

SCIENCE

18 February 1972

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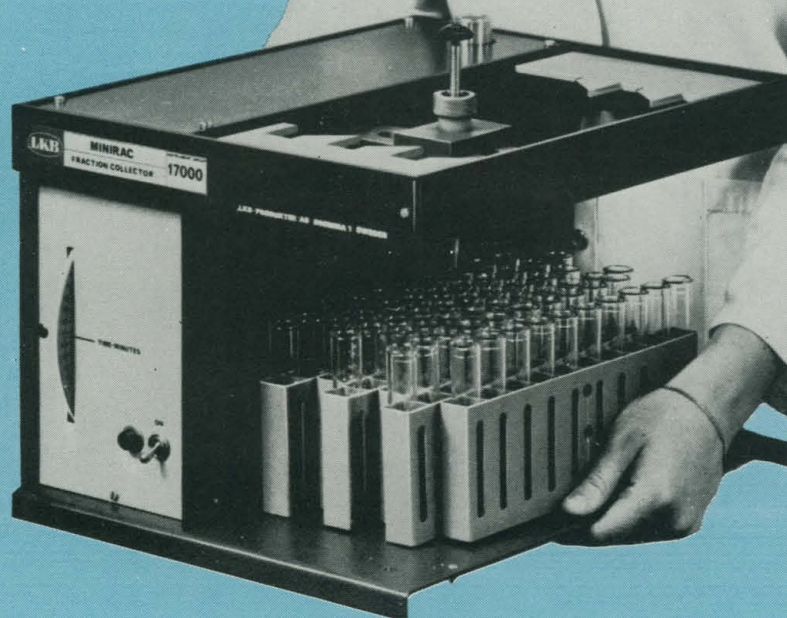
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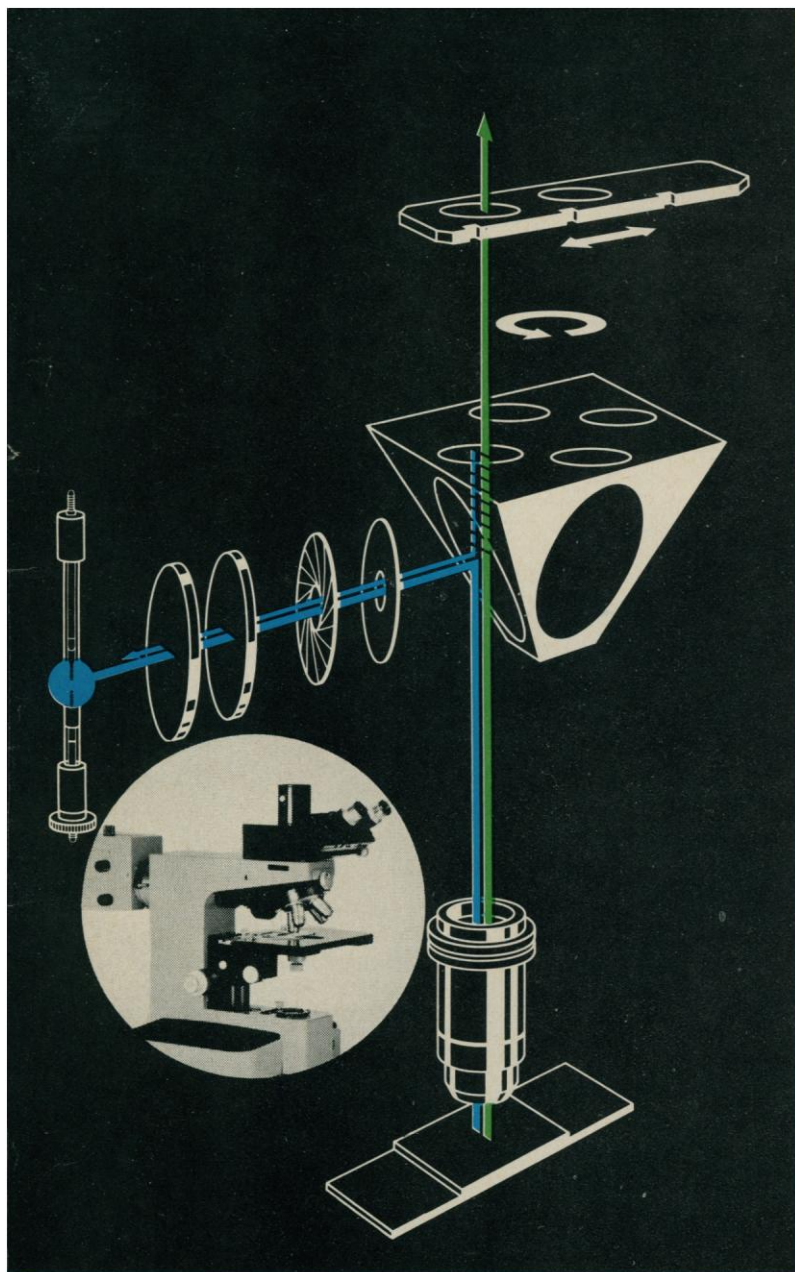
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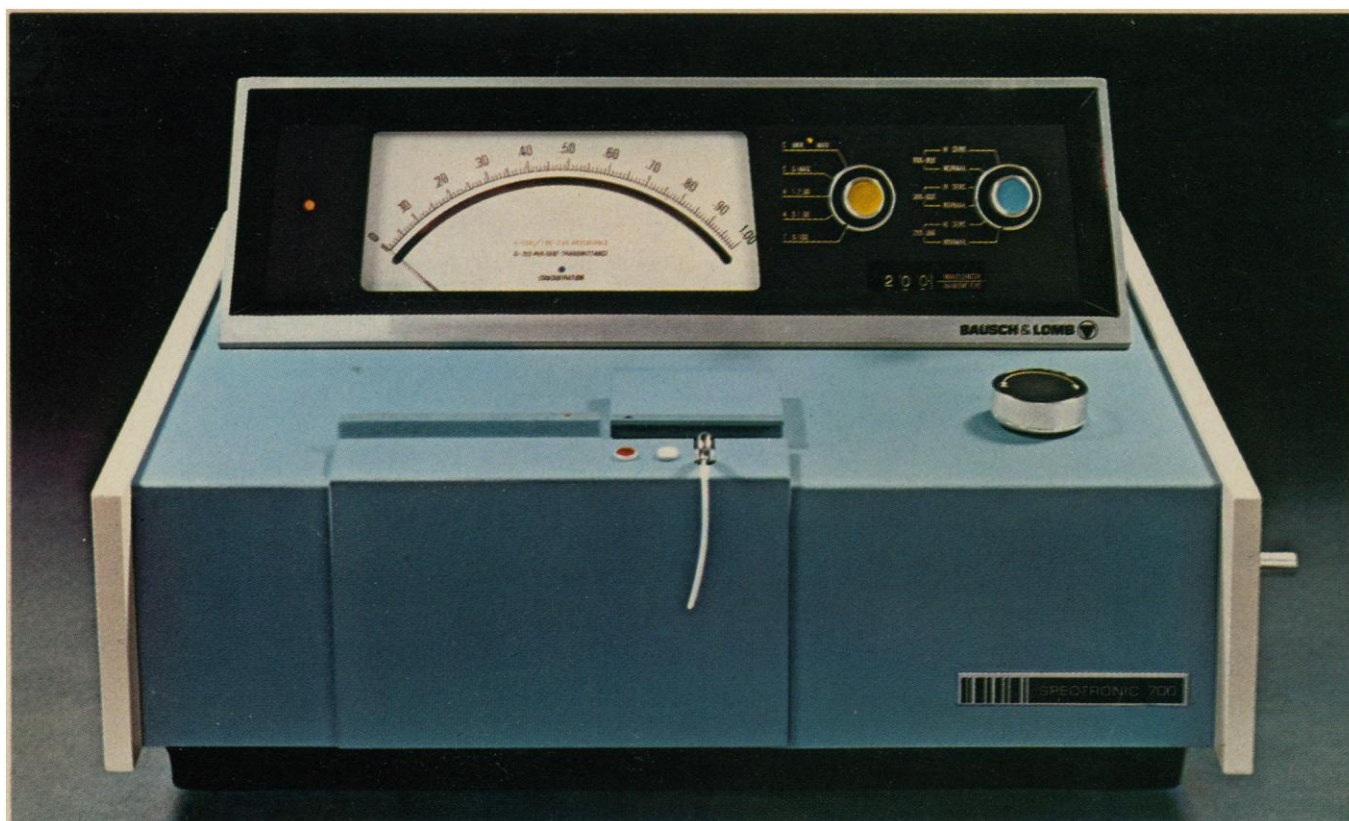
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Death Valley, California. See page
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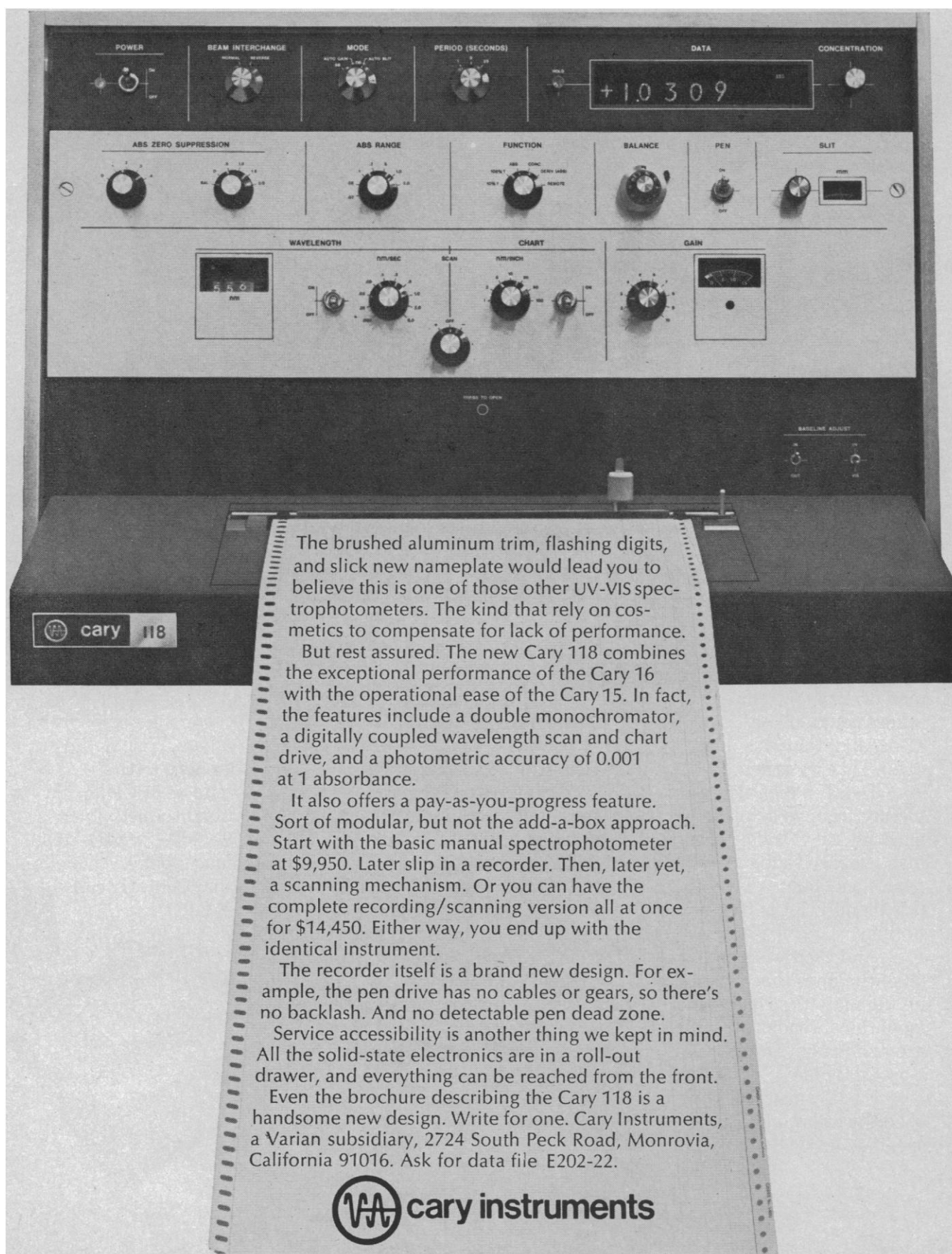
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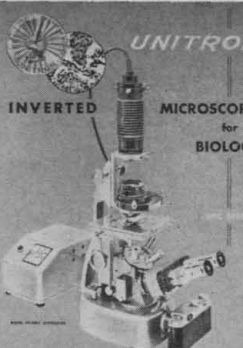
