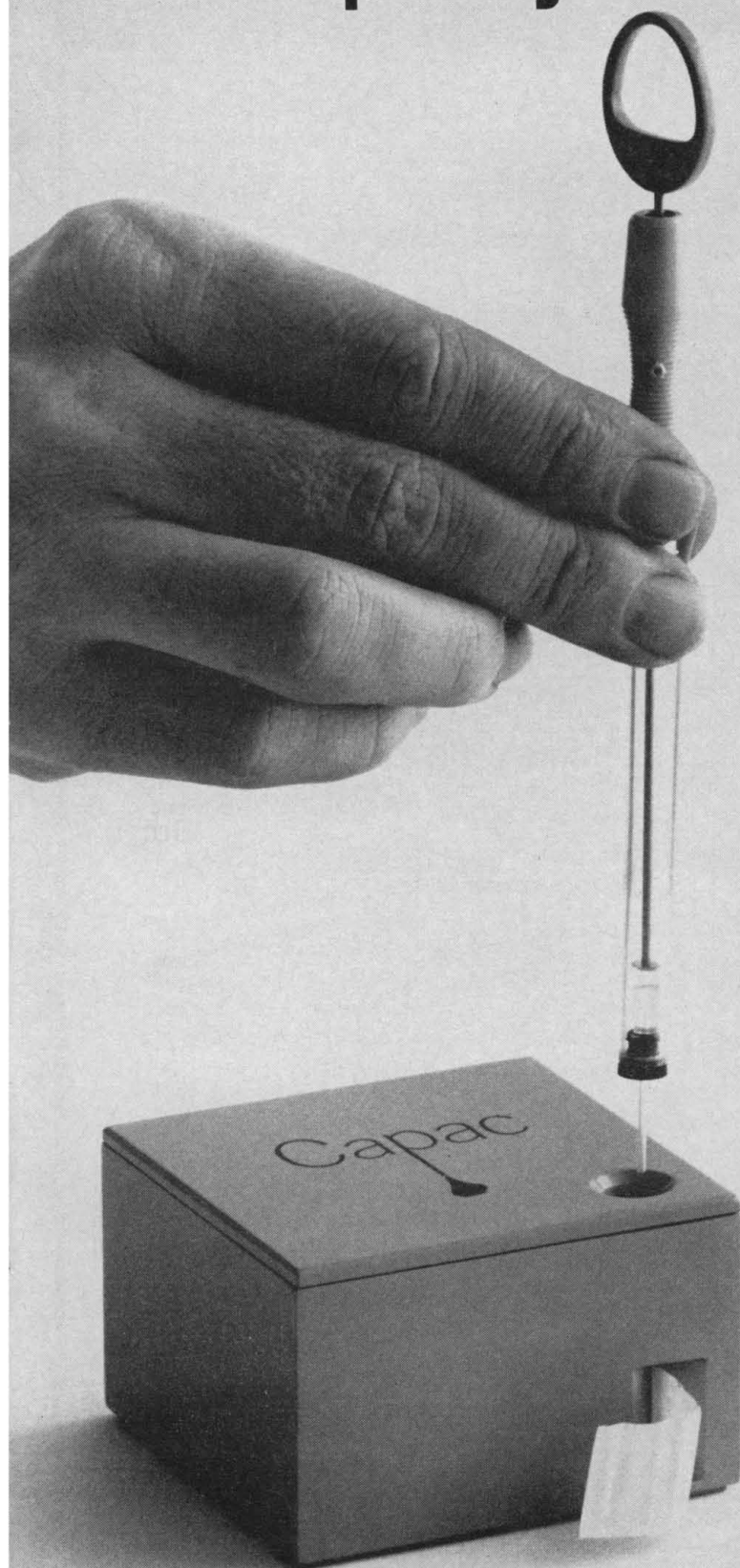
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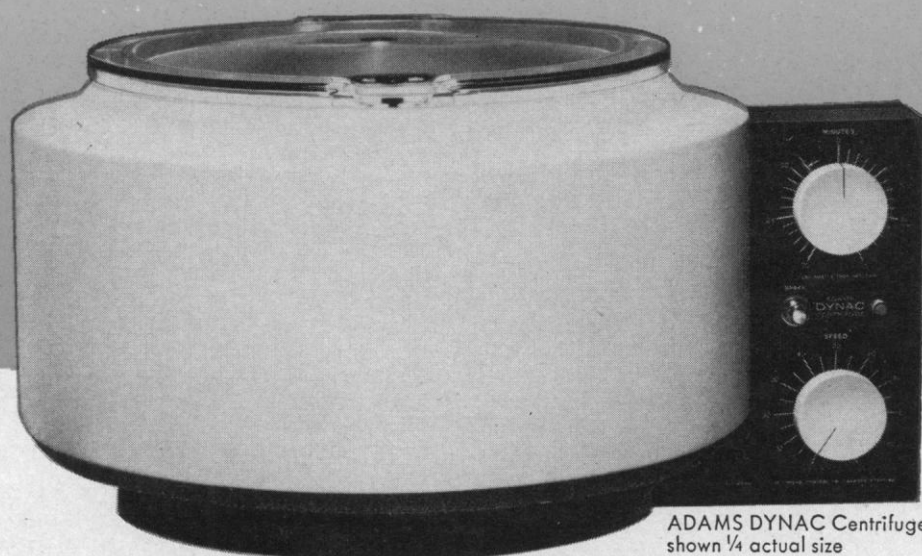
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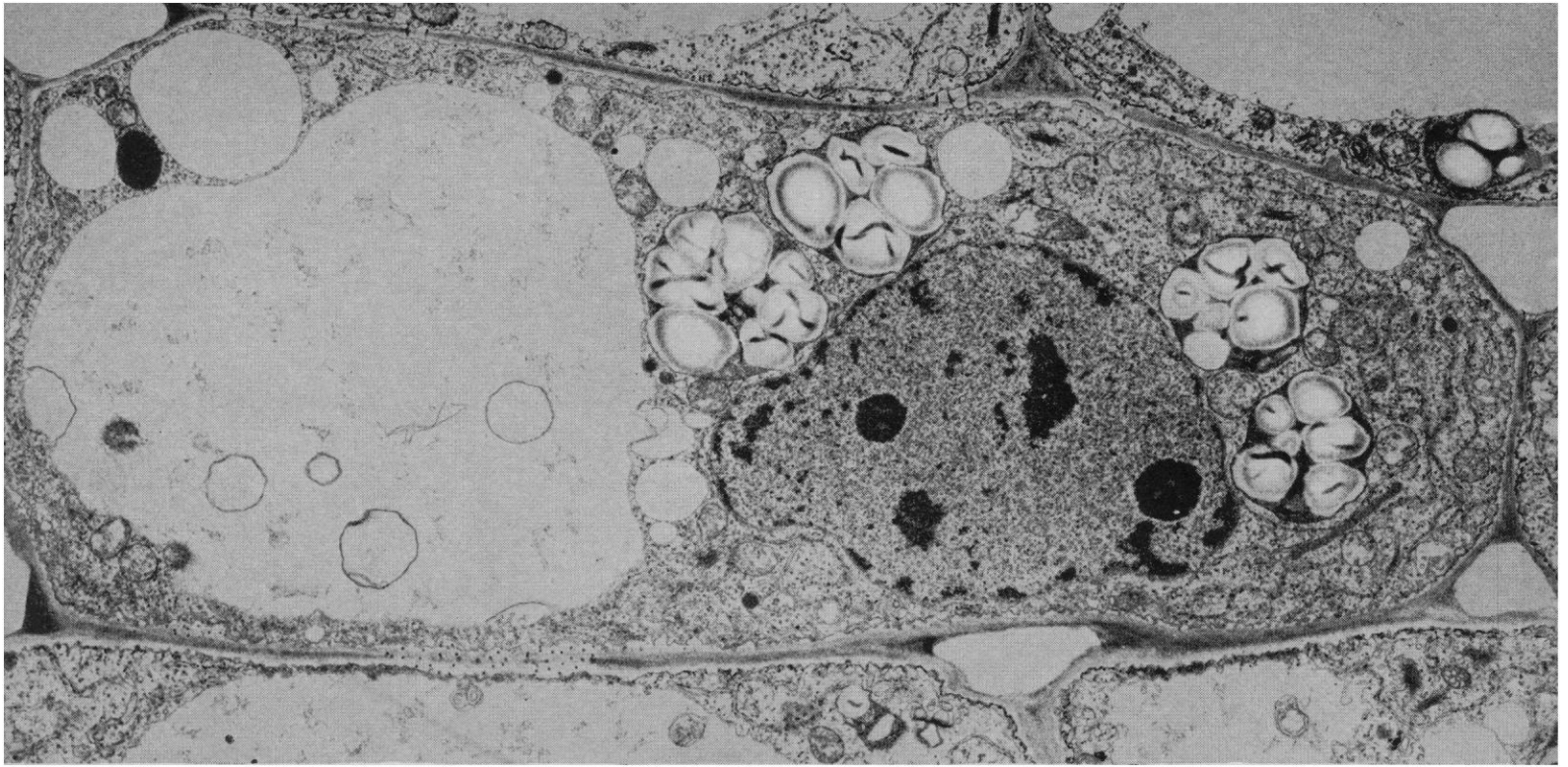
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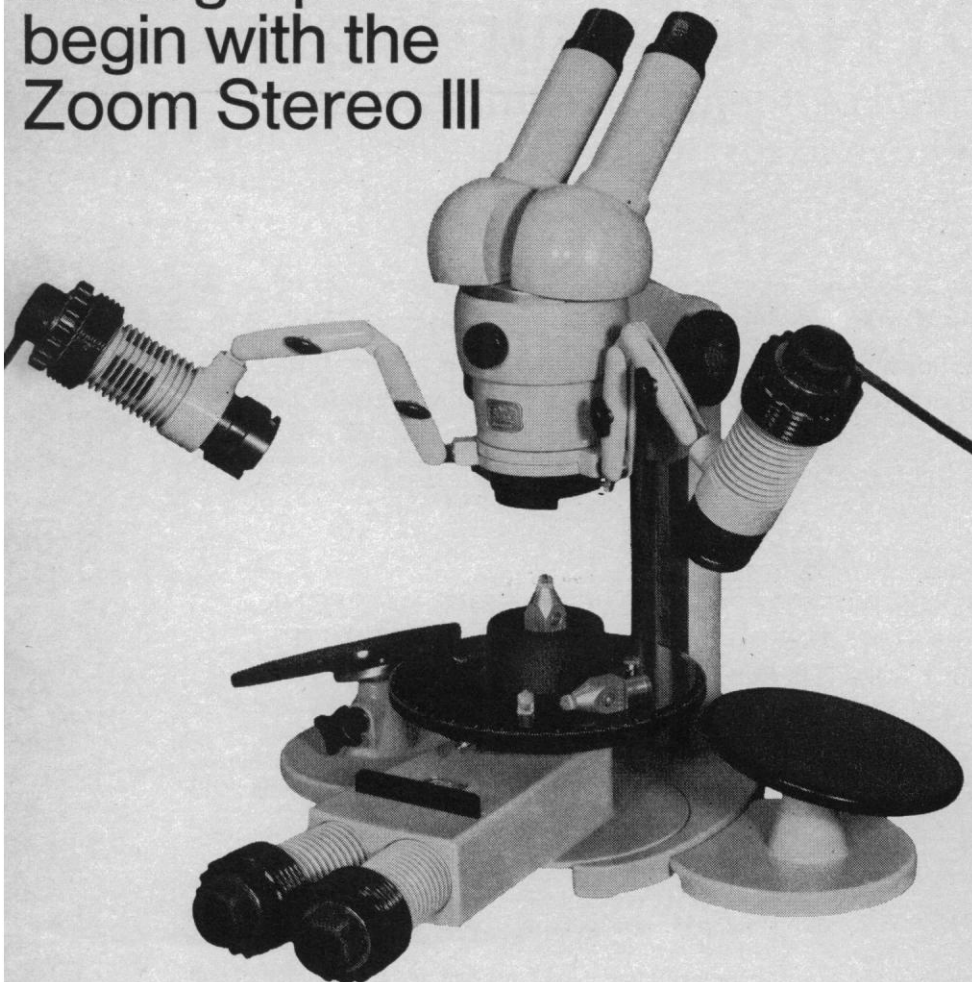
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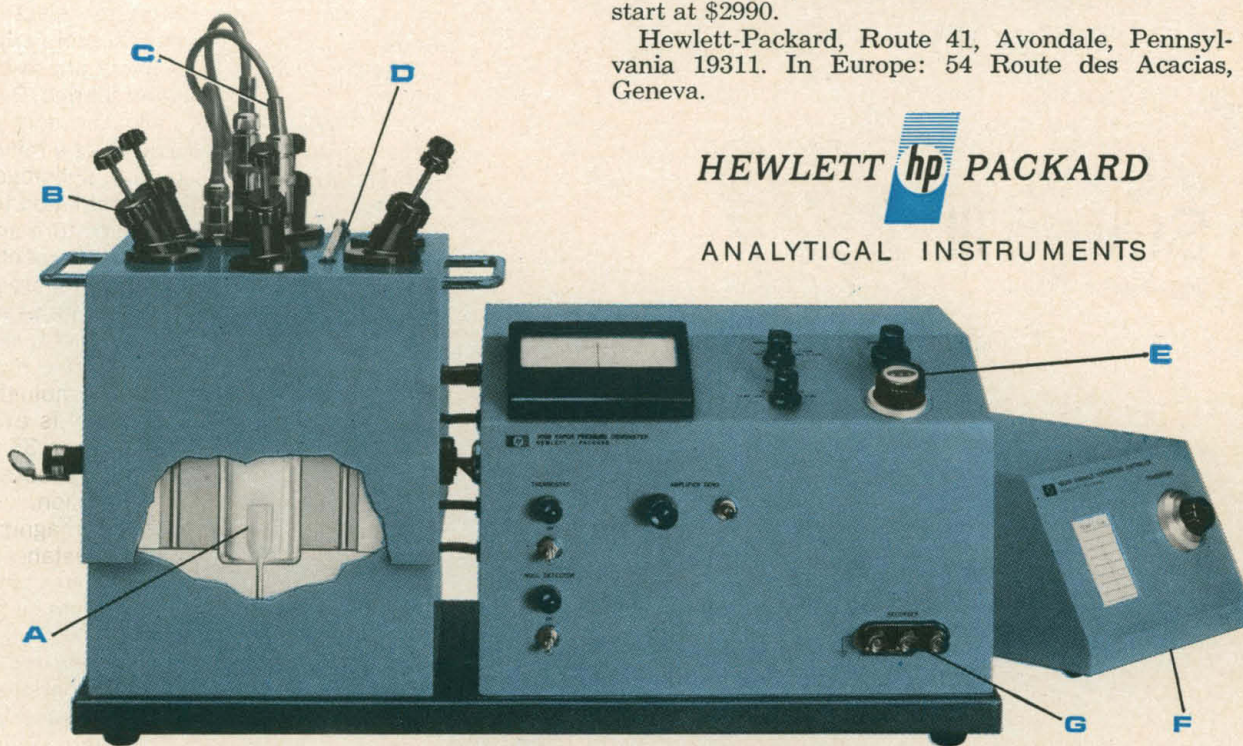
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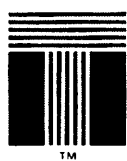
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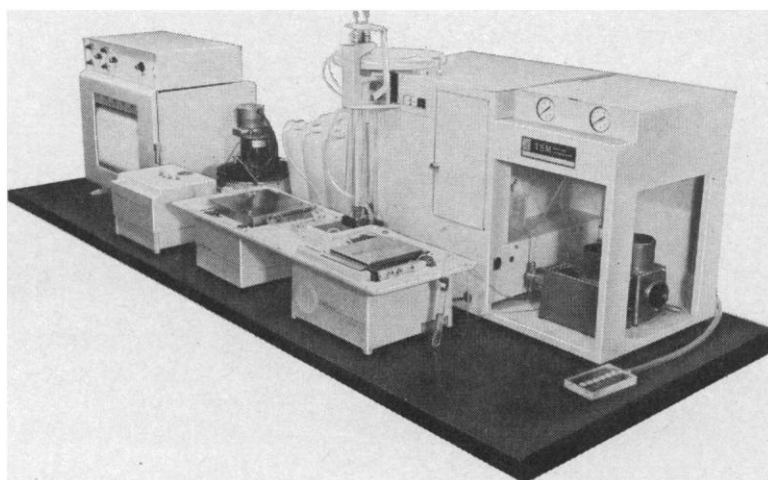
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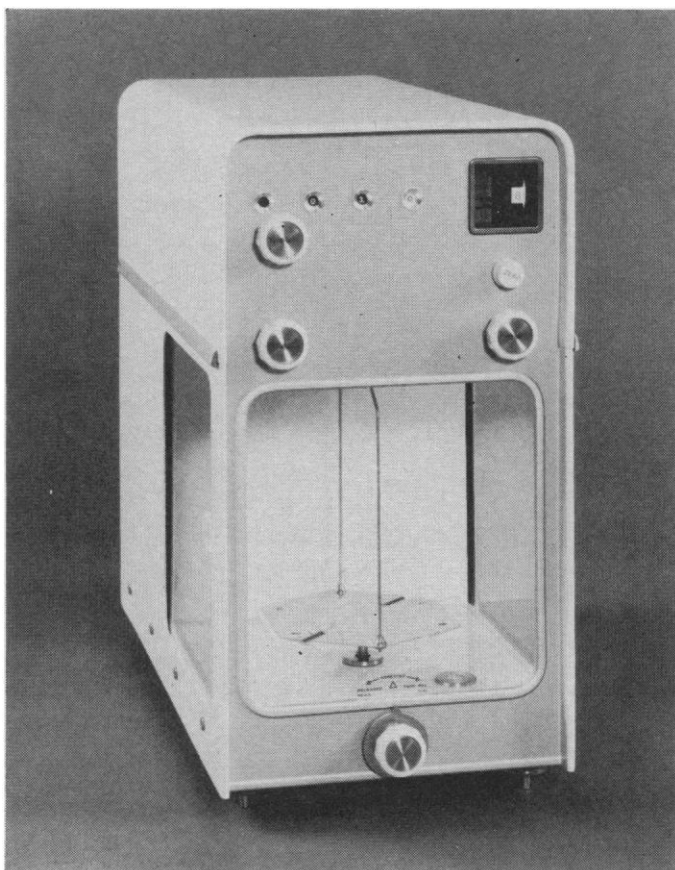
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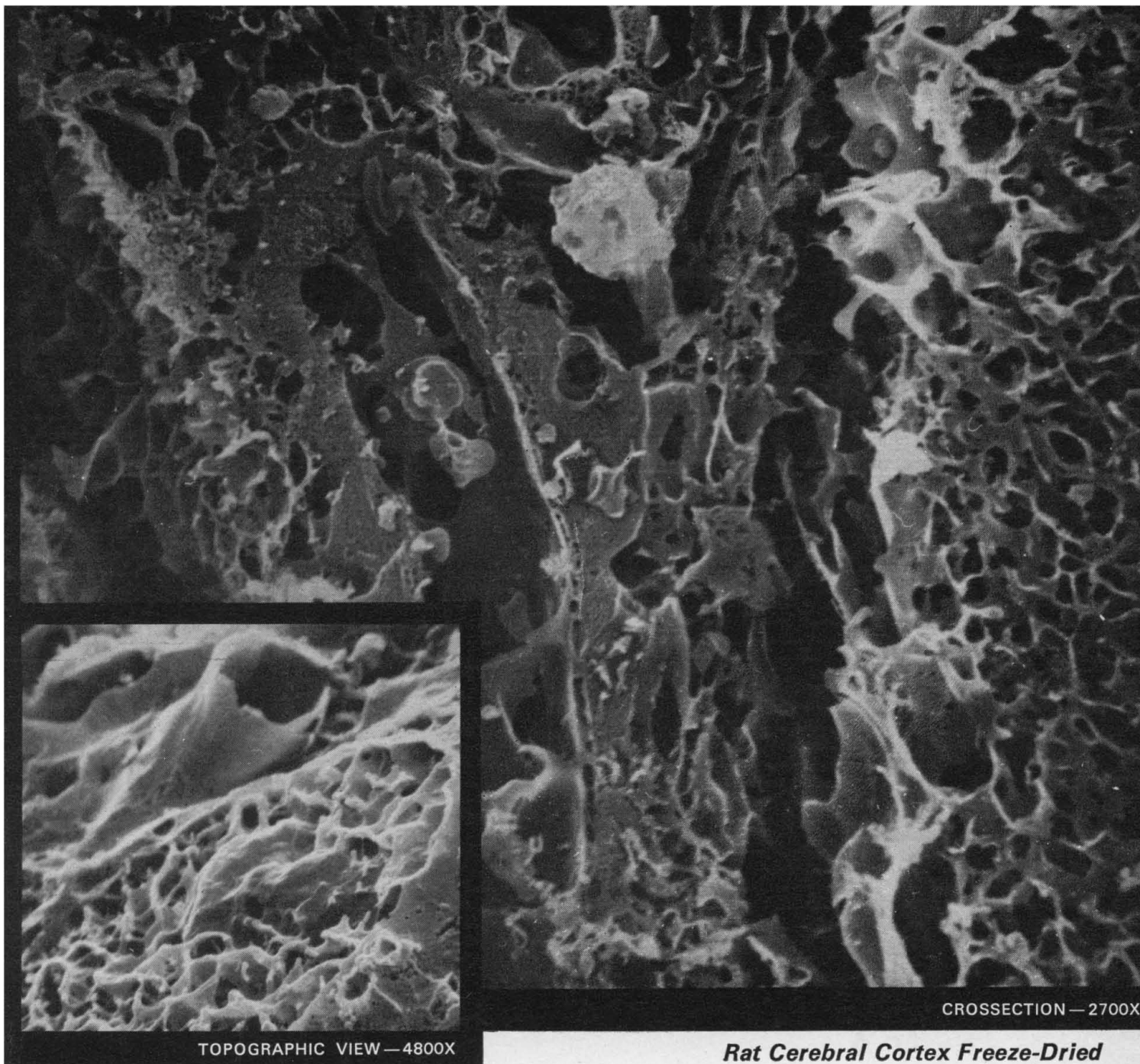
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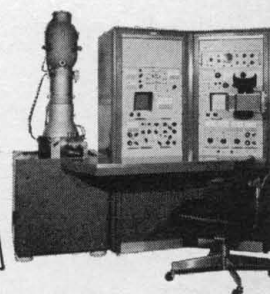
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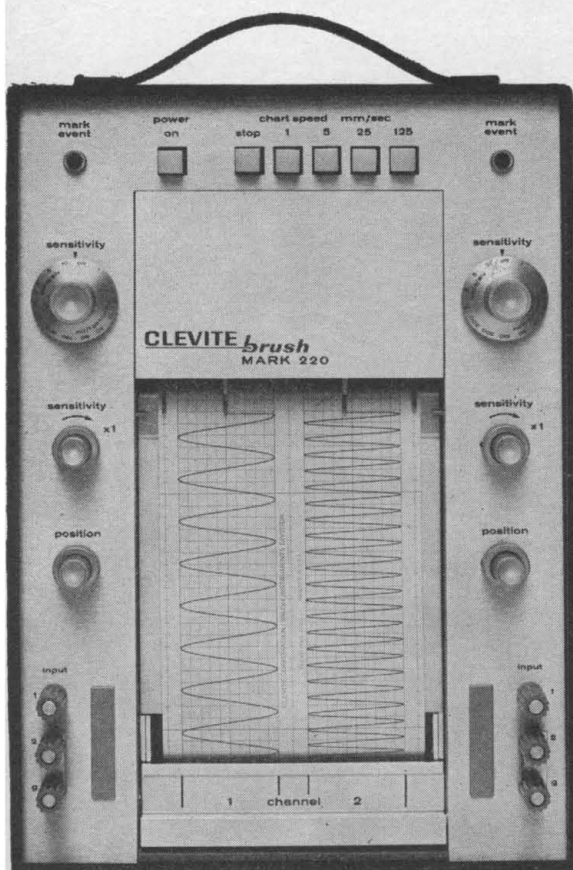
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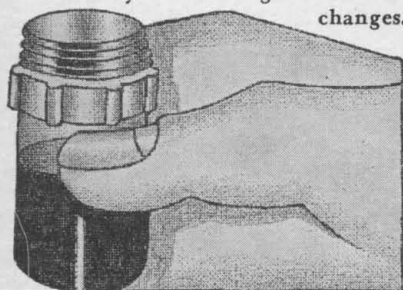


