

SCIENCE

22 November 1974

Vol. 186, No. 4165

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



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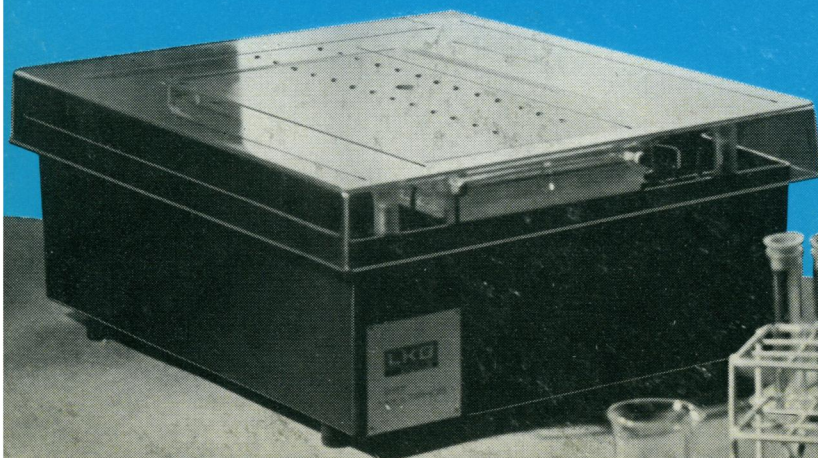
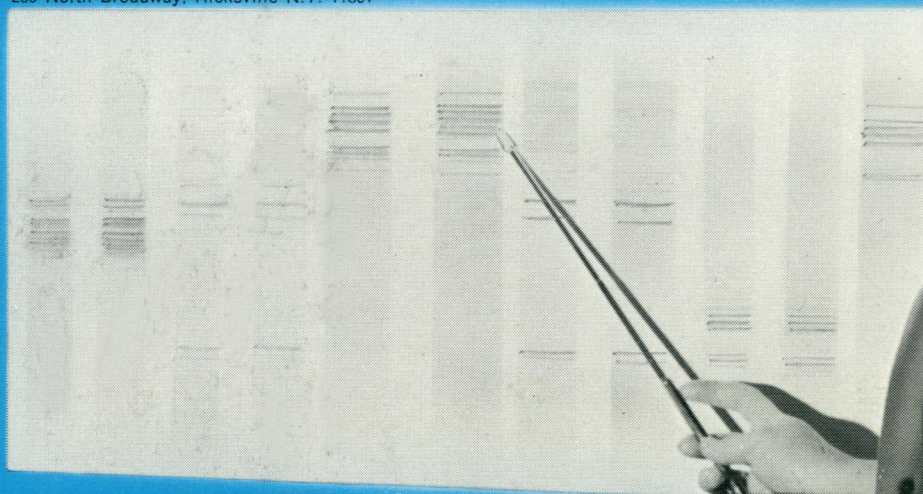
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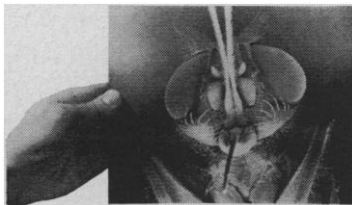