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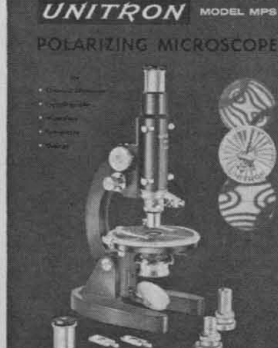
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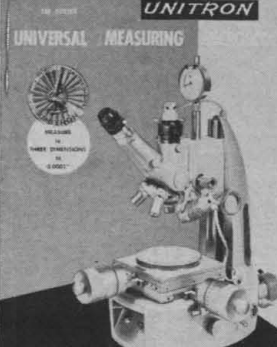
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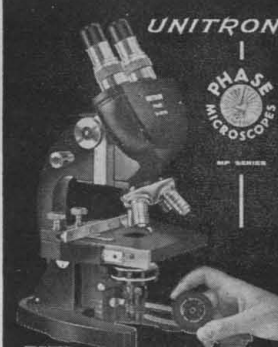


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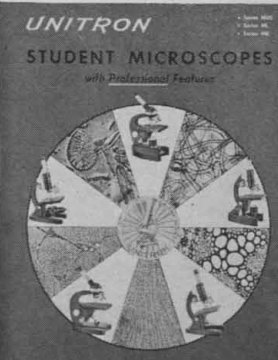
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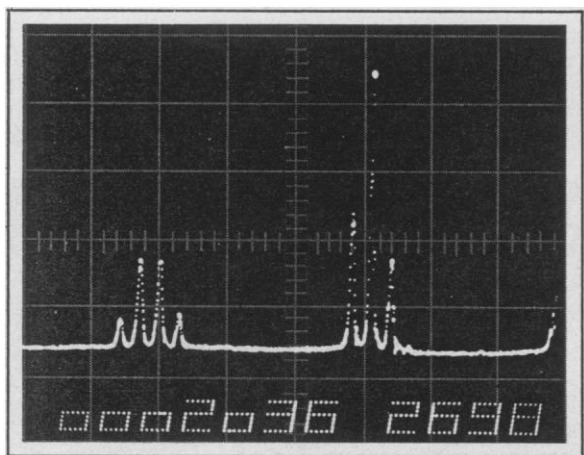
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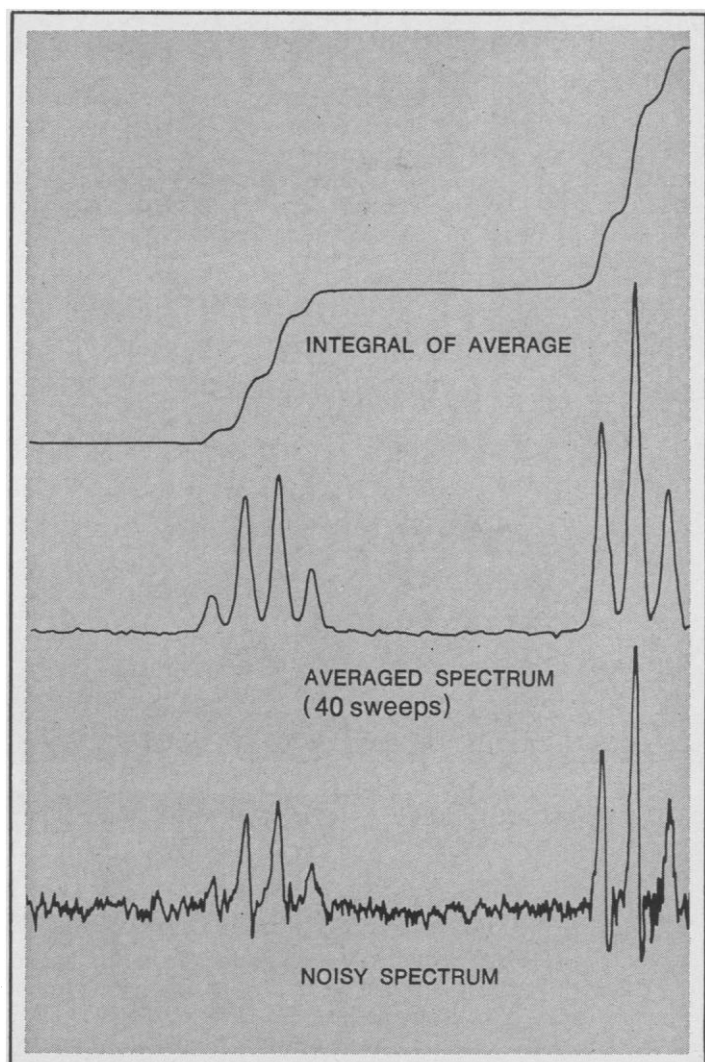
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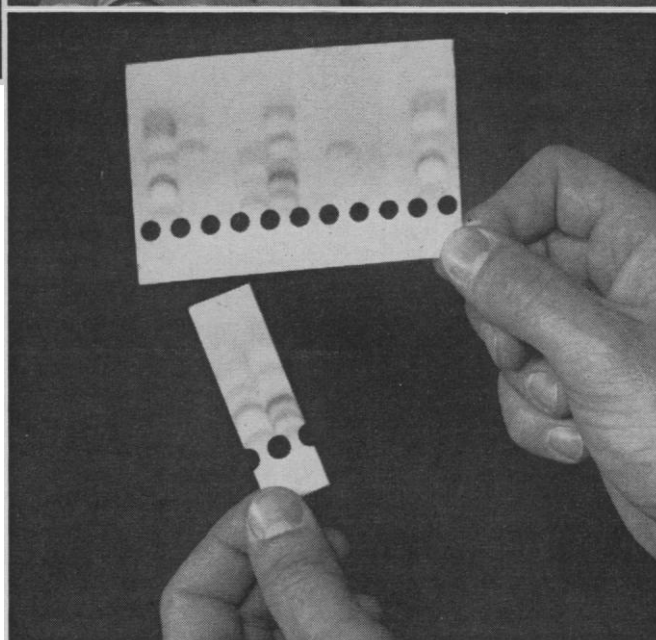