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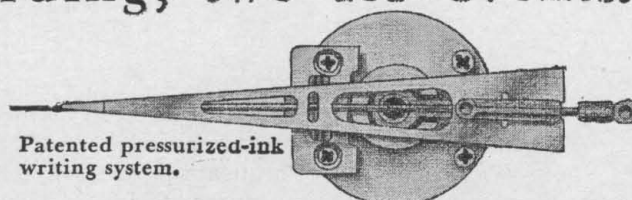
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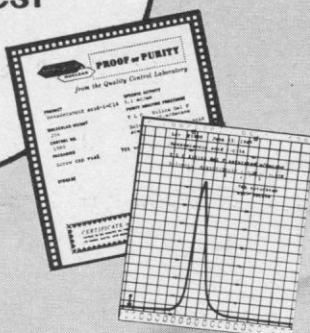
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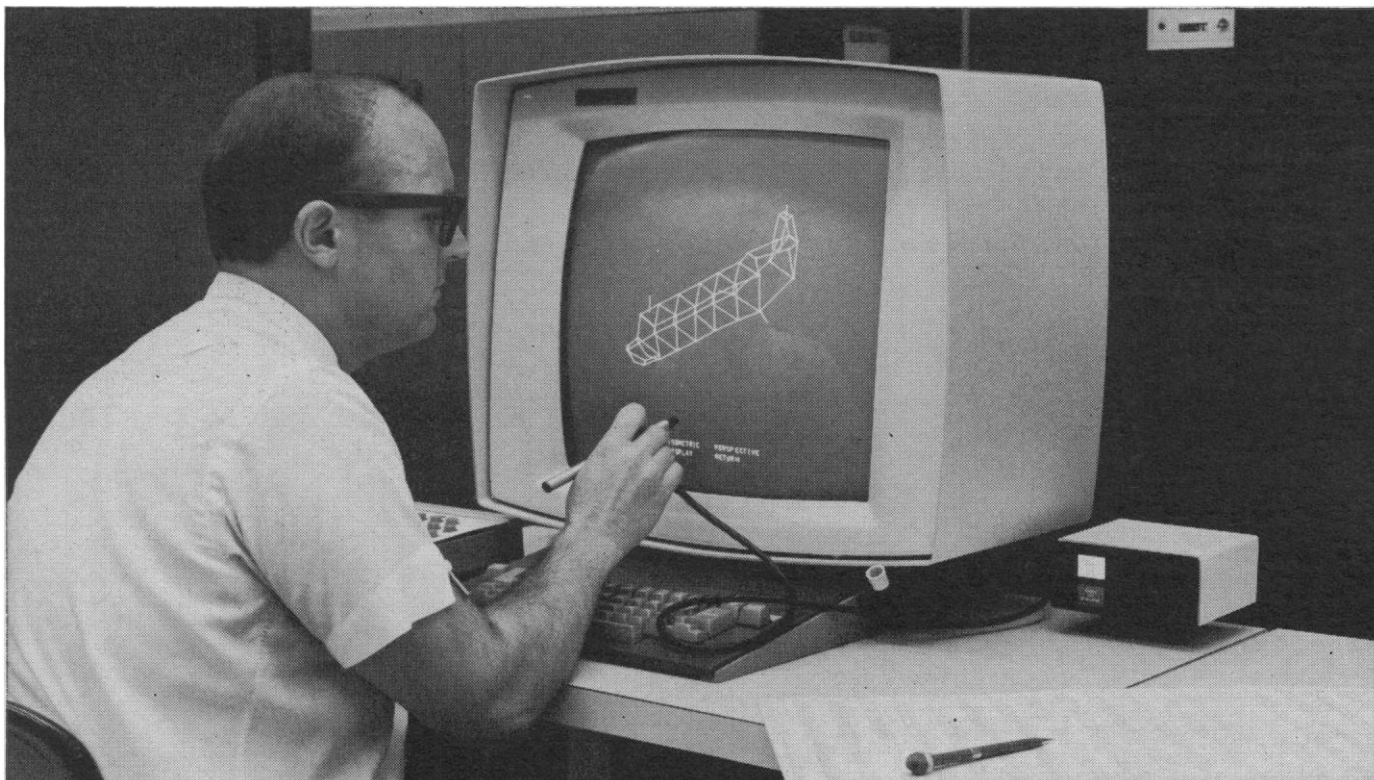
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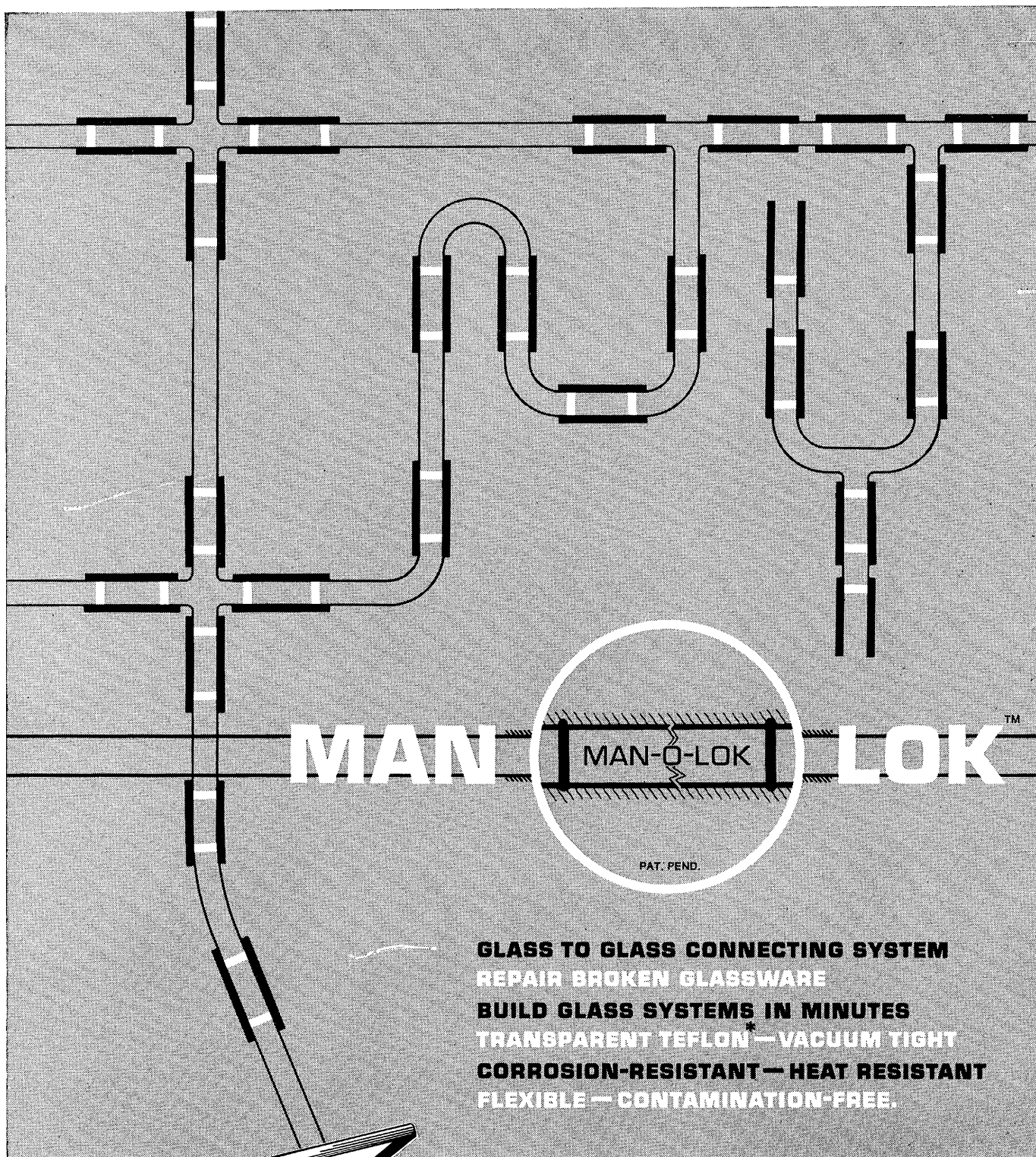
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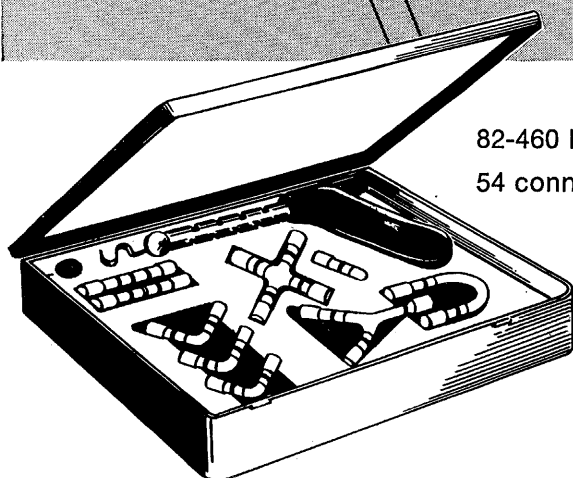