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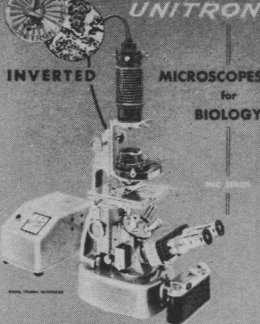
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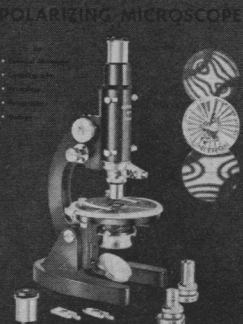
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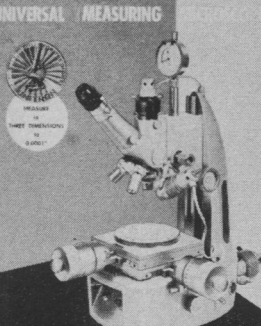
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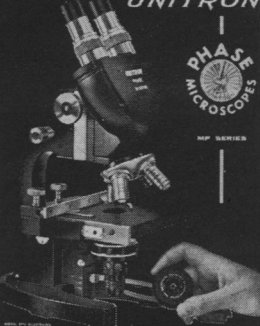
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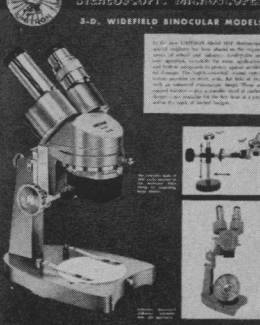
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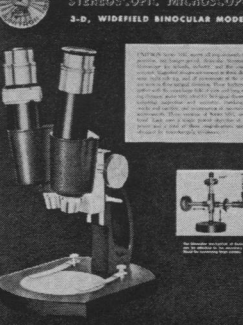
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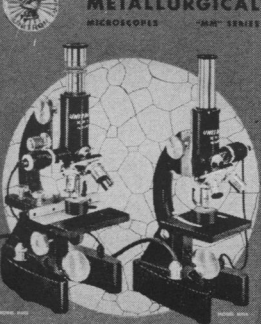
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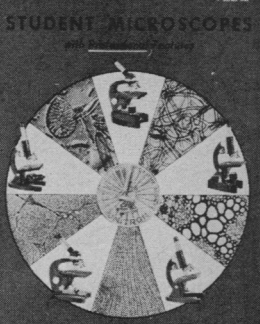
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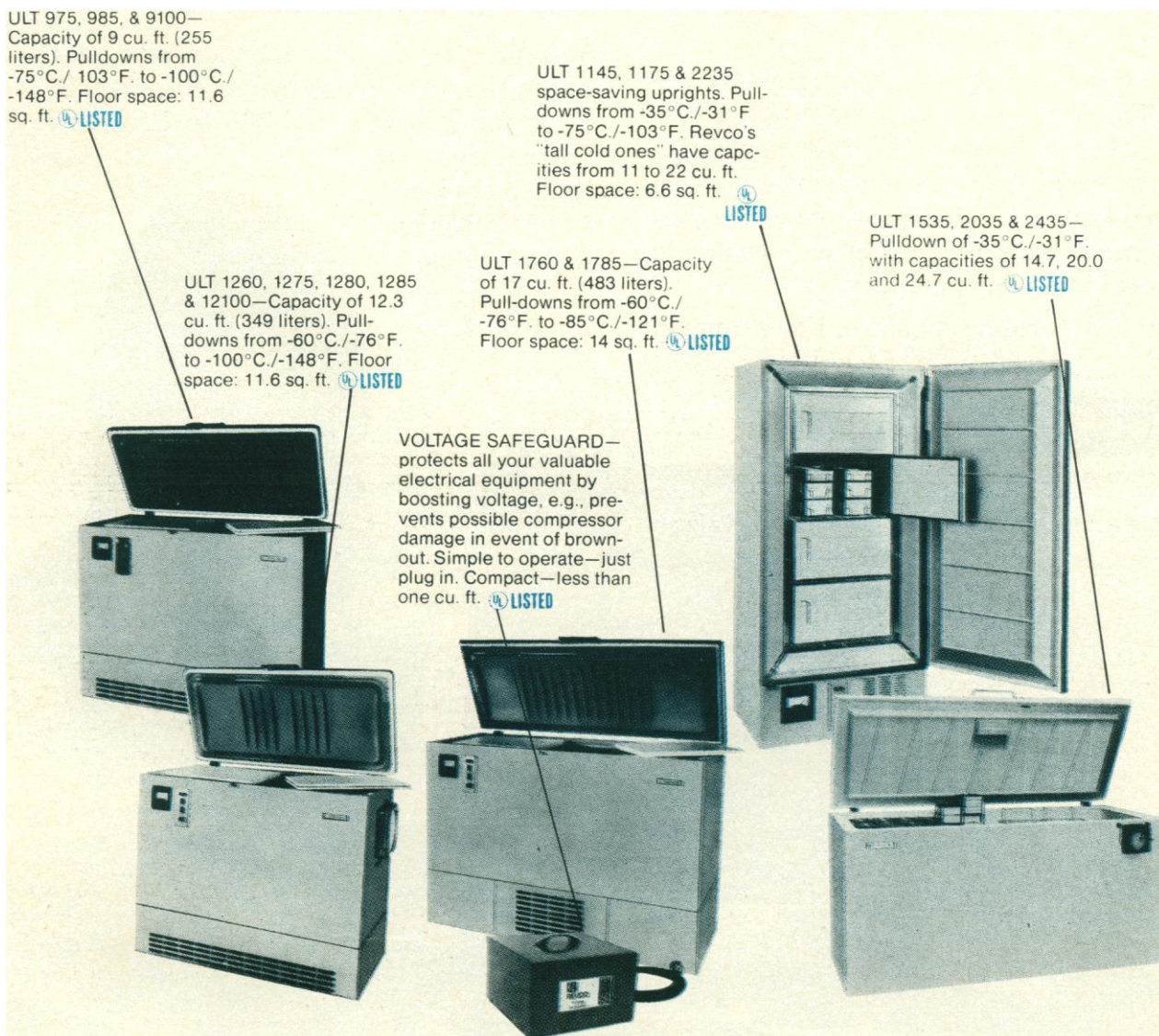