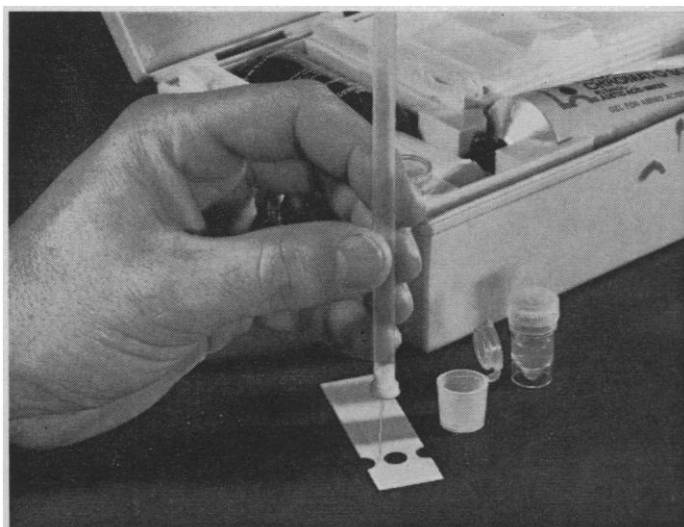
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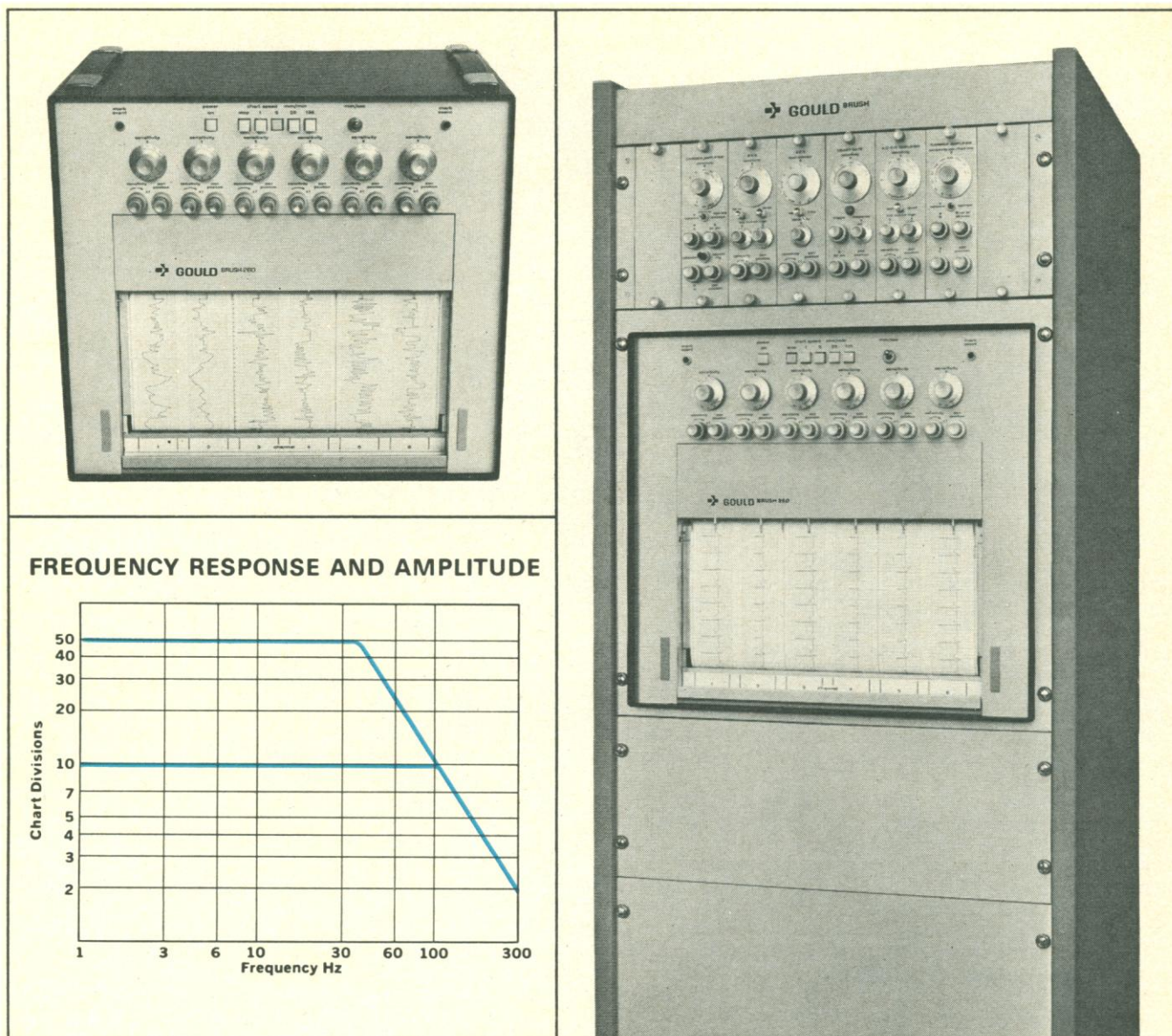
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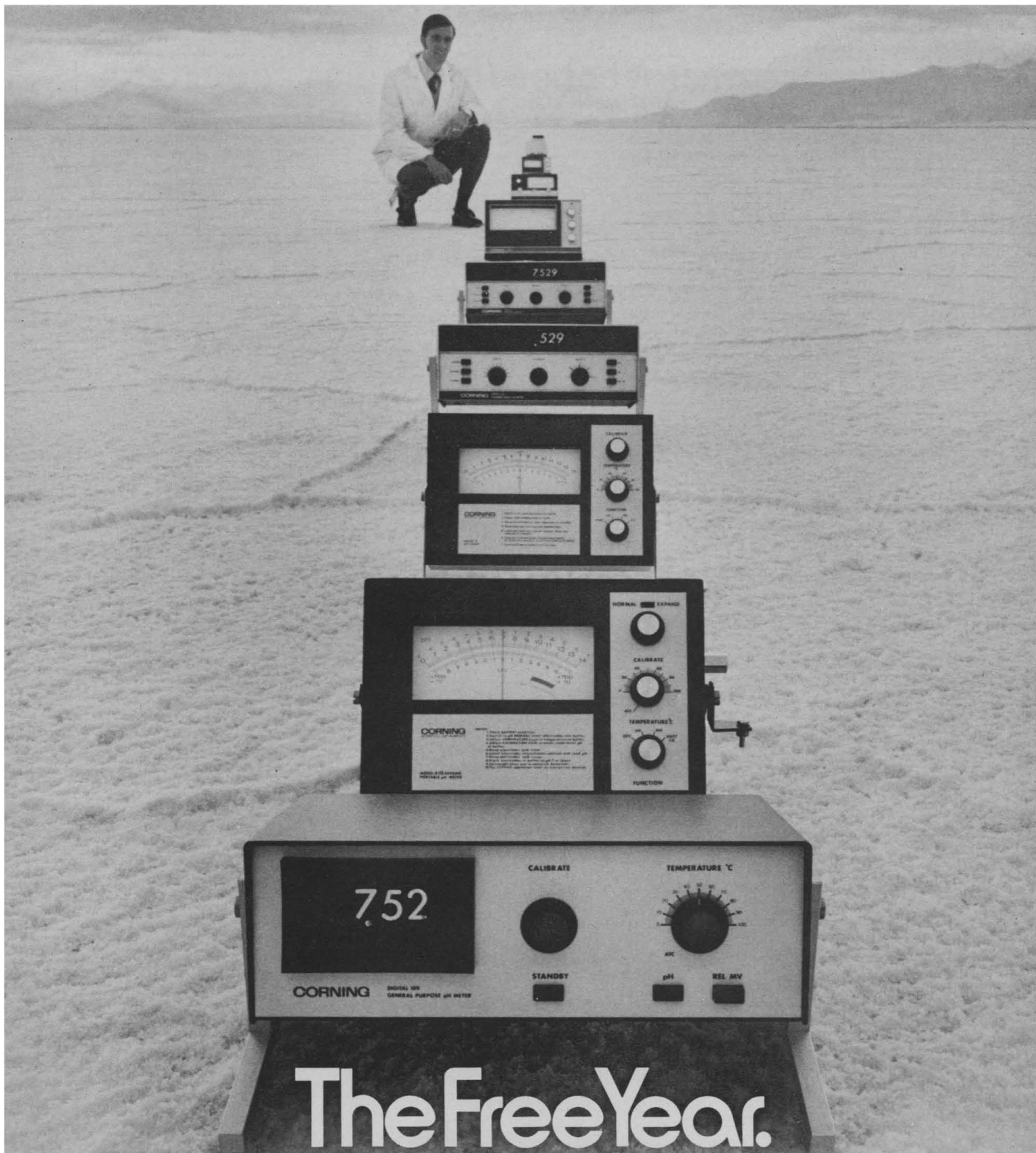
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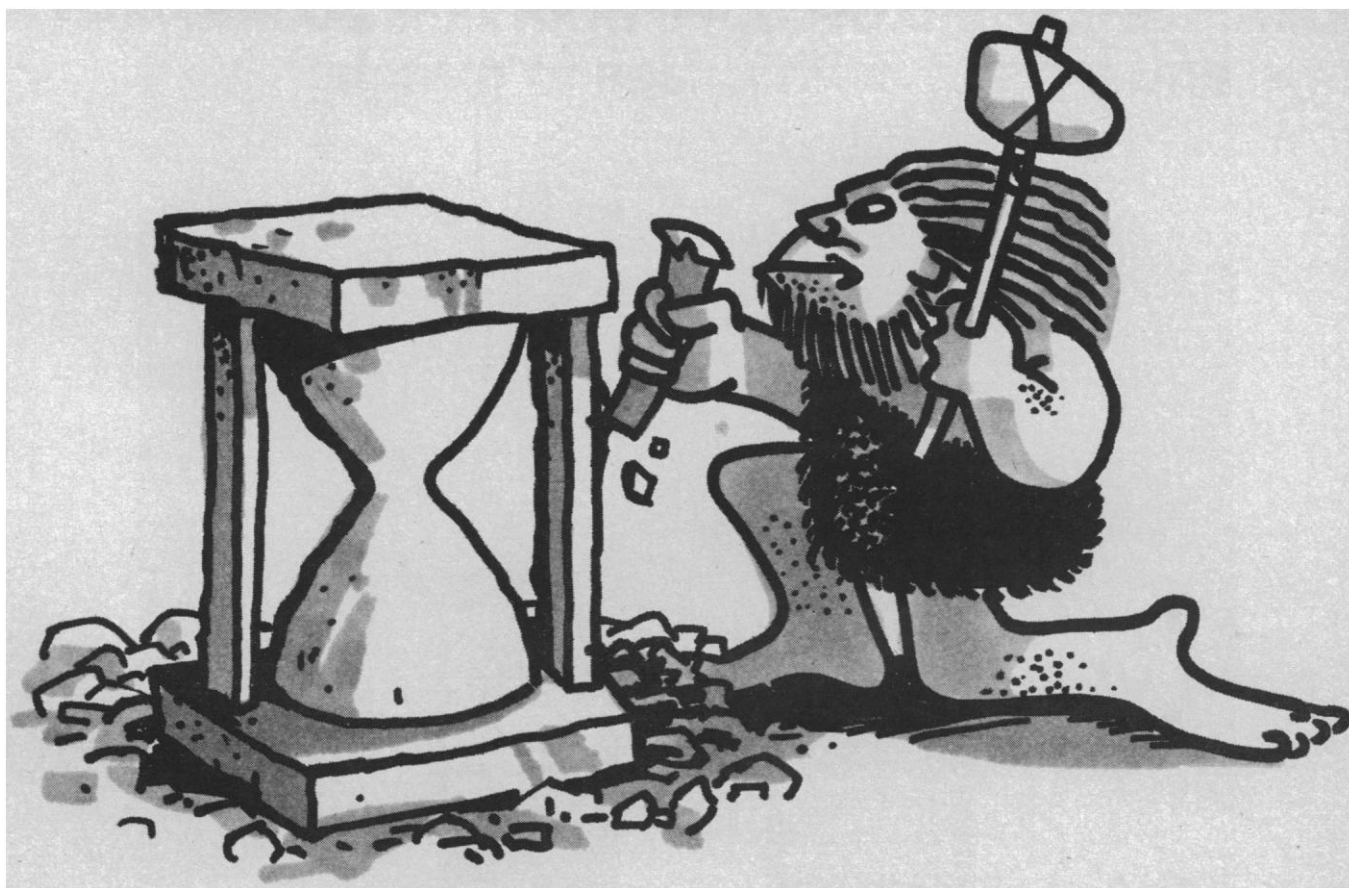
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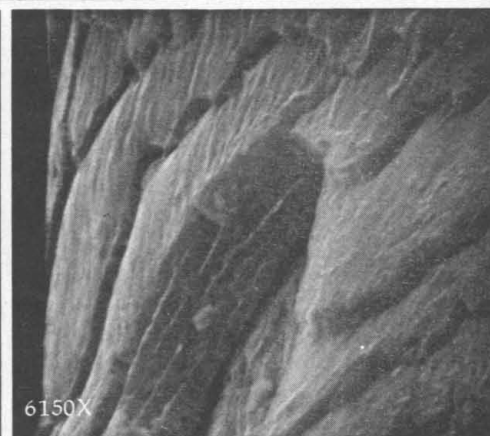
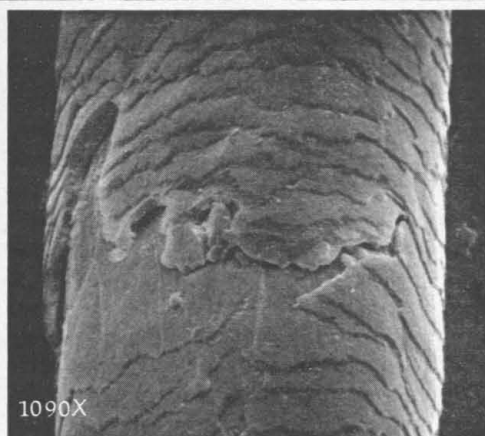
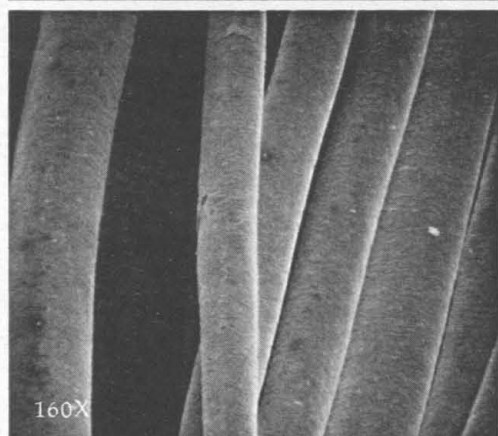
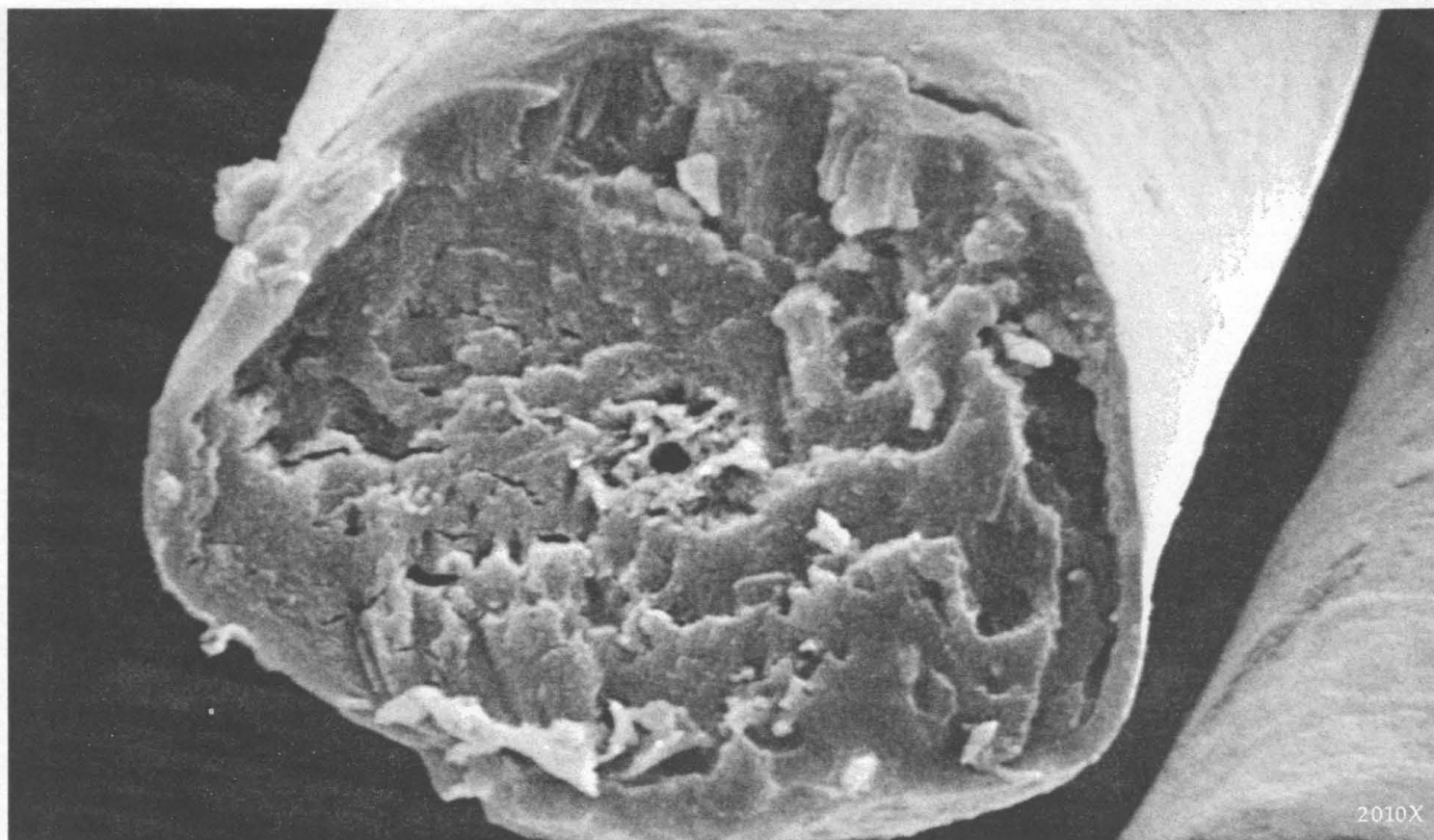
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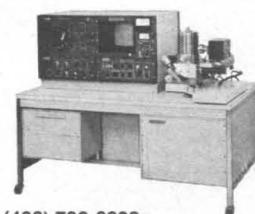