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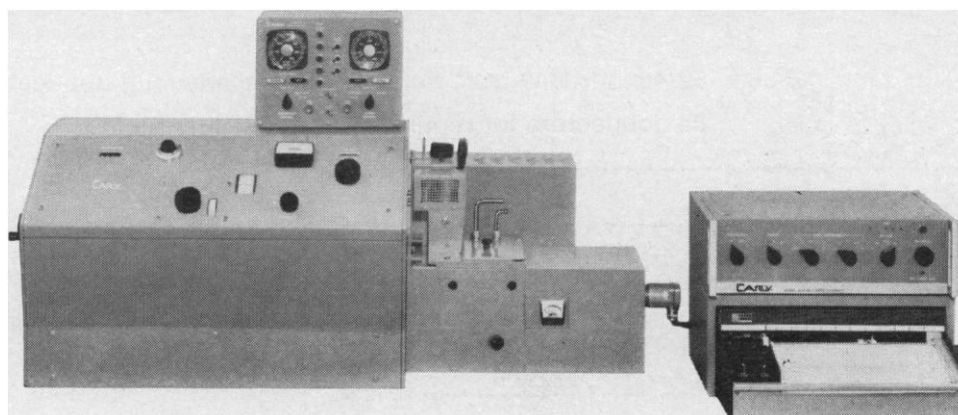
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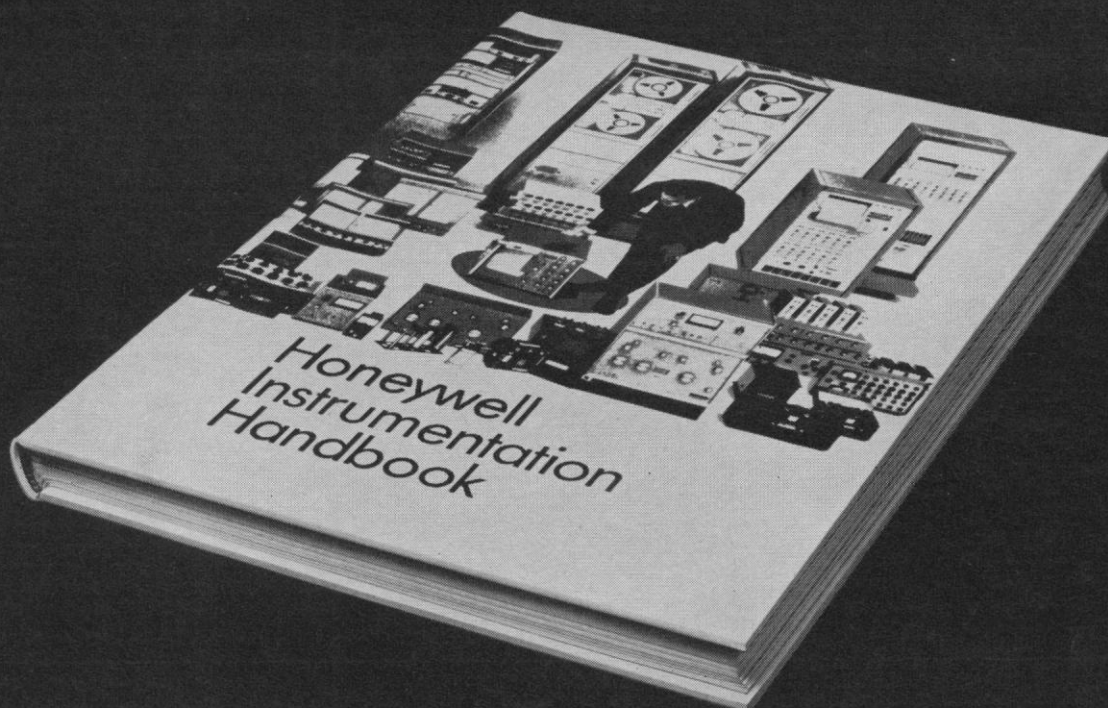
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neither of these agents is necessary. The redwood, given proper growing conditions as previously outlined, has weapons and competitive advantages that enable it to become a climax species as against its competitors in this region — Douglas fir, tan oak, and bay. (Grand fir will not be discussed since it is not a major competitive species in the Eel River basin.)

The bay tree is slow of growth and only partially shade-tolerant. Even when given an equal start on cleared land, it is, in a few decades, shaded out by the redwood and reduced to the status of a scattered understory of weak growth.

The tan oak, like the bay tree, cannot compete with the redwood in height. Although it sprouts from the stump after a fire and is vigorous in reproduction, it has a short life on sites suitable for redwood, and usually succumbs to heart rot. It does, however, compete vigorously with the redwood for a longer period than the bay tree.

The Douglas fir, if sprouted on cleared land at the same time as the redwood, will live to maturity as a large competing tree, finally yielding to the redwood because of its shorter lifespan. But in an established redwood forest, Douglas fir, because of low shade-tolerance plus vigorous root competition by the redwood, seldom succeeds in reaching the region of sunlight.

It should also be noted that, in a dense climax forest of redwood, the mat of redwood roots in the top 15 cm of soil deprives all seedlings of moisture sufficient to survive the first summer. Floods and resulting silt deposits on alluvial flats do eliminate most of the tan oak and Douglas fir. This favorable factor in the continued survival of mature redwoods is more than outweighed by the three undesirable effects of flooding:

1) The silt deposit produces a new seed bed without a surface mat of redwood roots. For several years, depending on the depth of silt, this deposit is free of competition from redwood roots and permits competing trees to survive beyond the critical initial years.

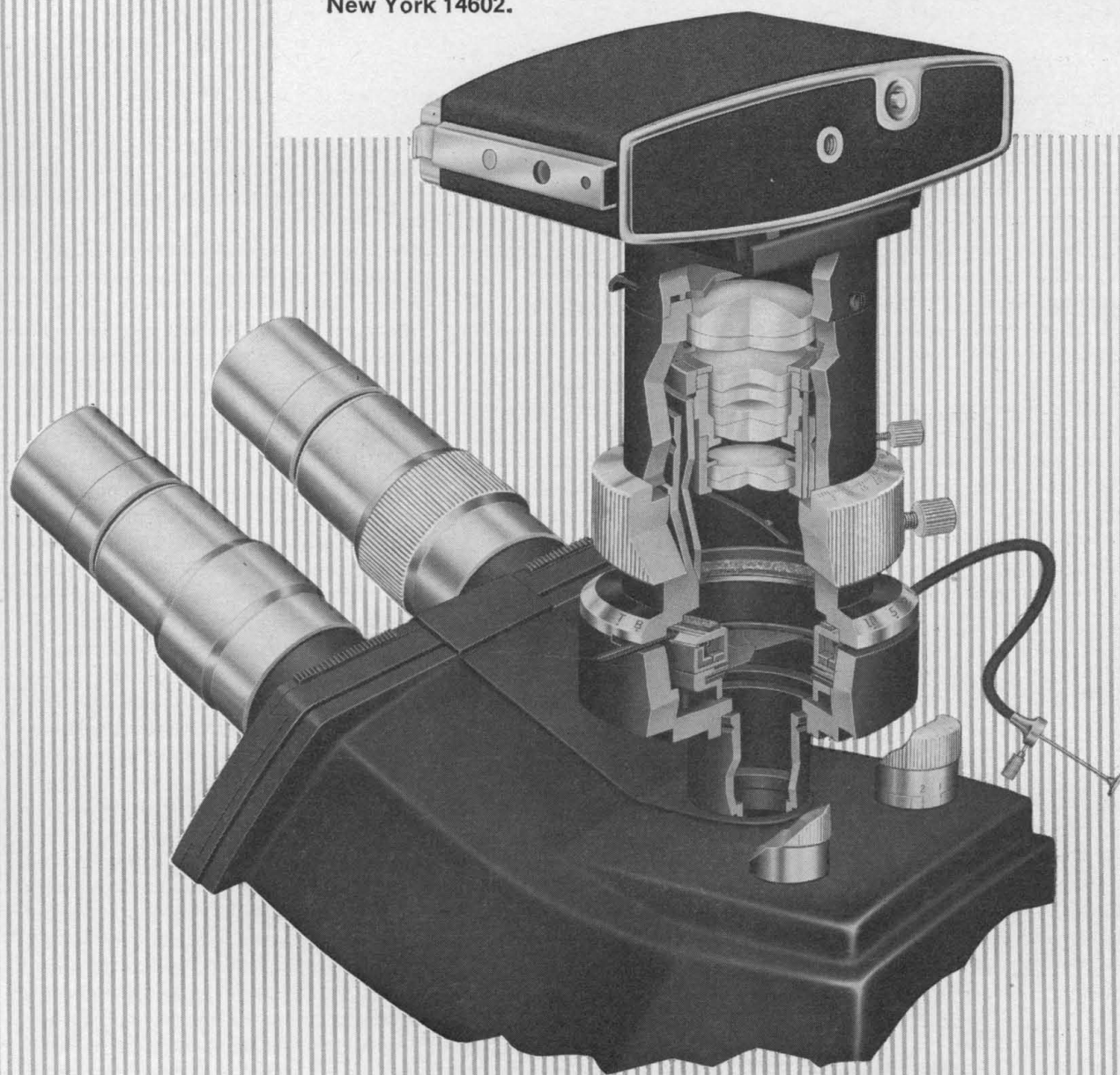
2) The physical undermining and toppling of several thousand large trees such as occurred during the 1955 and 1964 floods are an intolerable loss.

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was normally confined to gravel beds adjacent to the alluvial-redwood flats. This resulted in the raising of the water table and the death of many mature redwoods from what is locally known as "sour root."

If the facts and conclusions stated above are sound, there is only one answer to the basic question. The construction of flood control dams on the Eel River and its tributaries would aid in the preservation of the giant redwood groves on the adjacent alluvial flats.

BESTOR ROBINSON
4420 Bridgeview Drive,
Oakland, California 94602

The greatest threat to the alluvial-flat redwoods may, in the long run, turn out to be the lay conservationists. This is ironical because they were largely responsible for getting these redwoods placed under park protection in the first place. Unfortunately, however, they have failed to fully appreciate the dynamic character of the ecosystem involved. They have focused their attention on preserving the trees now standing, ignoring the rest of the ecosystem which was responsible for these redwoods being present and upon which their replacements must depend. Protection from man, fires, and floods has

been their goal. They have attached little importance to the fact that fires and floods were critical elements in the system under which the alluvial-flat redwoods developed and have actively opposed any man-generated substitutes.

It is essentially from this position that Robinson writes today. For 31 years as a director of the Sierra Club and an active conservationist, he is protection-oriented and is a strong advocate of flood control because he wants to keep the alluvial-flat redwoods from being washed away. He has dismissed as insignificant the impact such action might have on the functioning of the alluvial-flat ecosystem of which these redwoods are only part. The crux of his argument is that, because there are big trees on the slopes and benches where flooding does not occur, siltation per se is not necessary in order for the redwood to maintain its competitive position on the alluvial flats; he even goes so far as to suggest that siltation, by creating a competition-free seedbed, aids the survival of competing species and is therefore undesirable. Apparently, he is unaware that he cannot readily extrapolate from one ecosystem to another.

We are fully aware that nearly pure stands of large redwoods exist off the alluvial flats. But the ecology that has

contributed to their development is not the same as that which has contributed to the development of the alluvial-flat redwoods. It was the ecology of the alluvial-flat redwood that we considered in the paper to which Robinson takes exception.

Robinson argues that because the potential competitors of redwood are short-lived they could not possibly replace redwood. Obviously he is not familiar with the facts. In the absence of floods and fires, seedlings and saplings of bay, tan oak, and grand fir will actively maintain a suppressed understory on the alluvial flats. Only an opening in the canopy is needed for these species to develop into full-fledged competitors. Thus when a redwood falls—as some do each year—these waiting competitors are on hand ready to take its place. Not always will there be a redwood seedling in the right place at the right time to compete for space when an opening occurs. It is in this way that the alluvial-flat redwoods will eventually be replaced with a mixture of bay, tan oak, and grand fir if flooding and fire are removed from the ecosystem and man fails to actively intervene. It is unimportant how big or for how long redwood can grow when once established on the alluvial flats. The im-

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portant fact is that periodically a redwood tree falls and there are competing species ready to take its place.

All the evidence we have been able to collect to date suggests that time is running out for the alluvial-flat redwoods and that flood control could be the final blow unless man actively intervenes with herbicides, the ax, or the chainsaw. Strong support behind a program of active intervention is urgently needed. Our hope is that it will not be too late in coming.

EDWARD C. STONE

RICHARD B. VASEY

*School of Forestry and Conservation,
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Defeated by Bad Calculus Text

Regarding the article "Shortage of mathematic teachers" (8 Mar., p. 1082), I wonder if the Committee on the Undergraduate Program in Mathematics might not do well to examine the undergraduate curriculum as well as the graduate degree requirements. As a parent, I have watched a budding mathematician nipped and changing her major in her sophomore year as the result of a disastrously planned course in calcu-

lus. She had not only been highly interested in mathematics since grammar school, but had scored extremely well in all the standard battery of aptitude tests and was, in fact, placed in an "advanced" math group on the basis of her aptitude and background in math. There seems some evidence that the student was not wholly at fault. Her textbook was new, published, in fact, so recently that hers was the first class to use it. Though it is not my field, I know enough math to recognize that it was poorly conceived for teaching purposes—a number of the signs and processes needed to understand early chapters, for instance, were not explained before the second half of the book.