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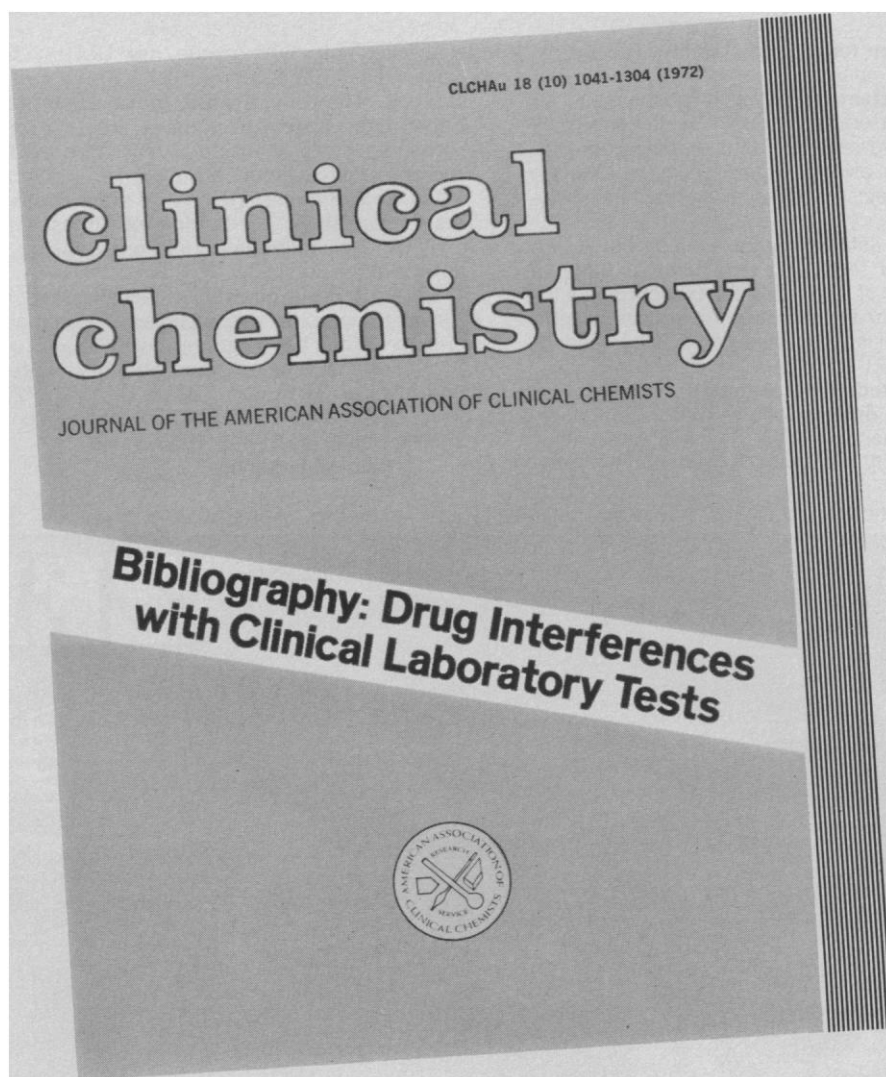
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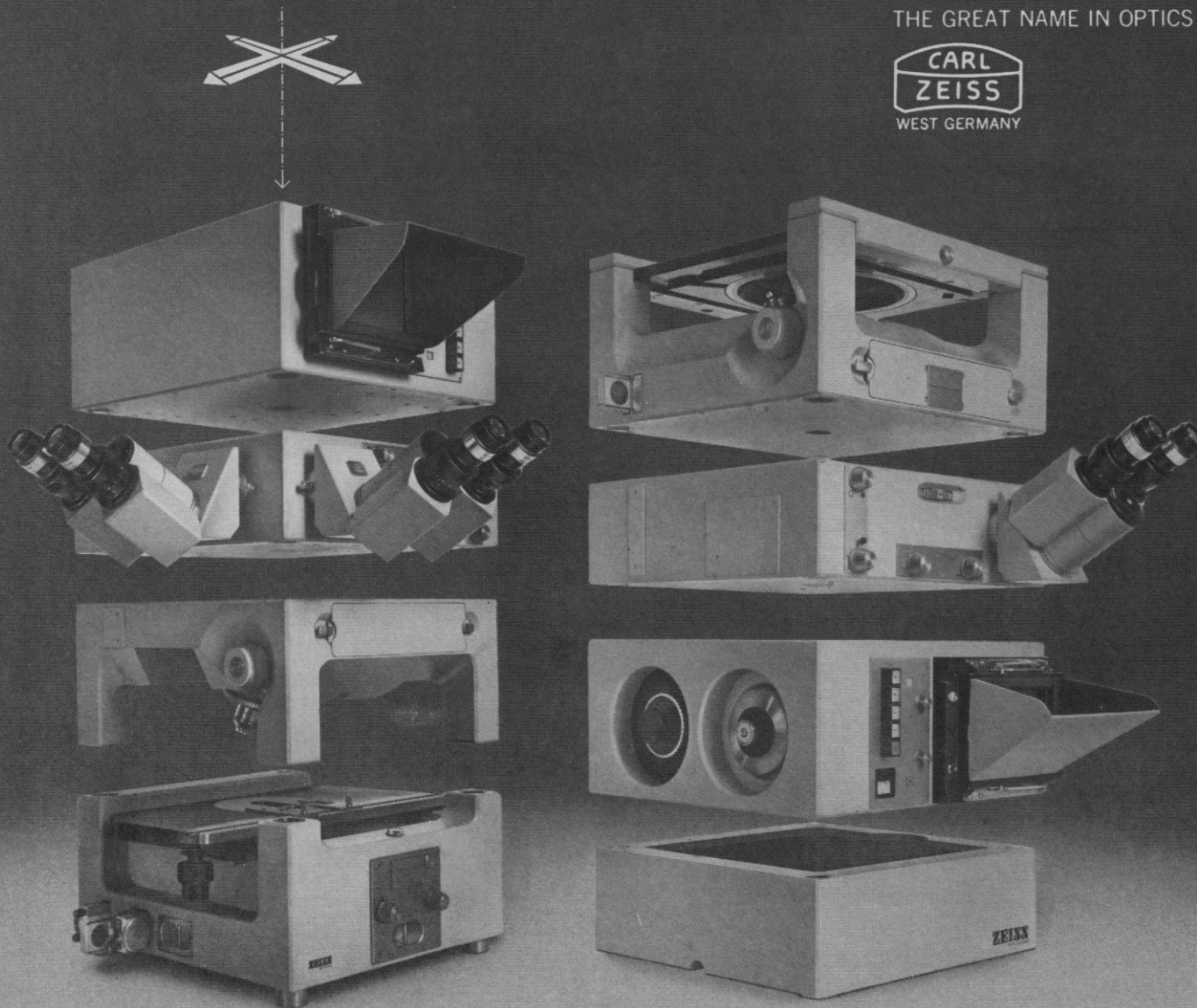
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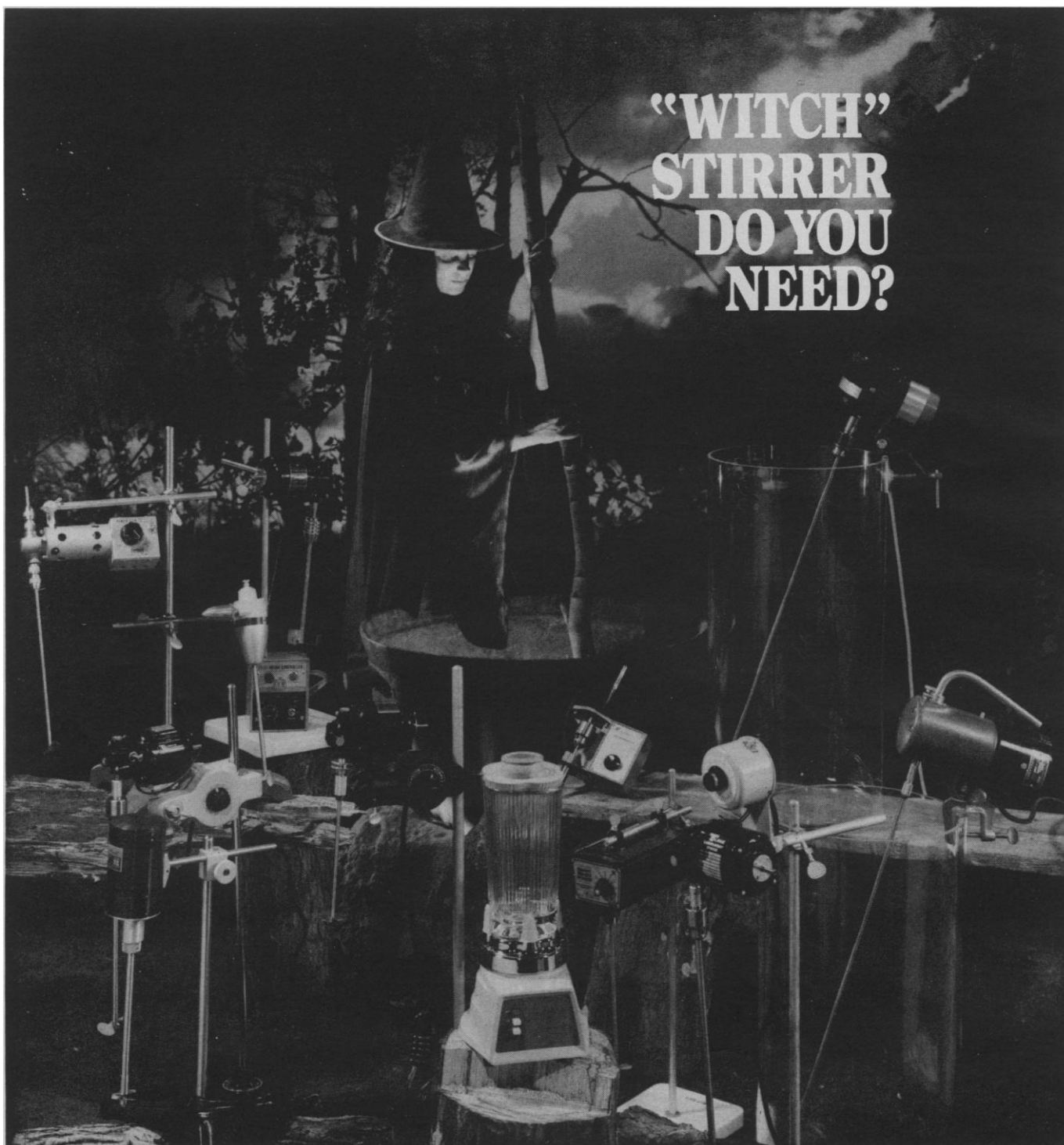
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the NRC survey was compiled from the NRC's doctorate records file, which contains records of essentially all doctoral degrees awarded by U.S. institutions, and from sources of information about foreign-earned doctorates. Hence the 42,456 survey responses received (not 59,086, as reported in *Science*) accurately reflected the employment situations of *all* doctoral scientists and engineers, and not just the situations of the members of professional societies.

Some other criticisms of employment surveys in general that were cited in Shapley's article do not apply to the NRC survey. Information about scientists and engineers who had accepted postdoctoral appointments, had retired, had taken part-time positions, or were unable to find science positions—information often overlooked—was collected from this survey. Similarly, individuals not seeking employment or employed in fields other than those in which they were trained could be identified from data collected by the NRC. In fact, the NRC is presently using 1973 survey data to investigate the characteristics of doctoral scientists and engineers who might be regarded as either unemployed or "underemployed" and expects to make the results known in future reports.

WILLIAM C. KELLY
Commission on Human Resources,
National Research Council,
Washington, D.C. 20418

References

1. *Doctoral Scientists and Engineers in the United States: 1973 Profile* (National Research Council-National Academy of Sciences, Washington, D.C., 1974).

Shapley's article states, "What no one knows, or has bothered to determine, is how the non-elite segments of the technical work force are faring." This statement and related discussions in Shapley's article seem to overlook both the program of the National Science Foundation (NSF) to measure periodically the nature and activity of the nation's total scientific and engineering labor force and the role of the NRC doctorate survey in this program.

The NSF's Manpower Characteristics System is the successor to the National Register of Scientific and Technical Personnel. It is composed of three subsystems, each of which examines a particular segment of the labor force. One of these subsystems is the Doctoral Roster, which conducts a biennial survey of doctoral scientists and engineers in the United States. This particular survey is carried out by the NRC for the NSF. The results of the

first of these surveys are described in the NRC report discussed by Shapley.

The second component of the system is the National Sample of Scientists and Engineers, which was developed jointly by the NSF and the Bureau of the Census. This sample population includes personnel at all degree levels, including those who function as scientists and engineers and hold no academic degrees. Data are collected biennially. The initial survey of this group, based on the 1970 biennial census, was conducted during the first half of 1974, and the results should be available by the end of the year.

The third component of our system will provide information on those individuals who have entered the labor force since 1970. It involves follow-up surveys of freshmen classes conducted 4 to 6 years after their entry into college. A survey is currently being conducted for the NSF of the 1967, 1968, and 1969 entering classes by the Laboratory for Research on Higher Education of the University of California at Los Angeles.

It should be evident that we are very much concerned about all segments of the scientific and engineering community and have taken steps to provide data on the employment and utilization of all its components.

CHARLES E. FALK
Division of Science Resources Studies,
National Science Foundation,
Washington, D.C. 20550

Speaking Plainly

I read with amusement "Speak plainly and eschew neologisms" by Robert Gillette (News and Comment, 18 Oct., p. 240). This is what I have been trying to teach my graduate students for years (inculcate).

I particularly recommend Fowler's essay on "elegant variation" (1). The following is a short relevant passage.

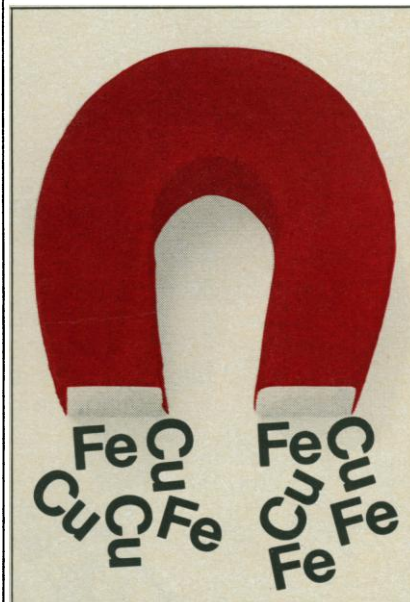
It is the second-rate writers, those intent rather on expressing themselves prettily than on conveying their meaning clearly, and still more those whose notions of style are based on a few misleading rules of thumb, that are chiefly open to the allurements of elegant variation.

HELEN MAHUT
Department of Psychology,
Northeastern University,
Boston, Massachusetts 02115