I was close to this experience but I am also aware of other students, in both high school and college, who are shunted away from a math career by a combination of incomprehensible texts and teachers who, however brilliant they may be at learning math, seem unable to explain the why and how of the more abstract processes. (I have been informed by one expert that "There are no good calculus texts.") The student referred to above understood more calculus from a weekend's intensive reading of the article in the *Brittanica* than from 2 months of class work.

Obviously, if fewer students were discouraged from finishing undergraduate majors in math, at least the potential pool for graduate study would be greater.

JAMES H. FLEMING

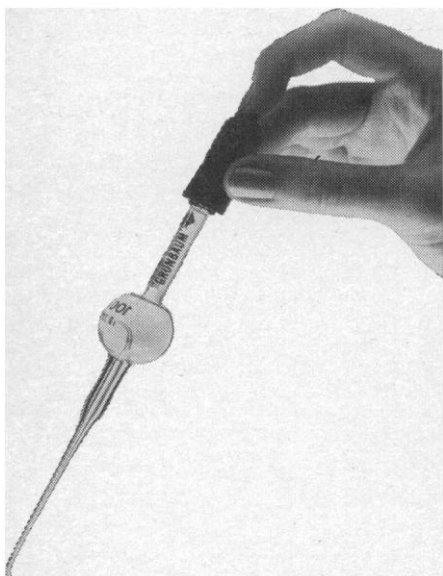
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Erratic Scores by the Computer

It may be that "The future of scientific journals" (1 Dec., p. 1153) will involve computer selection of information of personal interest to each reader. If such a computer system could act as my alter ego, so that I got a stream of information similar to, but, hopefully, much more complete than, that which I now select in my journeys through the journals, it would be utopian.

The present computer capability for information selection falls far short of this ideal, however. My most recent skirmish with a computer information retrieval system gave the following results: 154 total references listed; 12 references with close connection to my area of interest; 131 references with only distant relation; and 11 references

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with no readily perceived connection. In addition, two important references on the subject of interest which I had obtained by the old, more time-consuming (?) method were not listed by the computer.

This listing was obtained in response to a fairly specific request. Imagine the response to a generalized statement of interest covering a wide range of subjects!

EDWARD S. ROGERS
8888 Wolf Road, Hinsdale, Ill. 60521

Survey Synonym

In reporting the results of a survey, Reagan (Letters, 5 April) suggests that scientists live with a "bifurcated tension situation." It sounds like a frightful thing to have around the house. Would it perhaps be less threatening if it were called a "dilemma"?

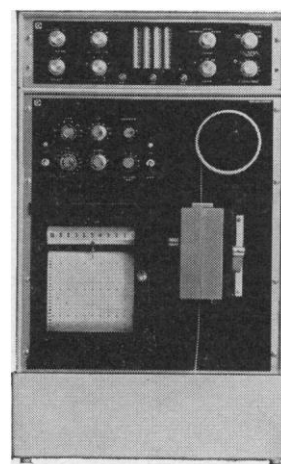
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Importance of Being Important

In his article "When is research the answer?" (8 Mar., p. 1079), Pierce does not acknowledge that much of the great science of the past would have failed initially to meet any reasonable criterion of "importance," social or otherwise. Given the philosophical and practical concerns of the respective times, how "important" did it seem to wonder, for example, about the swing of the pendulum, the effect of current flow on magnetic needles, the properties of partial vacuums, and the fauna of the Galapagos? Not very important, it would seem from the historical record, and there is no evidence that we today are any smarter about guessing where the most powerful secrets of nature are hidden than were the contemporaries of Galileo, Faraday, Boyle, or Darwin.

However hard it may be, it seems essential that the scientific community try to distinguish between applied and basic research or between technology and science. The case put by Pierce is fundamental when research is being conducted for the sake of an "organization," but only then. The customer (individual or institutional) has a right to demand fair value for its investment. And if the commodity is useful knowl-

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edge, then, as Pierce says, the job is done only when knowledge is put to use. In the context of applied research, appeals to "basic" research often cloak poor quality and inadequate administration and should be viewed with skepticism. But the danger of too great a compliance with Pierce's enjoinders is that science, not for an organization or for useful consumption, but for the more detached and potentially far more creative exploration of nature, might be brought to a halt.

What looks "important" at any time reflects a consensus based upon what is already known. Thus, it should come as no surprise that many potent discoveries arise in the study of the apparently "unimportant," as history shows. The basic researcher may be wise to put considerations of importance out of his mind and attend instead to the inner logic of the subject he is studying. It is he, rather than either the administrators of science or the guardians of the public welfare, who must be trusted to lay out the course of science. It is unsettling to think how much the future of science depends upon society's willingness to place trust (and resources) in the hands of men who promise nothing more than to try to increase our understanding of nature, however unrelated to "important" aims their work may seem at the time.

R. J. HERRNSTEIN

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Academe's Window

Although I have not been sympathetic toward "secret research" under government contract on university campuses, I have had a second thought after reading Vice-President Humphrey's statement in "A point of view" (16 Feb., p. 717). If all secret research is removed from university affairs, and is conducted solely in government laboratories, the collective university community may find itself totally ignorant of certain government activities, many of which have already aroused suspicion and regret in the academic world. Who then can protest with "insight?" Who then, from the "outside," can advise the government on the wisdom of its course?

A. D. McLAREN

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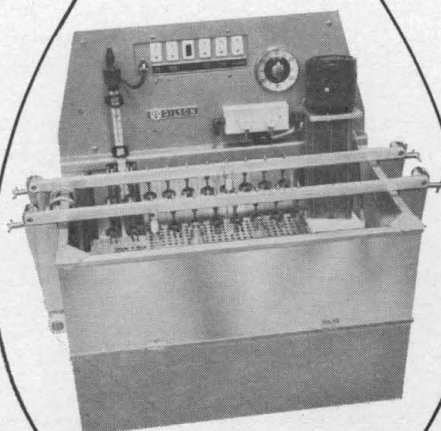
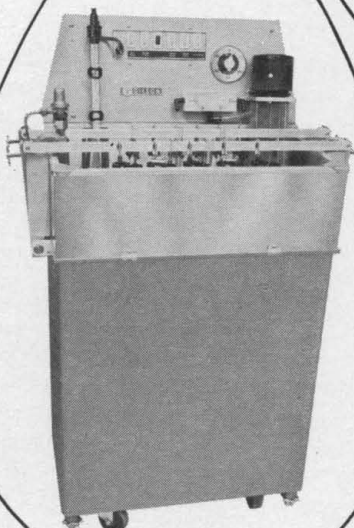
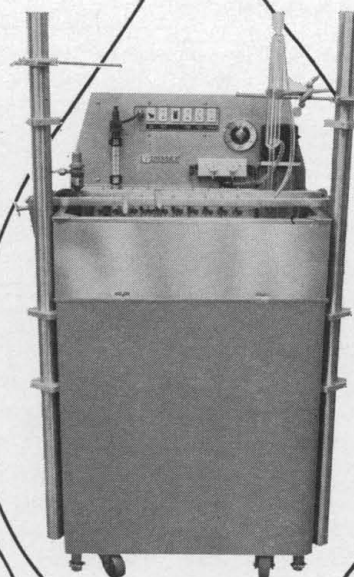


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Dissent or Disrupt

Frustration breeds aggression. Some part of the recent campus disturbances that have interfered with and halted educational activities constituted aggressive spillover from the frustrated feeling that the universities have failed to give due attention to matters high on the students' priority lists. Apparently also involved have been calculated efforts to create disturbance for political purposes.

Whatever the motivation, the disruption has frustrated and angered many persons on and off campus, and retaliation has now come from Congress. The House of Representatives has voted to deny financial assistance to students and faculty members who participate in campus riots or disruptions. The appropriations bill carrying funds for the National Science Foundation and the bill extending several student aid programs were amended to bar payments of federal funds to any student or faculty member who, in the words of one of the amendments, "wilfully refuses to obey a lawful regulation of the university or college which he is attending or at which he is employed." Both of the bills so amended were then passed and sent to the Senate.

The House action is indicative of strained relations between government and academe. The current Selective Service policies came about in part as an expression of anger over the sometimes real and often only alleged escape of college students from military service. In the prevailing atmosphere of frustration on a variety of issues, relationships are likely to be worsened by the reductions in appropriation bills affecting university work and the uncertainty over possibly greater reductions resulting from prospective tax and spending legislation.

It is essential that the still cool heads do whatever they can to try to defuse the situation. One of the congressional amendments specifically states that it is not intended to limit the freedom of students to express their individual views or opinions. The American Association of University Professors has vigorously espoused the rights of students to express their own views and to dissent from views with which they disagree, and just as vigorously has condemned the forceful occupation of campus buildings, the halting of ordinary campus pursuits, the detention of faculty and administrative officers, and the threats of physical harm that have disrupted a number of campuses in recent weeks. The American College Personnel Association has made the same distinction. And so also have individual administrators, faculty members, and students.

If the activists disregard this distinction, the majority of students and faculty members can still insist upon it. The faculty is in the critical position on this matter. It has the strength and force, and should have the willingness and sense of responsibility to deal with infractions.

The weapon offered universities by the House of Representatives should be considered in this light. The intent is sound, but the proffered weapon will be damaging to a university if it is used, and damaging if it is available but not used.

The university can better serve its purposes, and better help clarify public attitudes, by insisting that the university is a proper place for free exploration and expression of divergent views on any important issue. If the majority who defend this position cannot control the minority who flout it, the police and the courts are finally available as agencies for dealing with persons who choose to step over the boundary that separates the right of dissent from the lawlessness of disruption.—DAEL WOLFLE

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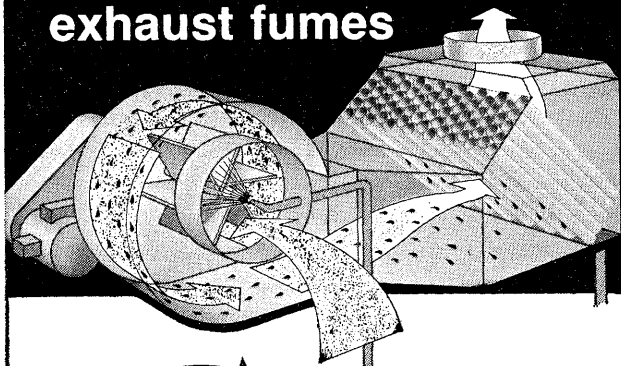
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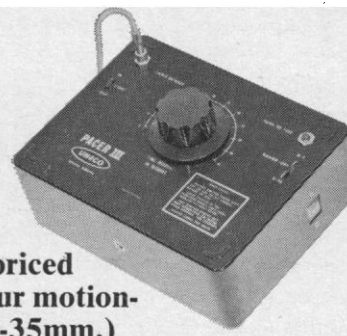
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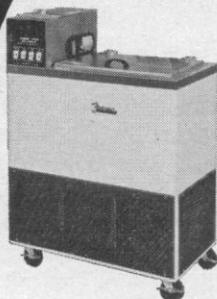


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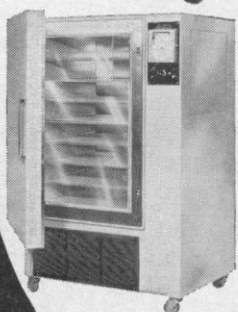
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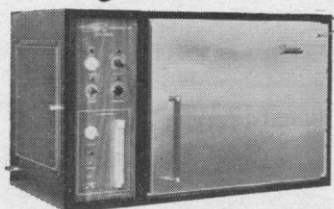
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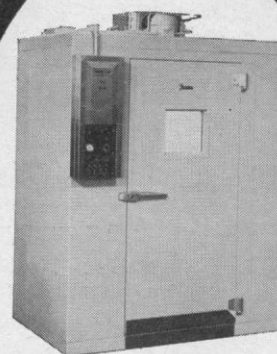
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poor ("most graduates wouldn't know a pneumococcus if it hit them in the eye"). Another panel member said "a pseudomonas is a pseudomonas wherever it is seen and a graduate bacteriologist should at least have seen one and know how to detect it." Pleomorphism may be demonstrated once but usually is illustrated and a student gets the idea that of the several forms a microorganism can take, these occur simultaneously or nearly so. In many schools, the fungi are not even studied in the microbiology courses; a student must wait for a course in botany or plant pathology before he sees them.

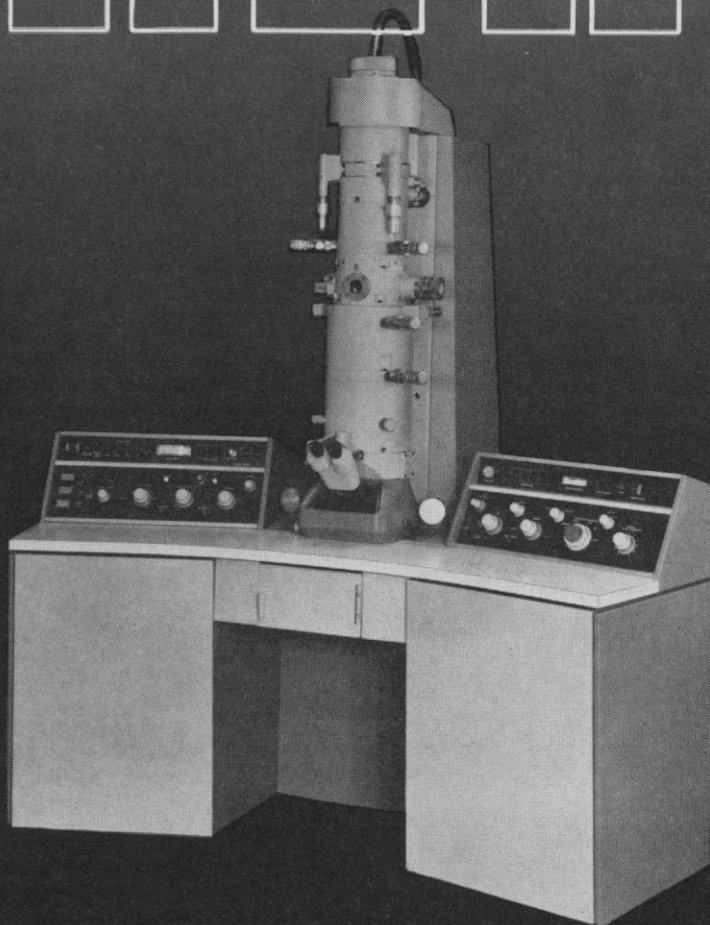
Weaver suggested that the lack of emphasis on this basic kind of study in microbiology might be due to the failure of many colleges or universities to recognize that microbiology can or should be considered the most basic of all life sciences. By requiring it at the beginning of a student's program of studies, he could be exposed to most of the life processes usually described in courses of botany, zoology, or protistology.

San Clemente (Michigan State University) said he thought the school should expose each pupil to the basic ideas in the field and that no one curriculum would solve the problems posed. There are multiple objectives for teaching microbiology and each student must have a program tailored for him. Among other things unmentioned so far, each student must learn how and when to make decisions. Of course this means we must understand the student and his *modus operandi*. Do we? Can we? Now we're talking school psychology, not microbiology!

Murray suggested that training for industry or anywhere else stops at one place for one person and somewhere else for another person. Consequently, curricular programs must be customized as much as possible, taking into account the potential and limitations of each student. He reminded us that a college degree is a statement of education, not a statement of qualification. Commencement means beginning for the graduating student.