References

1. H. W. Fowler, *A Dictionary of Modern English Usage* (Oxford Univ. Press, New York, ed. 2, 1965), p. 148.

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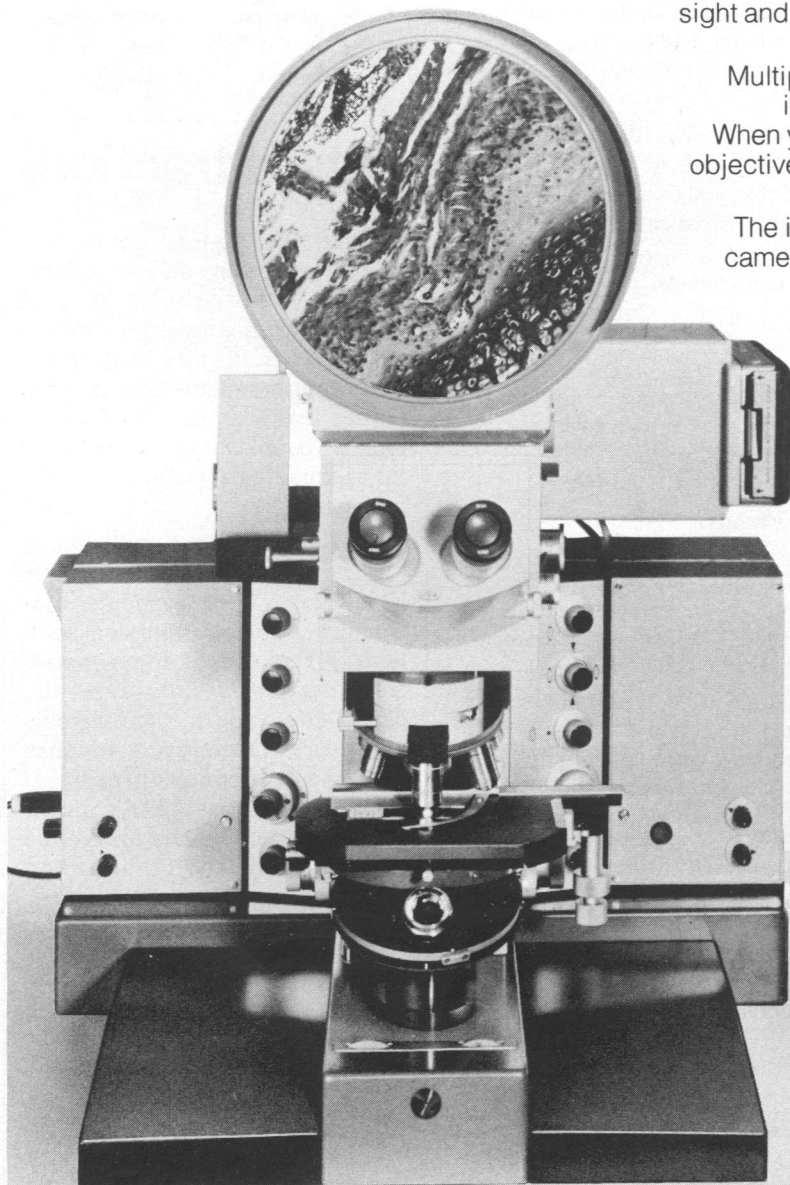
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Troublesome Portents for Scientific Journals

The 1960's were golden years for scientific publications. But times are changing. Current trends in the base of support point to a shake-out during the next several years in which some journals are likely to disappear and others will survive only if they can place heavier burdens on members of scientific societies.

At one time, most journals were owned by societies and received their financial support from members' dues. Then in the postwar era, with expanded scientific activity supported by grants, there was an increase in the number of publications and a shift toward dependence on page charges and sales of reprints. Later, it was discovered that libraries were a prime source of financial support and that they would subscribe to journals even when the rates were as high as 7 cents a page or more than \$100 a year. Private publishers found that they could obtain sufficient revenues from libraries so that they need not depend on page charges or on subscriptions from individual scientists. A large number of new journals were created that depended entirely on library subscriptions. As grant money dried up, member-owned journals with page charges found that authors tended to shun them or to refuse to honor page charges. They, too, turned to libraries for support.

At a symposium of editors and publishers last month,* recent developments and future prospects for financing of journals were discussed. Robert Cairns of the American Chemical Society, which publishes 16 journals, revealed that to balance the budget, his society was raising its prices to institutional subscribers: the new rate will be about 35 percent more than this year's.

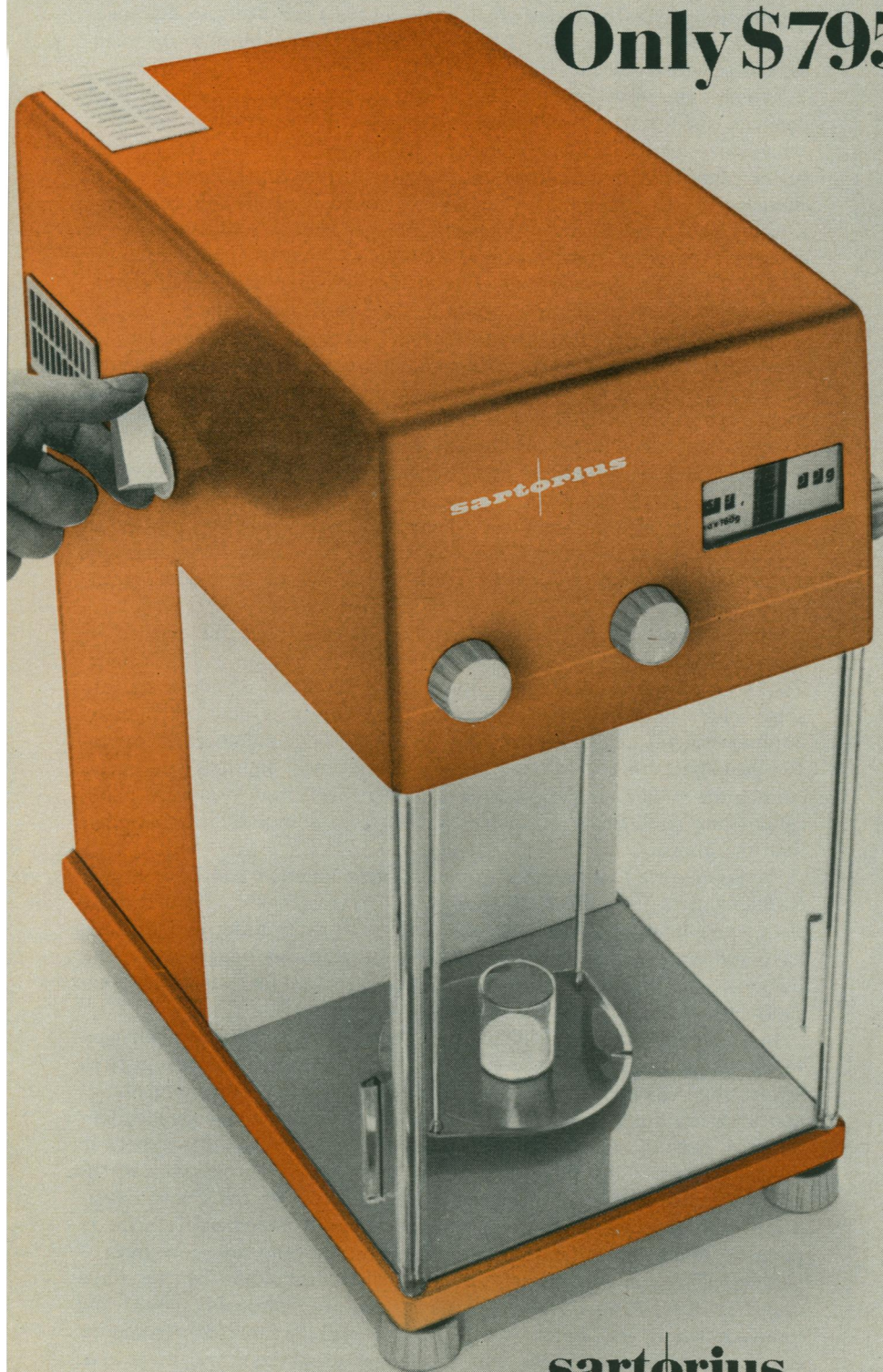
Other journals have been raising their charges, and the burden of costs on libraries has been increasing rapidly. To pay for journals many libraries have found it necessary to diminish purchases of books and are approaching limits on their resources. The moment is near when many libraries will no longer be able to pay for the large numbers of expensive periodicals they now buy. Some weeding out of journals will occur. Among the vulnerable periodicals are highly specialized, expensive publications that serve small readerships and have no source of revenue other than the libraries.

At *Science* we too have had problems with inflation and have experienced changes in sources of support. This year, costs of paper have risen more than 30 percent. Other costs, such as printing and mailing, have also gone up. A 10 percent rate of inflation was budgeted for, but there was no way of absorbing the increased cost of paper this year short of a temporary drop in the amount published.

In common with other publications, *Science* has experienced changes in its base of support. In the early 1960's, about 60 percent came from advertising, 32 percent from members, and 8 percent from nonmembers and libraries. But starting around 1968, advertising in many publications dropped sharply. That in *Science* was not as severely curtailed as in most magazines, and advertising revenues have held constant for the last 4 years. But this has been a period of increasing costs, and advertising now provides only 36 percent of support. Members furnish 39 percent, nonmembers and libraries 22 percent, and other sources 3 percent. The trend is toward about equal contributions by the three major sources. Prospects for the next year are reasonably good, and unless inflation gets much worse, *Science* will be able to resume its customary number of pages. For the longer term there are, as always, uncertainties, but with its multiple base of support, *Science* should be able to adjust to the circumstances.—PHILIP H. ABELSON

* Conference on the Economics of Biomedical Publications, National Library of Medicine, Bethesda, Maryland, 22 and 23 October 1974, organized by Martin Cummings.

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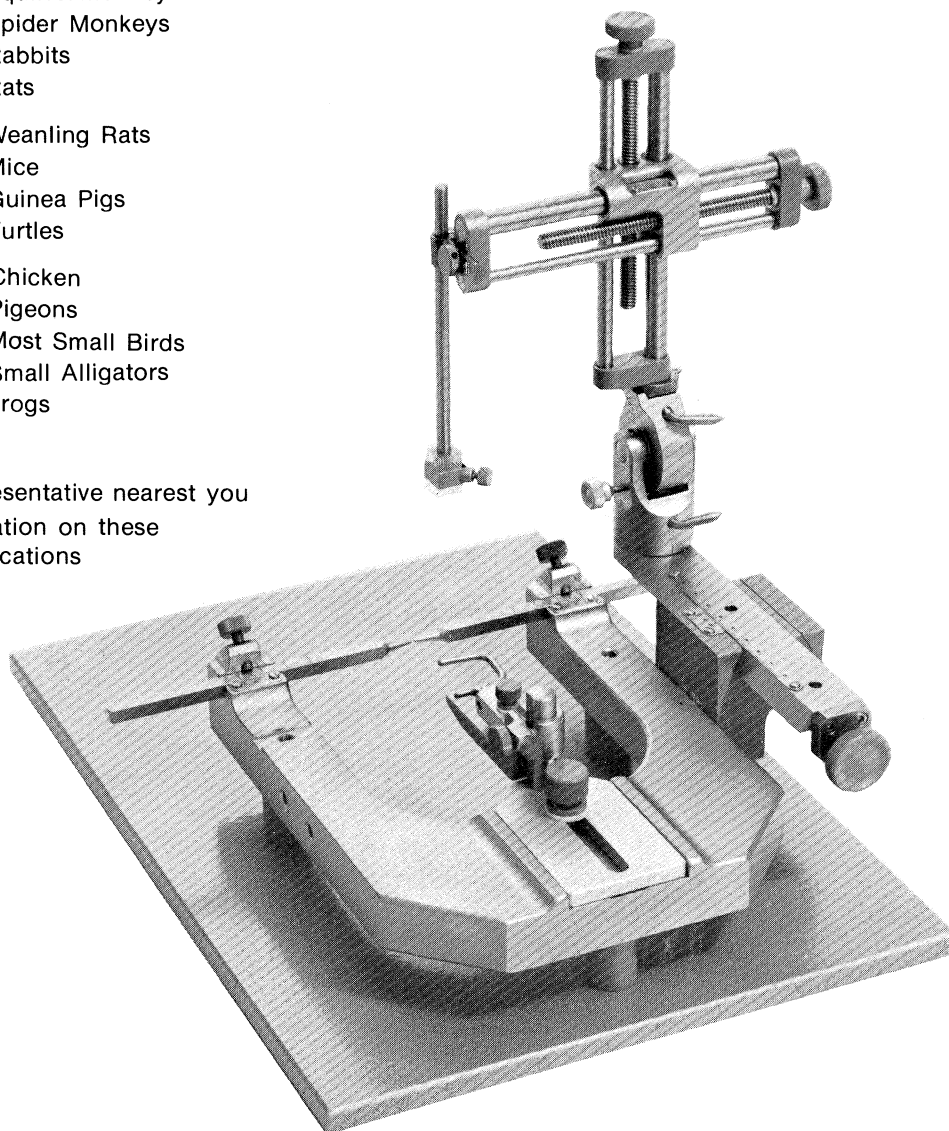
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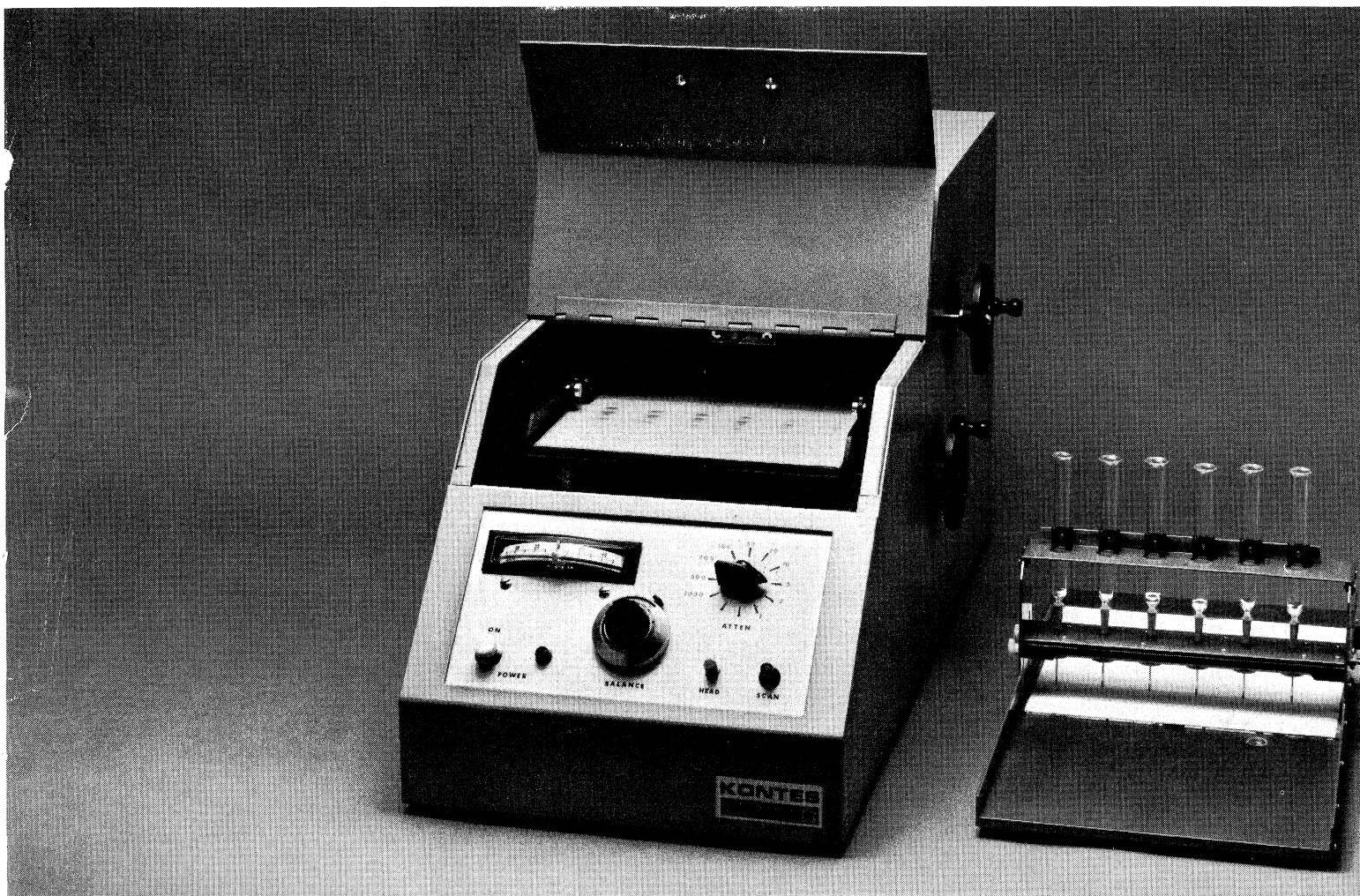
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**"An automatic spotter for quantitative thin layer and paper chromatographic analysis by optical scanning," Melvin E. Getz, Journal of the AOAC, Volume 54, No. 4, 1971. Patent Pending.