One problem which was mentioned frequently and which has gained fresh importance in this age of materialism was that of job satisfaction—satisfactory performance (the employer's concern) and enjoyment of what one is doing (the employee's concern). Too frequently, due to the faddishness of research, newer areas like DNA-RNA or

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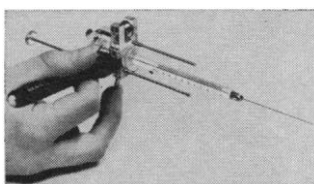
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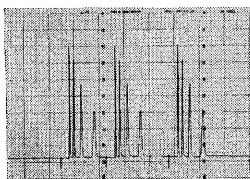
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molecular biology ("breaking the genetic code") sound more appealing than the "humdrum" study of water pollution biology. Of course we have heard about this problem before and a big reason for its existence is the pressure on our teachers and their students to make new breakthroughs and to publish. These pressures are usually exerted by administrators, not for the benefit of the classroom but rather to attract the eye of the public. Vera said that a person who does a good job of teaching is of equal or even greater importance to the academic institution than the person primarily concerned with research projects. This philosophy is most important at the undergraduate level where basic principles and practices are learned more by directed observation than discovery. As long as teachers are under pressure to publish or to obtain grants, they will be forced to use the fads to maintain themselves.

All of the foregoing, the agreements and disagreements on what a student's training for industry should be in college remind this reporter of two previous SIM symposia on the subject. The first was held at State College, Pennsylvania, in 1959 and the second was held in Boulder, Colorado, in 1964. Certainly there has been progress since those two earlier meetings. Agreement on the need for laboratory experience by the student was not expressed before, at least not in the context of the way to carry out routine laboratory exercises. Second, the awareness by industrial people of the pressures and demand on teachers is much greater and better understood than it was a few years ago.

Our panelist from the Canadian universities described a very interesting trial in professional education now beginning in Ontario. Approximately a dozen 2-year technical colleges have been established in those urban centers close to where job opportunities are greatest. The students in these schools will be given specialized training in the work areas which predominate locally; thus, fermentation sciences near distilleries, water sciences near the Great Lakes or working rivers.

One hopes that the academicians will place greater emphasis on leading their students into the correct fields for their qualifications and that university leaders will recognize that they have a responsibility to train students adequately and correctly for the fields they select. Perhaps we in industry should consider the suggestion of Robert Fuerst (Texas Women's University) that we draw up



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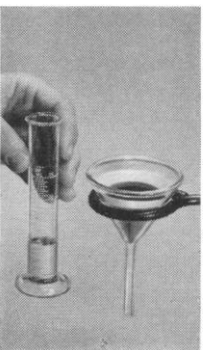
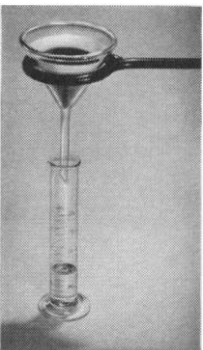
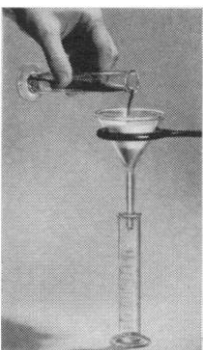
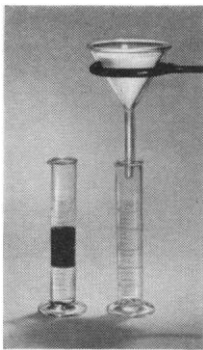
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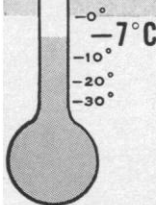
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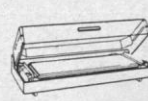
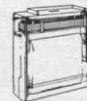
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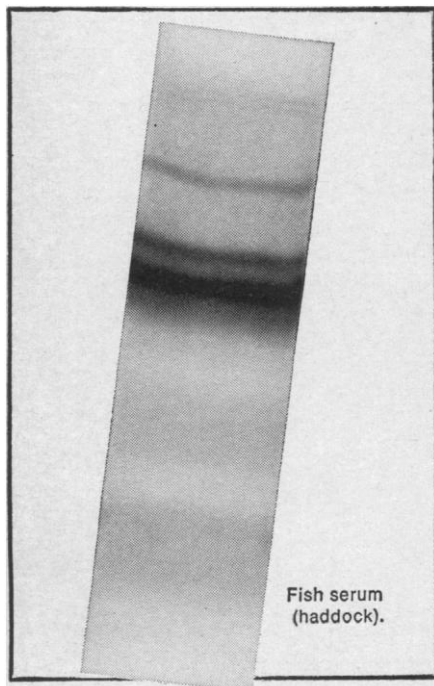
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Unfortunately, there does not seem to have been much change in the feeling toward the kind of research done in industry or university. There has not been a recognition that all fields of microbiology are of equal "social-professional" status. Indeed, the glamour of certain research areas seems to have invaded the industrial laboratory too so that jobs in microbiological control or technical service do not hold the same importance as basic research. Whether this problem will ever be resolved remains to be seen. In an aside, one panelist remarked that a change in attitude will take place only after the pressures to solve practical problems become greater and more costly than the pressures to examine new places and new things.

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Calendar of Events

National Meetings

June

2-7. American Water Works Assoc., Cleveland, Ohio. (E. F. Johnson, The Association, 2 Park Ave., New York 10016)

3-5. Aerospace Instrumentation, 14th natl. symp., Boston, Mass. (K. Foster, EG&G, 160 Brookline Ave., Boston 02215)

5-9. Marine Technology Soc., Miami Beach, Fla. (Conference Coordinator, Div. of Continuing Education, P.O. Box 8005, Univ. of Miami, Coral Gables 33124)

7-9. Society of Biological Psychiatry, Washington, D.C. (G. N. Thompson, 2010 Wilshire Blvd., Los Angeles, Calif. 90057)

8-12. American Therapeutic Soc., Honolulu, Hawaii. (R. T. Smith, The Society, Norbeth, Pa. 19072)

9-11. American Assoc. of Neuropathologists, annual mtg., Atlantic City, N.J. (S. M. Aronson, State Univ. of New York, Downstate Medical Center, 450 Clarkson Ave., Brooklyn, N.Y. 11203)

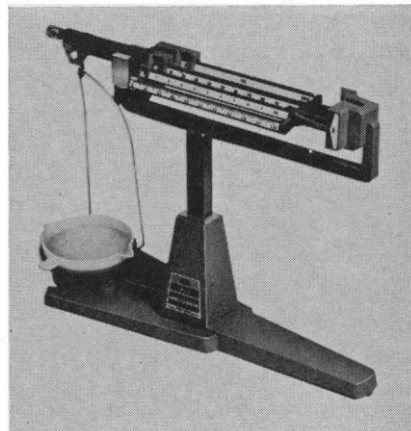
10-13. American Proctologic Soc., Denver, Colo. (J. A. Ferguson, Secretary, 320 W. Lafayette, Detroit, Mich. 48226)

10-13. American Vacuum Soc., Beverly Hills, Calif. (L. W. Sink, Bldg. 290, Pratt & Whitney Aircraft, Middletown, Conn.)

10-14. Society of Photographic Scientists and Engineers, Boston, Mass. (The Society, 1330 Massachusetts Ave., NW, Washington, D.C. 20005)

12-14. Disaster Planning, Chicago, Ill. (American Hospital Assoc., 849 N. Lake Shore Dr., Chicago 60611)

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12-14. Application of Newer **Physical Techniques to the Study of Drug Metabolism**, Gaithersburg, Md. (D. Trexler, Drug Research Board, National Research Council, 2101 Constitution Ave., NW, Washington, D.C. 20418)

13-14. American **Chemical Soc.**, Great Lakes regional, Milwaukee, Wis. (K. Miller, American Bio-Synthetics Corp., 710 W. National Ave., Milwaukee 53204)

13-15. California Soc. of **Anesthesiologists**, Monterey. (N. R. Catron, California Soc. of Anesthesiologists, 39 N. San Mateo Dr., San Mateo 94401)

13-16. American Assoc. of **Neuropathologists**, Washington, D.C. (S. M. Aronson, Downstate Medical Center, Brooklyn, N.Y. 11203)

13-17. American College of **Chest Physicians**, 34th annual, San Francisco, Calif. (H. L. Kruse, 112 East Chestnut St., Chicago, Ill.)

14-15. American **Rheumatism Assoc.**, Seattle, Wash. (M. M. Walsh, 1212 Avenue of the Americas, New York 10036)

14-16. Society for **Biological Psychiatry**, Washington, D.C. (G. N. Thompson, 2010 Wilshire Blvd., Los Angeles, Calif. 90057)

15. Academy of **Tuberculosis Physicians**, San Francisco, Calif. (G. P. Bailey, Secretary, 1295 Clermont, Denver 20, Colo.)

15. American Assoc. for the Study of **Headache**, San Francisco, Calif. (S. Diamond, 5214 N. Western Ave., Chicago, Ill. 60625)

15-16. American **Diabetes Assoc.**, San Francisco, Calif. (J. R. Connelly, Executive Director, 18 E. 48 St., New York 10017)

15-16. Society for **Vascular Surgery**, San Francisco, Calif. (W. S. Edwards, Executive Secretary, 919 Seventh Ave., S., Birmingham, Ala. 35205)

15-20. American Soc. of **Radiologic Technologists**, Los Angeles, Calif. (The Society, 537 S. Main St., Fond du Lac, Wis. 54935)

16-20. American Soc. of **Mammalogists**, Fort Collins, Colo. (D. F. Hoffmeister, Univ. of Illinois, Urbana 61801)

16-20. **Environmental Biology**, Madison, Wis. (J. R. Olive, American Inst. of Biological Sciences, 3900 Wisconsin Ave., NW, Washington, D.C. 20016)

16-20. American College of **Preventive Medicine**, San Francisco, Calif. (E. A. Piszczek, 6410 N. Leona Ave., Chicago, Ill. 60646)

16-20. American **Medical Assoc.**, San Francisco, Calif. (F. J. L. Blasingame, Executive Vice-President, 535 N. Dearborn St., Chicago, Ill. 60610)

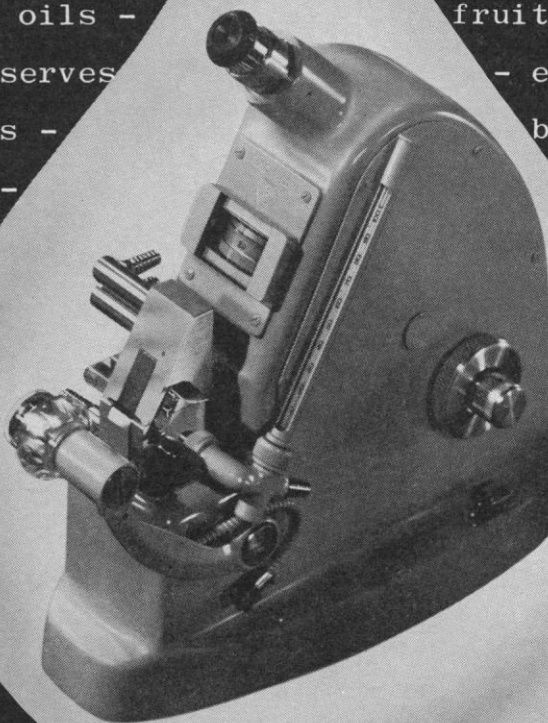
16-20. American **Physicians Art Assoc.**, San Francisco, Calif. (A. A. Richman, 307 Second Ave., New York 10003)

16-20. Association of **Food and Drug Officials** of the United States, 72nd annual, Hartford, Conn. (E. E. Smith, Connecticut Dept. of Consumer Protection State Office Bldg., 165 Capitol Ave., Hartford)

16-20. **Health Physics Soc.**, 13th annual, Denver, Colo. (W. R. Hendee, Dept. of Radiology, Univ. of Colorado Medical Center, 4200 E. 9 St., Denver 80220)

16-20. Society for **Investigative Dermatology**, San Francisco, Calif. (G. W. Ham-

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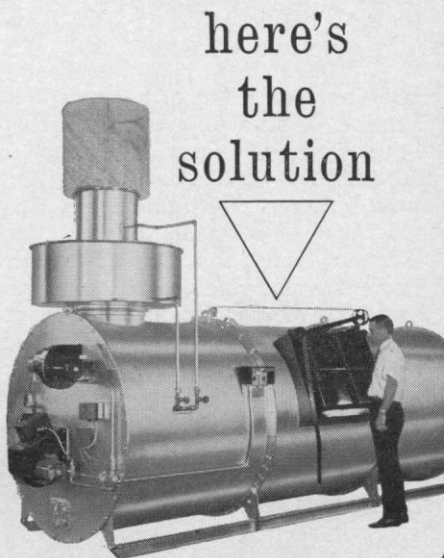
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16-21. American Soc. of Parasitologists, 43rd annual, Madison, Wis. (G. W. Hunter, Dept. of Microbiology, Univ. of Florida Medical School, Gainesville 32601)

16-21. **Weights and Measures**, 53rd natl. conf., Washington, D.C. (M. W. Jensen, National Bureau of Standards, Washington, D.C. 20234)

17-19. **American Marketing Assoc.**, Philadelphia, Pa. (The Association, 230 N. Michigan Ave., Chicago, Ill. 60601)

17-19. **American Neurological Assoc.**, Washington, D.C. (M. D. Yarh, 710 W. 168 St., New York 10032)

17-19. **Biomedical Engineering**, San Diego, Calif. (D. L. Franklin, Scripps Clinic and Research Foundation, La Jolla, Calif.)

17-19. **American Physical Soc.**, Los Alamos, N.M. (W. W. Havens, 528 W. 120 St., New York 10027)

17-20. **American Dairy Science Assoc.**, Columbus, Ohio. (C. Cruse, Executive Secretary, 903 Fairview Ave., Urbana, Ill. 61801)

17-21. **American Soc. of Ichthyologists and Herpetologists**, New York, N.Y. (J. A. Peters, Div. of Reptiles, U.S. National Museum, Washington, D.C. 20560)

17-21. **Automating and Miniaturizing Government Records**, Washington, D.C. (Director, Center for Technology and Administration, American Univ., 2000 G St., NW, Washington, D.C. 20006)

18-21. **American Soc. of Agriculture Engineers**, 61st annual, Logan, Utah. (The Society, P.O. Box 229, St. Joseph, Mich. 49085)

19-21. **Analytical Chemistry**, University Park, Pa. (A. T. Winstead, National Meetings and News Div., 1155 16th St., NW, Washington, D.C. 20006)

19-21. **Colloids**, 42nd symp., Chicago, Ill. (P. Becher, Chemical Research Dept., Atlas Chemical Industries, Wilmington, Del. 19899)

23-27. **Air Pollution Control Assoc.**, 61st annual, St. Paul, Minn. (A. Arch, Executive Secretary, 4400 Fifth Ave., Pittsburgh, Pa. 15213)

23-27. **American Soc. of Psychosomatic Dentistry and Medicine**, Tamiment, Pa. (H. S. Tobey, 700 Park Ave., Plainfield, N.J.)

23-28. **American Inst. of Homeopathy**, Washington, D.C. (W. O. Baker, 1635 Harvard St., NW, Washington, D.C. 20009)

23-28. **American Soc. for Testing and Materials**, 71st annual, San Francisco, Calif. (T. A. Marshall, Jr., 1916 Race St., Philadelphia, Pa. 19103)

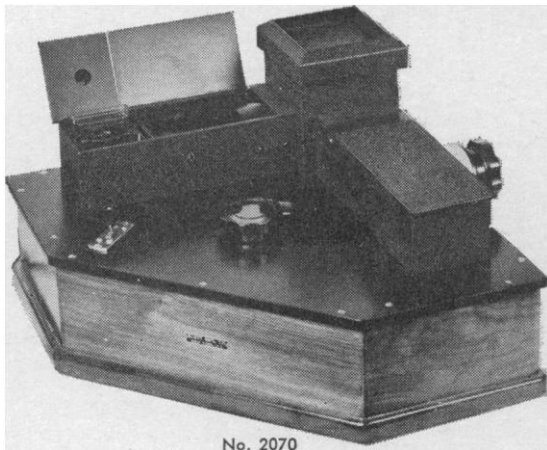
24-26. **American Assoc. of Physics Teachers**, Tempe, Ariz. (S. Ballard, Univ. of Florida, Gainesville 32601)

24-26. **Thermophysics Conf.**, American Inst. of Aeronautics and Astronautics, Los Angeles, Calif. (Meetings Secretary, 345 E. 47 St., New York 10017)

24-29. **American Meteorological Soc.**, joint with AAAS Pacific Div., Logan, Utah. (The Society, 45 Beacon St., Boston, Mass. 02108)

24-29. **Western Soc. of Soil Science**, Logan, Utah. (J. L. Young, Agricultural Research Service, SWC-NWB, Soils Dept., Oregon State Univ., Corvallis 97331)

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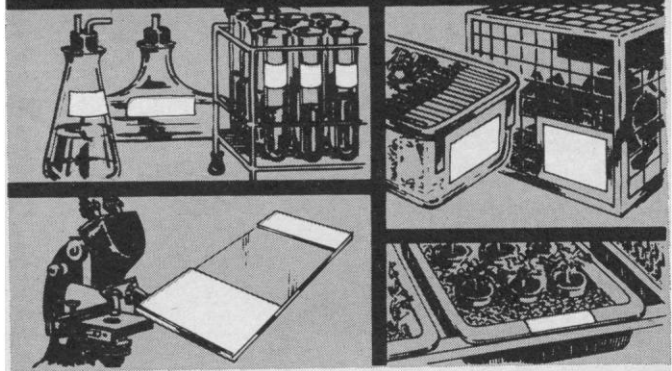
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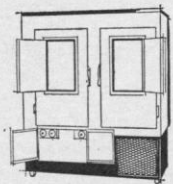
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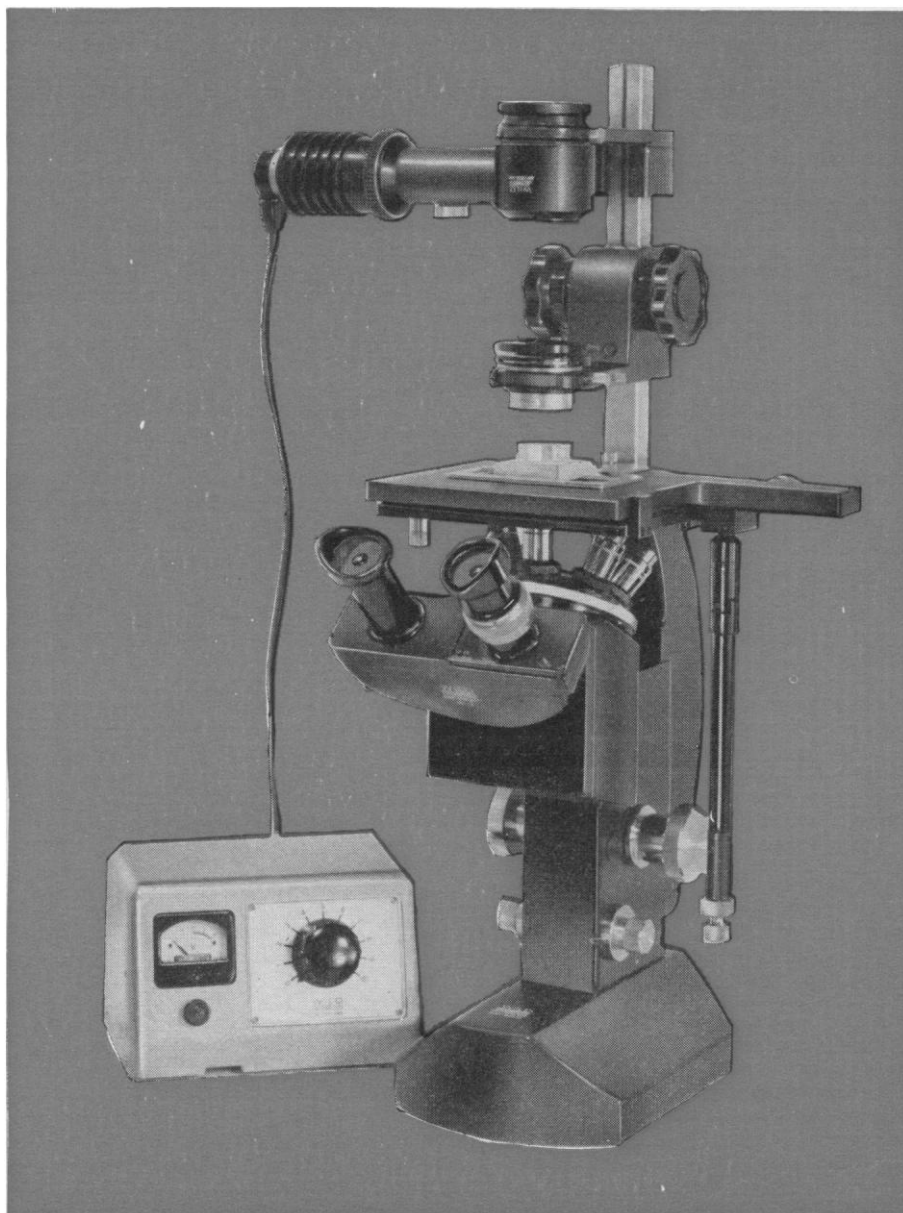


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25-27. **Precision Electromagnetic Measurements**, Boulder, Colo. (Secretary, 1968 Conf. on Precision Electromagnetic Measurements, National Bureau of Standards, Boulder)

26-27. **American Geriatrics Soc.**, New Orleans, La. (E. Henderson, Room 1405, 10 Columbus Circle, New York 10019)

26-28. **Biennial Polymer Symp.**, American Chemical Soc., Amherst, Mass. (A. T. Winstead, Natl. Meetings and News Div., 1155 16th St., NW, Washington, D.C. 20006)

26-29. **American Optometric Assoc.** 71st annual congr., Miami Beach, Fla. (AOA Congr., 7000 Chippewa St., St. Louis, Mo. 63119)

26-29. **American College of Surgeons**, Munich, Germany. (Communications Dept., ACS, 55 E. Erie St., Chicago, Ill. 60611)

27-30. **Society of Nuclear Medicine**, St. Louis, Mo. (S. N. Turiel, Executive Director, 333 N. Michigan Ave., Chicago, Ill. 60601)

30-5. **American Physical Therapy Assoc.**, Chicago, Ill. (The Association, 1740 Broadway, New York 10019)

July

8-11. **Soil Conservation Service and Experiment Stations**, Clemson, S.C. (G. R. Craddock, Agronomy and Soil Dept., Clemson Univ., Clemson)

9-12. **American Soc. of Pharmacognosy**, Iowa City, Iowa. (D. P. Carew, College of Pharmacy, Univ. of Iowa, Iowa City 52240)

9-13. **American Therapeutic Soc.**, Essex House, New York, N.Y. (R. T. Smith, 37 Narbrook Park, Narberth, Pa. 19072)

12. **American Assoc. for the Study of Headache**, New York, N.Y. (S. Diamond, 5214 N. Western Ave., Chicago, Ill. 60625)

13-17. **American Medical Assoc.**, New York, N.Y. (F. J. L. Blasingame, 535 N. Dearborn St., Chicago, Ill. 60610)

14-16. **American Inst. of Aeronautics and Astronautics**, San Francisco, Calif. (Meetings Manager, ASME, 345 E. 47 Street, New York 10017)

21-25. **American Veterinary Medical Assoc.**, Boston, Mass. (Director, Business Div., 600 S. Michigan Ave., Chicago, Ill. 60605)

22-27. **American Medical Technologists**, Dallas, Tex. (American Medical Technologists, 710 Higgins Rd., Park Ridge, Ill. 60068)

25-30. **American Podiatry Assoc.**, Chicago, Ill. (J. Tipton, Convention Manager, 2301 16th St., NW, Washington, D.C. 20010)

International and Foreign Meetings

June

2-5. **Chemical Inst. of Canada**, 51st natl. conf., Vancouver, B.C. (CIC Conf. Committee, Dept. of Chemistry, Univ. of British Columbia, Vancouver 8)

3-5. **Canadian Soc. of Microbiologists**, Windsor, Ont. (C. E. Chaplain, c/o Scientific Information Section, Research Branch, Canada Dept. of Agriculture, Ottawa, Ont.)

4-8. **International Congr. on Research in Photosynthesis**, Freudenstadt, Germany. (H. Schenk, Institute Fur Chemische

Pflanzenforschung Auf Dem Schnarrenberg, Tübingen, Germany)

5-7. Canadian Soc. of **Plant Physiologists**, London, Ont. (R. A. Fletcher, Dept. of Botany, Univ. of Guelph, Guelph, Ont.)

5-7. Canadian **Psychological Assoc.**, Calgary, Alta. (W. R. N. Blair, Dept. of Psychology, Univ. of Calgary, Calgary)

5-7. European Assoc. of **Exploration Geophysicists**, Salzburg, Austria. (B. F. J. Kuns, Radingerstrasse 15, 1020 Vienna, Austria)

6-7. Canadian Council of **Professional Engineers**, St. Johns, Newfoundland. (The Council, 116 Albert St., Ottawa, Ont., Canada)

6-8. Canadian **Neurological Soc.**, Vancouver, B.C. (H. J. M. Barnett, 170 St. George St., Toronto 5, Ont.)

6-8. Scandinavian Congr. for **Obstetrics and Gynaecology**, 15th, Stockholm, Sweden. (J. Asplund, St. Eriks Sjukhus, Stockholm K.)

9-13. Canadian **Nuclear Assoc.**, Toronto, Ont. (R. F. Gross, 19 Richmond St., Toronto 1)

10-13. Canadian **Ophthalmological Soc.**, Ottawa, Ont. (The Society, Suite 8, 825 Coxwell Ave., Toronto 13, Ont.)

10-15. South African **Orthopaedic Assoc.**, Pretoria, S.A. (P. van Rooyen, 11 van Riebeeck Medical Bldgs., Schoeman St., Pretoria)

10-15. **Pesticides**, intern. analytical committee, 12th annual, Brunswick, Germany. (T. Horpenden, Ministry of Agriculture, Fisheries, and Food, Plant Pathology Lab., Hutchins Green, Harsinden, Herts, England)

12-14. Canadian **Botanical Assoc.**, Port Arthur, Ont. (D. R. Lindsay, Dept. of Biology, Lakehead Univ., Port Arthur)

12-14. Canadian Federation of **Biological Soc.**, 11th annual, Kingston, Ont. (K. K. Carroll, Faculty of Medicine, Univ. of Western Ontario, London, Ont.)

14-16. Society of **Obstetricians and Gynecologists** of Canada, Banff, Alta. (J. L. Harkins, Secretary, 537 Medical Arts Bldg., Toronto 5, Ont., Canada)

15-20. Canadian **Anaesthetists Soc.**, annual mtg., Montebello, P.Q. (S. M. Campbell, 178 St. George St., Toronto 5, Ont., Canada)

15-22. Canadian **Medical Assoc.**, 101st annual, Banff, Alta. (A. D. Kelly, 150 St. George St., Toronto, Ont., Canada)

16-20. Canadian **Thoracic Soc.**, scientific mtg., Vancouver, B.C. (Executive Secretary, 343 O'Connor St., Ottawa 4, Ont.)

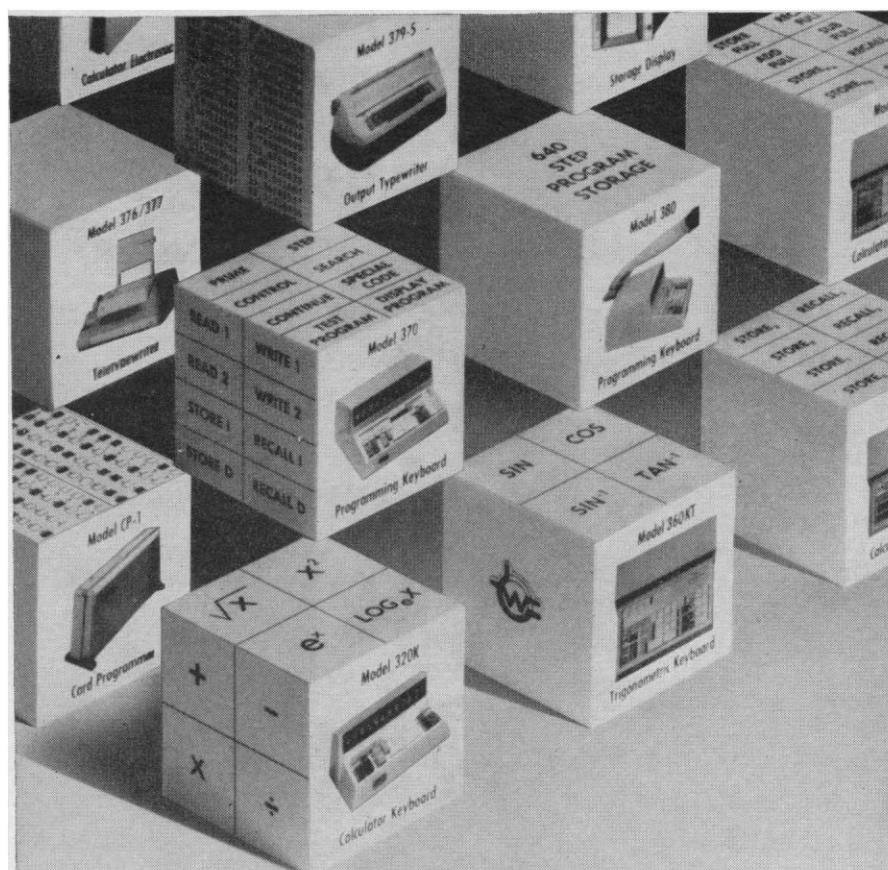
17-20. Canadian Soc. of **Radiological Technicians**, Saint John, N.B. (The Society, Suite 102, 1587 W. 8th Ave., Vancouver 9, B.C.)

17-22. Canadian Assoc. of **Pathologists**, Regina, Sask. (D. W. Penner, Winnipeg General Hospital, Winnipeg 3, Man., Canada)

17-22. Canadian **Psychiatric Assoc.**, Banff, Alta. (W. A. Blair, 225 Lisgar St., Ottawa, Ont.)