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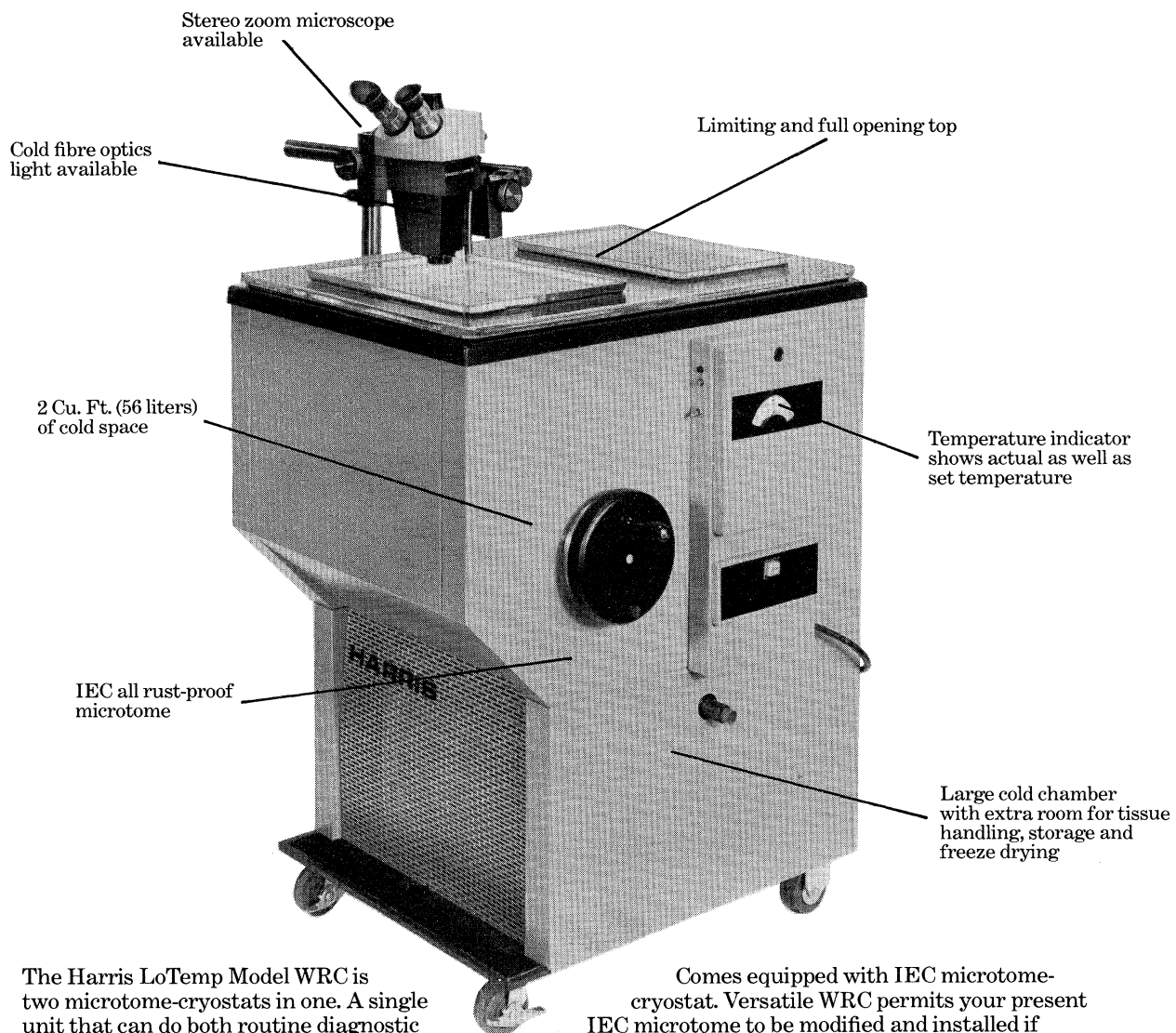
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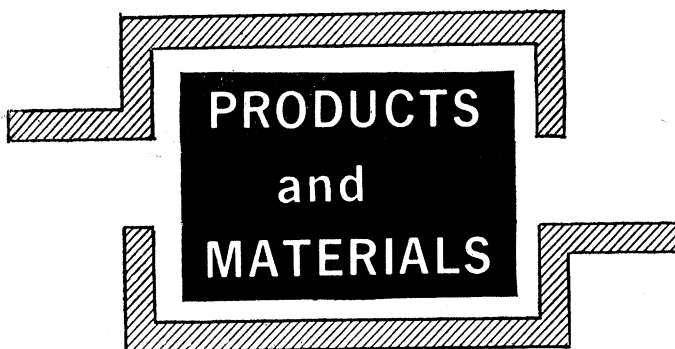
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Index of Refraction Liquids includes substances from 1.300 to 2.31 which are grouped according to index, application, and formulation. R. P. Cargille Laboratories Incorporated. Circle No. 738 on Readers' Service Card.