17-22. European **Ophthalmological Soc.**, 3rd Congr., Amsterdam, Netherlands. (H. E. Henkes, Netherlands Ophthalmological Soc., c/o Holland Organizing Center, 16 Lange Voorhout, The Hague)

17-23. **Continuous Cultivation of Microorganisms**, 3rd intern. symp., Prague, Czechoslovakia. (Z. Fenci, Inst. of Micro-



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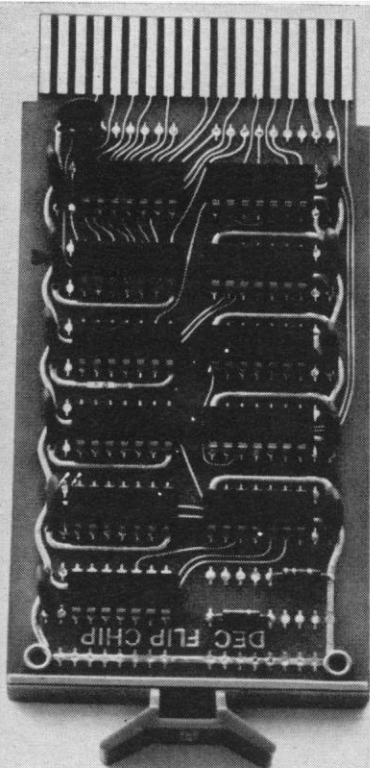
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18-20. Symposium on the Use of Digital Computers in the Control of Process Systems, Machines, Toronto, Ont., Canada. (Associate Committee on Automatic Control, National Research Council, Ottawa 2, Ont.)

20-6. Canadian Physiotherapy Assoc., Calgary, Alta. (A. Way, 208 40th Ave., SW, Calgary)

23-26. Medicinal Chemistry Symp., 11th joint with American Chemical Soc., Quebec, P.Q., Canada. (C. R. Engel, Dept. of Chemistry, Laval Univ., Quebec 10)

23-26. Canadian Pediatric Soc., Saskatoon, Sask. (W. Kinnear, 213 Canada Bldg., Saskatoon)

23-27. Conference on Interactions between Sub-Units of Biological Macromolecules, Cambridge, England. (D. C. Holmes, Lab. of Molecular Biology, Hills Rd., Cambridge)

23-27. Canadian Soc. of Laboratory Technologists, 32nd annual, Edmonton, Alta. (The Society, 99 Wentworth St., S., Hamilton, Ont.)

23-29. Catalysis, 4th intern. congr., Moscow, U.S.S.R. (B. D. Polkovnikov, Inst. of Organic Chemistry, Leninskii Prospekt 47, Moscow B-334)

23-29. High-Speed Photography, 8th intern. congr., Stockholm, Sweden. (T. Ramqvist, c/o Research Inst. of National Defense, FAO 2, Stockholm)

23-29. International Union of Pure and Applied Chemistry, 4th intern. congr. on catalysis, Moscow, U.S.S.R. (B. D. Polkovnikov, c/o Inst. of Organic Chemistry, 47 Leninskii Prospekt, Moscow B 334)

24-27. Canadian Soc. of Agronomy, annual mtg., Hamilton, Ont. (R. Loilelle, Ottawa Research Station, Central Experimental Farm, Ottawa, Ont.)

24-27. Canadian Soc. for Horticultural Science, Hamilton, Ont. (E. C. Loughheed, Dept. of Horticulture, Univ. of Guelph, Guelph, Canada)

24-27. Canadian Soc. of Soil Science, Hamilton, Ont. (A. R. Mack, Soil Research Inst., Central Experimental Farm, Ottawa, Ont., Canada)

24-27. Structure of Viruses and Other Micro-Molecules, Cambridge, England. (J. Kendrew, c/o Laboratory of Molecular Biology, University Postgraduate Medical School, Cambridge)

24-28. Great Lakes Water Resources, joint Canadian-U.S. conf., Toronto, Ont., Canada. (W. H. Wisley, United Nations Plaza, 345 E. 47 St., New York 10017)

24-28. High-Temperature Materials, 6th intern. Plansee seminar, Reutte, Austria. (F. Benesovsky Metallwerk Plansee, A.G., Postfach 74, A-6600 Reutte, Tyrol)

25-28. Gas Chromatography and Its Exploration, intern. symp., Copenhagen, Denmark. (C. L. A. Harborum, British Petroleum Research Co., Chertsey Rd., Sunbury-on-Thames, Middlesex, England)

25-4. Symposium on Hill-Land Productivity, Edinburgh and Aberdeen, Scotland. (Secretary, West of Scotland Agricultural College, Auchincruive, Ayr, Scotland)

26-28. Society of Photo-Optical Instrumentation Engineers, Paris, France. (G. Emschwiller, 10 rue Vauquelin 75, Paris 5^e)

28-29. Endocrine Soc., Mexico City, Mexico. (N. L. Mattox, Executive Secre-

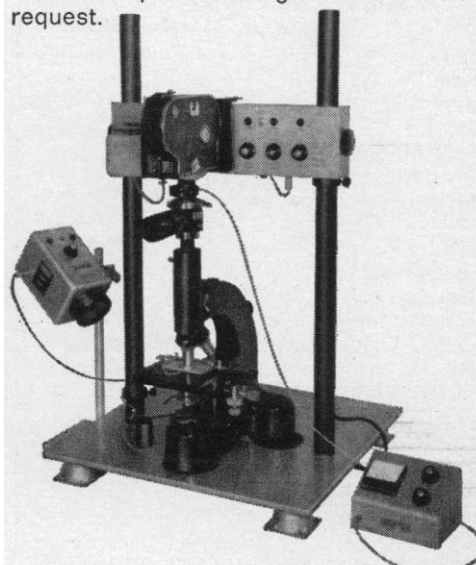
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30-3. **Primatology**, 2nd intern. congr., Atlanta, Ga. (G. H. Bourne, Yerkes Regional Primate Research Center, Emory Univ., Atlanta 30322)

30-6. **Glass**, 6th intern. congr., London, England. (R. Gunther, Intern. Commission on Glass, Badenerstr. 49A, Durlach, Germany)

30-6. **World Problems in Rehabilitation of the Disabled**, 3rd intern., Brighton, England. (I. R. Henderson, Tavistock House South, Tavistock Sq., London, W.C.1, England)

July

1-6. **Conference on Blood Groups and Protein Polymorphism in Animals**, Warsaw, Poland. (J. Gasparska, Inst. of Experimental Animal Breeding, Polish Acad. of Science, Warsaw)

1-6. **Glass**, 8th intern. congr., London, England. (D. Rider, Glass Manufacturers Federation, 19 Portland Place, London, W.1)

2-5. **Engg Problems in Controlled Thermonuclear Research**, Culham, England. (Technical Administration Office, Culham Laboratory, Room 140, Bldg. E5, Culham, Abingdon, Berks)

3-4. **Vehicle and Road Design for Safety**, Cranfield, England. (Public Relations Officer, Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, S.W.1, England)

3-5. **Canadian Home Economics Assoc.**, Regina, Sask. (L. McConnell, Saskatchewan Power Corp., Regina)

4-11. **International Union of Pure and Applied Physics**, Dubna, U.S.S.R. (V. G. Soloviev, Lab. of Theoretical Physics, Joint Inst. for Nuclear Research, P.O. Box 79, Head Post Office, Moscow, U.S.S.R.)

5-6. **Digestive Endoscopy**, 1st European congr., Prague, Czechoslovakia. (Secretary, European Congr. of Digestive Endoscopy, Sokolska 31, Prague 2)

7-13. **British Assoc. of Paediatric Surgeons**, 15th intern. congr., Liverpool, England. (J. Lister, Children's Hospital, Western Bank, Sheffield 10, England)

7-13. **Association of National European and Mediterranean Societies of Gastroenterology**, 8th intern. congr., Prague, Czechoslovakia. (Z. Maratka, Sokolska 31, Prague 2)

8-9. **Canadian Aeronautics and Space Inst.**, Montreal, P.Q. (Secretary, CASI, 77 Metcalfe St., Ottawa 4, Ont.)

8-13. **Chemistry of Natural Products**, 5th intern. symp., London, England. (Secretary, % The Chemical Soc., Burlington House, London, W.1)

8-20. **International Soc. for Photogrammetry**, 11th congr., Lausanne, Switzerland. (W. K. Buchmann, % Inst. de Photogrammetrie, 1000 Ave. du Cour, Lausanne)

9-12. **Chemistry of Organic Silicon Compounds**, Bordeaux, France. (R. Calas, Lab. of Organic Chemistry, Univ. of Bordeaux, 20, Cours Pasteur, Bordeaux)

10-12. **Commonwealth Conf. on Plant Pathology**, 8th, Surrey, England. (The Director, Commonwealth Mycological Inst., Ferry Lane, Kew, Surrey)

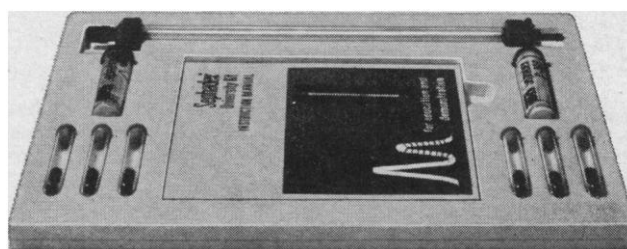
10-12. **Plant Pathology**, intern. congr., London, England. (R. K. S. Wood, Botany Dept., Imperial College, Prince Consort Rd., London S.W. 7)

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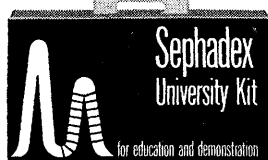
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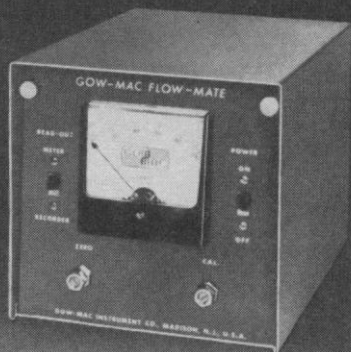


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BOOKS RECEIVED

(Continued from page 873)

Fauna. Eleven Studies. A. H. Weatherley, Ed. Australian National University Press, Canberra, 1967. xvi + 287 pp., illus. \$10.50.

Be Expert with Map and Compass. The "Orienteering" Handbook. Bjorn Kjellstrom. Illustrated by Francis J. Rigney. Maps by U.S. Geological Survey. Stackpole Books, Harrisburg, Pa., ed. 2, 1968. viii + 136 pp. \$3.95.

The Biological Basis of Freshwater Fish Production. A symposium sponsored by the Sectional Committee on Productivity of Freshwater Communities of the International Biological Programme, Reading, England, September 1966. Shelby D. Gerking, Ed. Wiley, New York, 1967. xiv + 495 pp., illus. \$15.

Calculus for Engineering Technology. Walter R. Blakeley. Wiley, New York, 1968. xiv + 441 pp., illus. \$8.95.

Carnegie Institution of Washington. Year Book 66, 1966-1967. Carnegie Institution of Washington, D.C., Washington, D.C., 1968. xii + 719 pp., illus. \$10.

The Cell Periphery, Metastasis and Other Contact Phenomena. Leonard Weiss. North-Holland, Amsterdam; Wiley, New York, 1967. 388 pp., illus. \$17.50. *Frontiers of Biology*, vol. 7.

Chemical Bonds in Semiconductors and Thermodynamics. N. N. Sirota, Ed. Translated from the Russian edition (Minsk, 1966). Consultants Bureau, New York, 1968. xii + 255 pp., illus. Paper, \$27.50.

Civilization. The Past and the Future. Athens meeting, 1966, organized by the Royal National Foundation. Elsevier, New York, 1967. xii + 117 pp., illus. Paper, \$5.50.

Cleft Palate and Communication. D. C. Spiersbach and Dorothy Sherman, Eds. Academic Press, New York, 1968. xviii + 291 pp., illus. \$12.

Climatology and the World's Climates. George R. Rumney. Macmillan, New York; Collier-Macmillan, London, 1968. xii + 656 pp., illus. \$12.50.

Complex Function Theory. Maurice Heins. Academic Press, New York, 1968. xvi + 416 pp., illus. \$9.95. *Pure and Applied Mathematics*.

La Culture de Tissus. Jean Verne and Simone Hebert. Presses Universitaires de France, Paris, 1967. 136 pp., illus. "Que Sais-je?" No. 1274.

Cytologie. Eine Einführung für Studierende der Naturwissenschaften und Medizin. Jörg Klima. Fischer, Stuttgart, 1967 (distributed in the United States by Abel, Portland, Ore.). xxvi + 342 pp., illus. Paper, \$9.50.

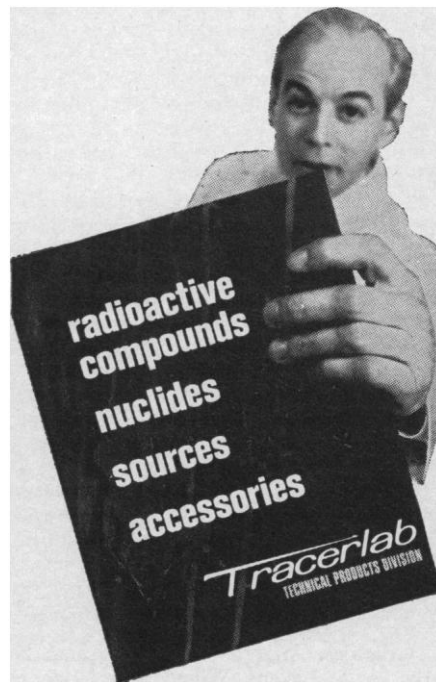
The Double Helix. A Personal Account of the Discovery of the Structure of DNA. James D. Watson. Atheneum, New York, 1968. xvi + 226 pp., illus. \$5.95.

Electrochemistry. C. W. Davies. Philosophical Library, New York, 1967. xii + 234 pp., illus. \$20.

The Electromagnetic Field in Its Engineering Aspects. G. W. Carter. Elsevier, New York, ed. 2, 1967. xvi + 371 pp., illus. \$11.

Eskimo Administration: IV Greenland. Diamond Jenness. Arctic Institute of North America, Washington, D.C., 1967.

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175 pp., illus. Paper, \$4; to members, \$3. Arctic Institute of North America Technical Paper No. 19.

Exploration of the Abdomen. John W. Bassett. Thomas, Springfield, Ill., 1967. x + 109 pp., illus. \$6.75.

Fiber Spinning and Drawing. American Chemical Society symposium, New York, September 1966. Myron J. Coplan, Ed. Interscience (Wiley), New York, 1967. viii + 181 pp., illus. Paper, \$6. Applied Polymer Symposia, No. 6.

Finite-State Models for Logical Machines. Frederick C. Hennie. Wiley, New York, 1968. xiv + 466 pp., illus. \$18.50.

Fortran for IBM System/360. A Programmed Instruction Course. S. C. Plumb, with revisions for System/360 by David E. Napper. Science Research Associates, Chicago, ed. 2, 1968. xiv + 274 pp., illus. Binder, \$6.50.

Fortschritte der Zoologie. Vol. 18. Hans Bauer, Ed. Fischer, Stuttgart, 1967 (distributed in the United States by Abel, Portland, Ore.). xii + 429 pp., illus. \$29.50.

Fortschritte der Zoologie. Vol. 18, supplement 2. Hans Bauer, Ed. Fischer, Stuttgart, 1967 (distributed in the United States by Abel, Portland, Ore.). 129 pp., illus. Paper, \$8.85.

Francis Bacon. From Magic to Science. Paolo Rossi. Translated from the Italian edition (Bari, 1957) by Sacha Rabinovitch. University of Chicago Press, Chicago, 1968. xviii + 280 pp. \$5.95.

Freedom of Action in a Mechanistic Universe. The 21st Arthur Stanley Eddington Memorial Lecture, Cambridge, November 1967. Donald M. MacKay. 40 pp. Paper, 95¢.

French Phonology and Morphology. Sanford A. Schane. M.I.T. Press, Cambridge, Mass., 1968. xxii + 161 pp., illus. \$10. Research Monograph, No. 45.

Fundamentals of Silicon Integrated Device Technology. Vol. 2, Bipolar and Unipolar Transistors. R. M. Burger and R. P. Donovan, Eds. Prentice-Hall, Englewood Cliffs, N.J., 1968. xviii + 480 pp., illus. \$15. Solid State Physical Electronics Series.

Das funktionelle System als Grundlage der physiologischen Architektur des Verhaltensaktes. Pjotr Kusmitsch Anochin. Fischer, Jena, 1967. 107 pp., illus. Paper, 16.60 MDN. Brain and Behaviour Research, vol. 1.

Gamma Globulins. Structure and Control of Biosynthesis. Proceedings of the Third Nobel symposium, Stockholm, June 1967. Johan Killander, Ed. Interscience (Wiley), New York; Almquist and Wiksell, Stockholm, 1967. 643 pp., illus. \$32.

The German Atomic Bomb. The History of Nuclear Research in Nazi Germany. David Irving. Simon and Schuster, New York, 1968. 329 pp., illus. \$6.95.

Graphics. Analysis and Conceptual Design. A. S. Levens. Wiley, New York, ed. 2, 1968. xiv + 771 pp., illus. \$10.95.

A Great Society? Bertram M. Gross, Ed. Basic Books, New York, 1968. xxii + 362 pp. \$8.50.

Grundriss der Zoogeographie. Gustaf de Lattin. Fischer, Jena, 1967. 602 pp., illus. MDN 68.40. Hochschulelehrbücher für Biologie, vol. 12.

Handbook of the Physicochemical Properties of the Elements. G. V. Samsonov,

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Fleischmajer & Billingham: Epithelial-Mesenchymal Interactions

As editors of the 18th Hahnemann Symposium, Drs. Fleischmajer and Billingham have brought together an invaluable collection of information on the interactions of epithelial and mesenchymal cells. These types of interactions, called heterotypic, are critical in determining the ontogeny of numerous organs and tissues of the body. The symposium presents extensive analyses of these important processes *in vivo* and *in vitro* at both the cellular and molecular levels. The symposium thus has implications in the various medical fields dealing with the crucial biological problems of cellular differentiation and organogenesis.

CONTENTS: Mesenchyme and epithelia in inductive and morphogenetic processes (Johannes Holtfreter). Organization and fine structure of epithelium and mesenchyme in the developing chick embryo (Elizabeth D. Hay). Epithelial-mesenchymal interactions affecting locomotion of cells in culture (M. Abercrombie and C. A. Middleton). Trophoblast-host interactions (David R. S. Kirby and T. P. Cowell). Ectodermal-mesenchymal interactions in the origin of limb symmetry (John W. Saunders, Jr., and Mary T. Gasseling). Epithelial-mesenchymal interactions in the lower vertebrates (Charles E. Wilde, Jr., and Richard B. Crawford). Multiphasic regulation in cytodifferentiation (William J. Rutter, William R. Clark, John D. Kemp, William S. Bradshaw, Thomas G. Sanders, and William D. Ball). Problems in the analysis of determination, mitosis and differentiation (Norman K. Wessells). Induction of chondrogenesis: A concept in quest of mechanisms (Howard Holtzer). Somitic mesenchyme and its response to cartilage induction (James W. Lash). Developmental significance of interface materials in epithelio-mesenchymal interaction (Clifford Grobstein). Cellular intersections in the genesis and maintenance of thyroid characteristics (S. Robert Hilfer). Some aspects of tissue interaction *in vitro* (Robert Auerbach). Glycosaminoglycans and cell division (Sister Muriel Lippman). Reconstruction of skin from single cells and integumental differentiation in cell aggregates (A. A. Moscona and Beatrice B. Garber). Interaction of epidermis with various types of foreign mesenchyme (C. B. McLoughlin). Dermoepidermal interactions and epithelial specificity (Rupert E. Billingham and Willys K. Silvers). The regeneration of vibrissae: A model for the study of dermal-epidermal interactions (Roy Frederick Oliver). Environmental control of epithelial cells *in vivo* and *in vitro* (Eugene J. Van Scott and B. Allen Flaxman). Salivary gland neoplasms in the role of normal mesenchyme during salivary gland morphogenesis (Clyde J. Dawe, W. D. Morgan, and M. S. Slatick). Index.

Edited by Raul Fleischmajer, Section of Dermatology, Department of Medicine, Hahnemann Medical College and Hospital; and Rupert E. Billingham, Department of Medical Genetics, University of Pennsylvania School of Medicine.

1968/approx. 354 pp./approx. 160 figs./\$15.75

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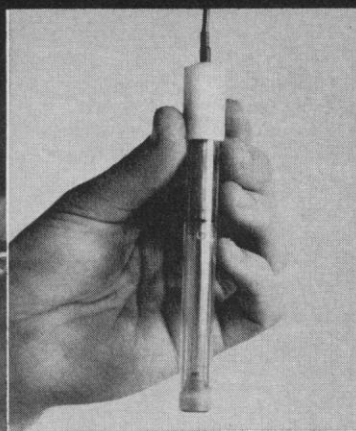
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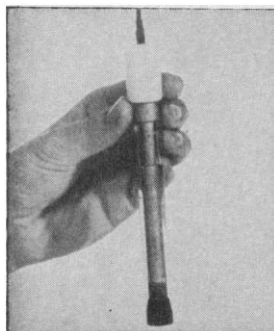


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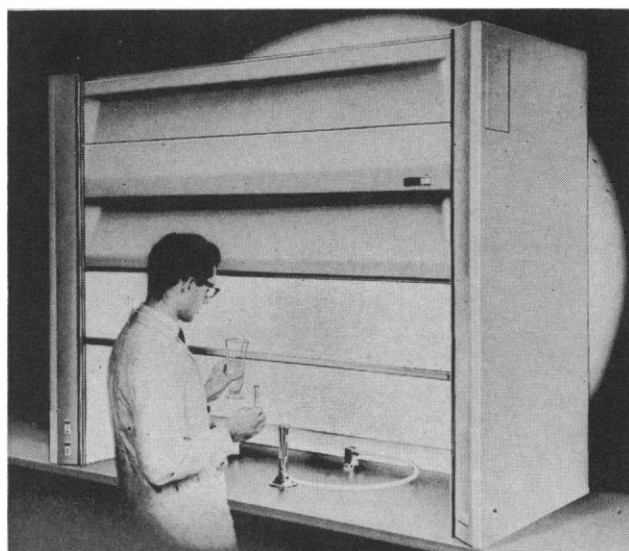
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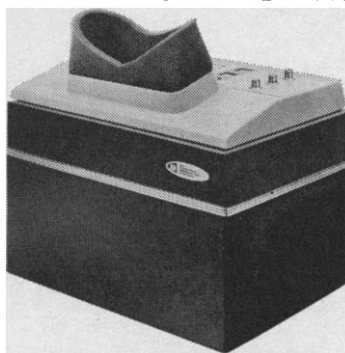
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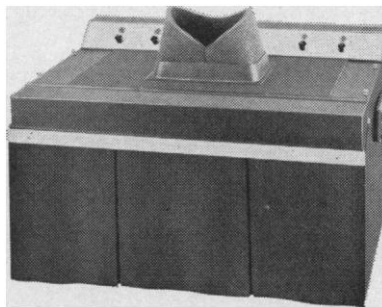
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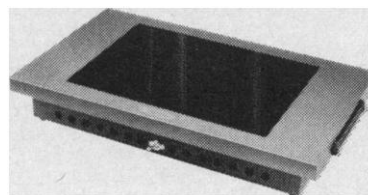
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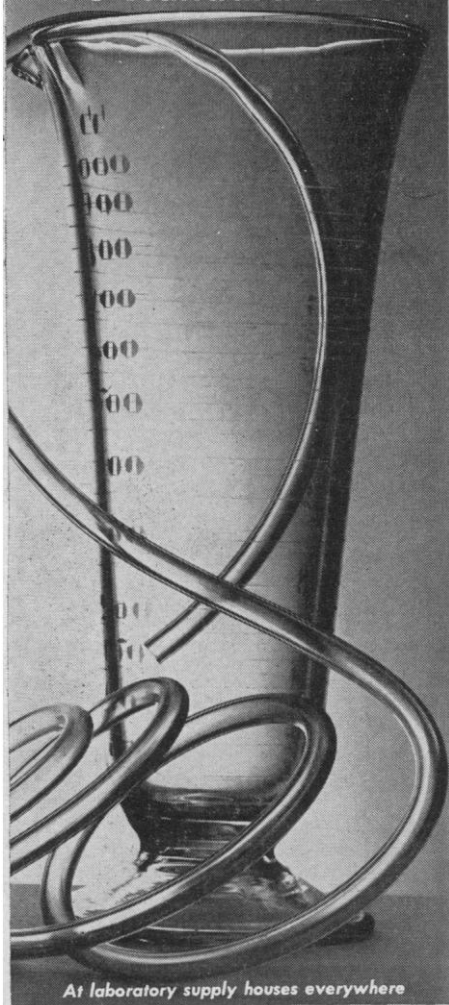
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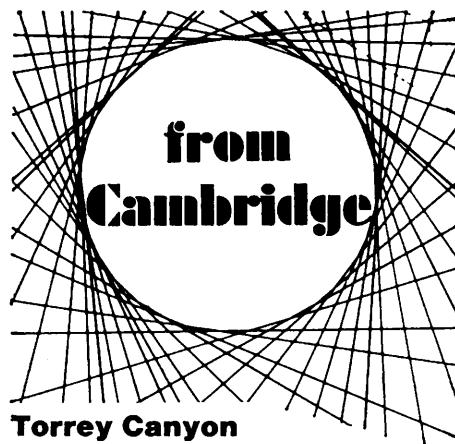
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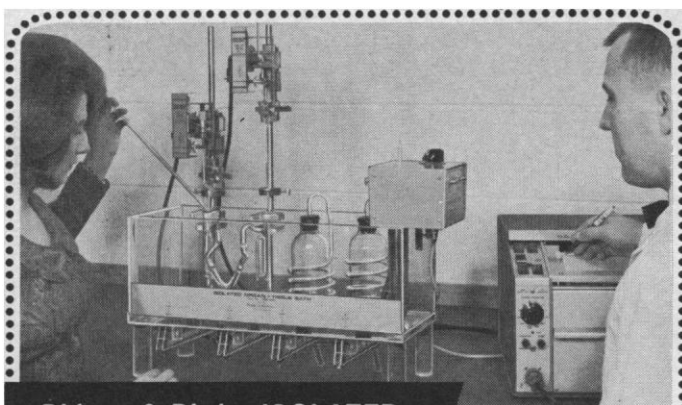
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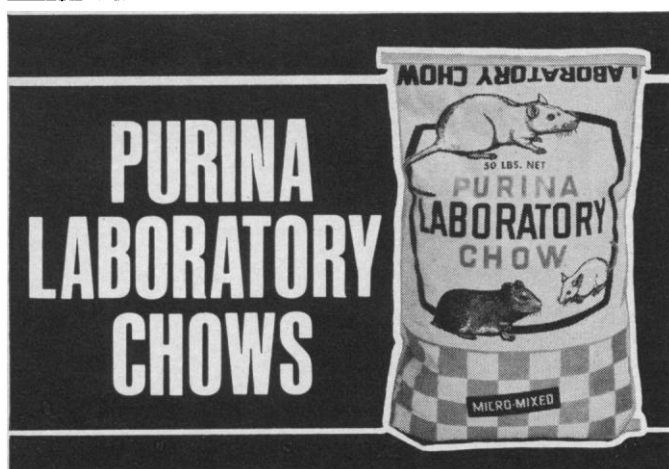
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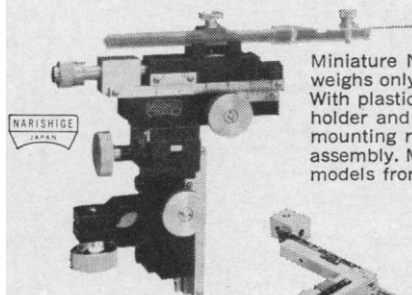
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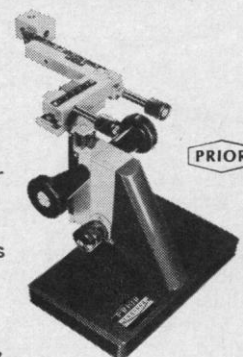
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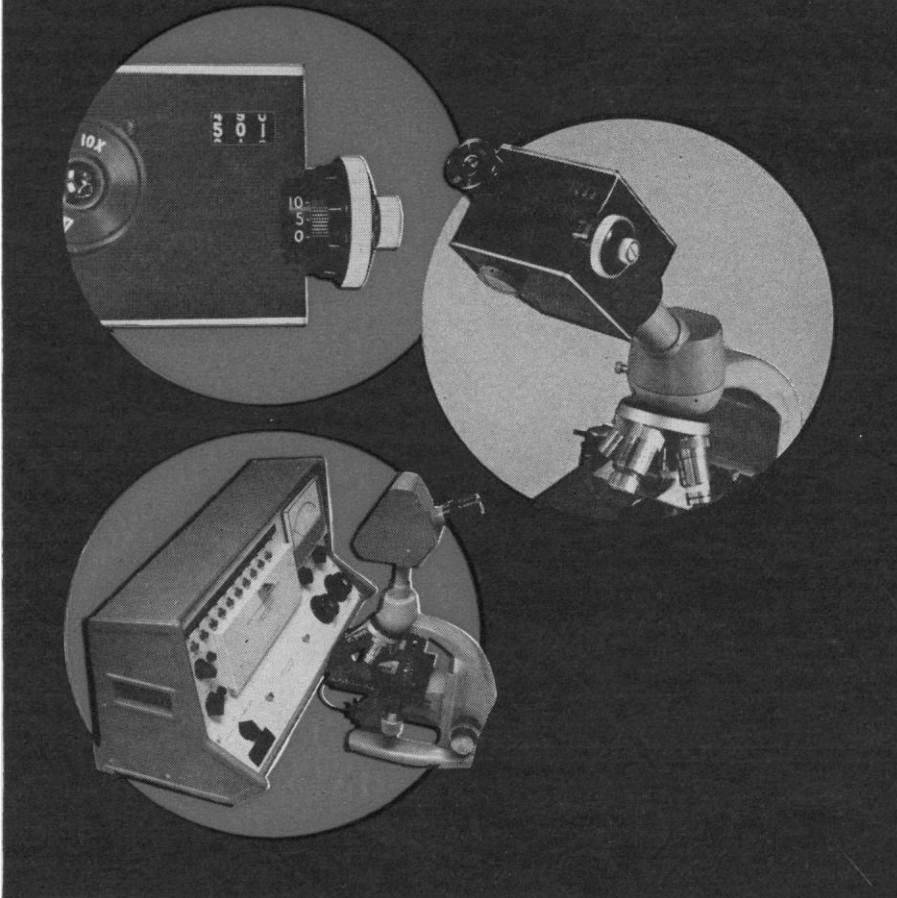
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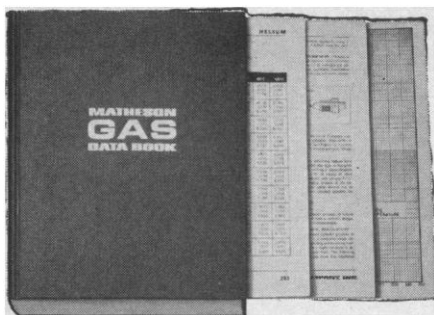


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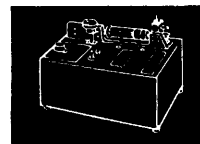
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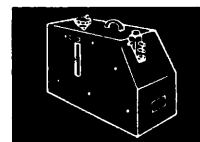
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