Encyclopedia and Dictionary of Optical, Electro-Optical and Laser Terminology defines over 3000 items. It is volume II of the Optical Industry and Systems Directory and it costs \$14.95 per copy. Optical Publishing Company. Circle No. 739 on Readers' Service Card.

Turttox '76 features products for teachers in life and physical sciences through the university level. Turttox/Cambosco, Macmillan Science Company. Circle No. 740 on Readers' Service Card.

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(Continued from page 732)

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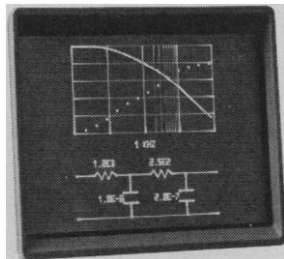
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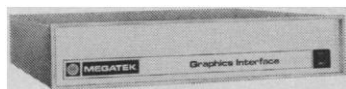
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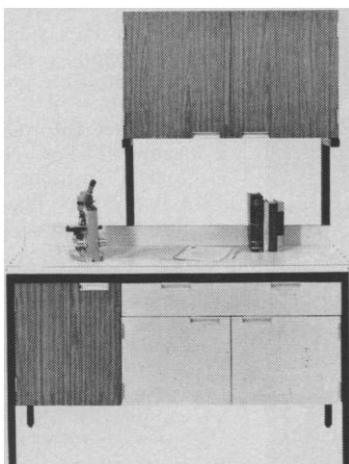


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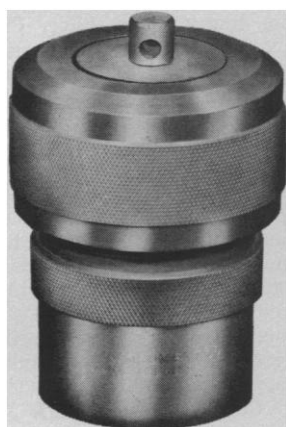
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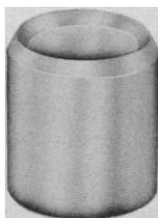
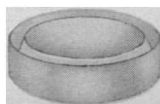
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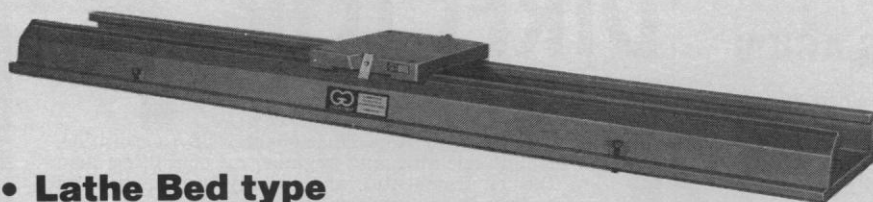


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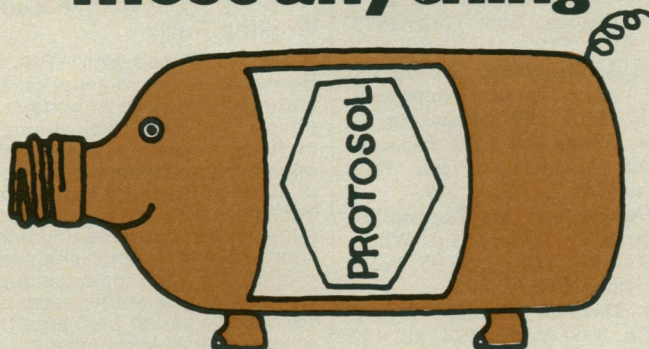
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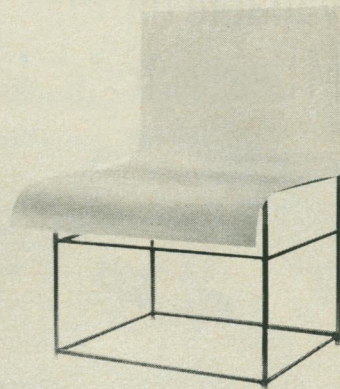
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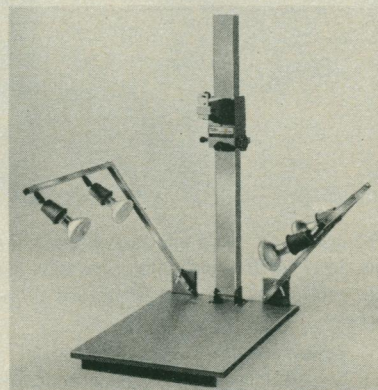
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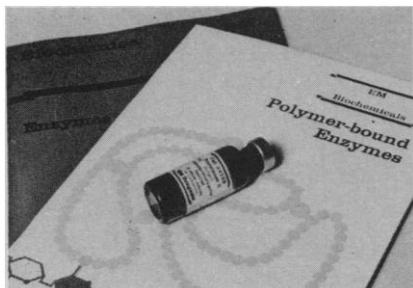
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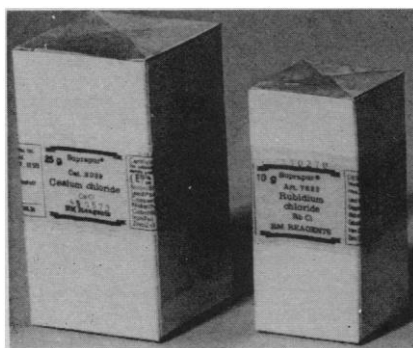
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