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One aspect of this subject that needs to be examined is how U.S. national security policies affect the decision to obtain minerals from domestic rather than foreign sources.

Domestic production of all the raw materials needed by the United States has never been an attainable U.S. policy objective. However, U.S. production of many minerals has been effectively promoted by various kinds of encouragement (the word "subsidy" is not inappropriate). The history of the national stockpile program makes this abundantly clear (1). There is ample evidence that the stockpile program has, on occasion, provided support for the domestic production of certain minerals in excess of national security objectives, while the acquisition of scarce materials from foreign sources has been discouraged (2). National security objectives have thus become entangled with domestic and regional economic interests.

National security policies, through their impact on the domestic minerals industry, can significantly affect the environment. Knowledge of the environmental effects of alternative national security policies is essential to an understanding of the total environmental impact of the minerals industry. Particularly in debates about national energy policy and the oil import quota system, the paucity of knowledge about the possible effects of alternative energy policies is staggering (3). Analytical frameworks are needed for assessing the probability, duration, and intensity of an interruption of foreign petroleum supplies so that plans for alternative methods of adjusting supply and demand can be prepared (4).

The oil import quota method of assuring national security reserves through support of excess domestic capacity has been convincingly scored as a poor method of assuring petroleum reserves for national security (5). A much better alternative might be a system of government-owned natural reservoirs, strategically located and ready to produce on short notice. Such a system would have less impact on the environment, could provide more security at a lower cost, and the burden borne by citizens could be distributed more equitably (6). It would also benefit the economic development of countries that export petroleum, whose revenues would increase as a result of greater U.S. imports. Many of these issues are discussed in the report of the President's Task Force on Oil Im-

port Control, which recommended a phase-out of the oil import quota system (7).

The oil import quota system has probably hastened the adoption of nuclear power generating facilities, as well as the commercial production of oil from western oil-shale deposits, the drilling of high-cost offshore oil wells, and the drilling on the north slope of Alaska. Research on the relationship between national security policies, domestic mineral industries, and the natural environment is badly needed.

LARRY M. SVART

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Test Bias Bibliography

Reference 6 in Clark and Plotkin's response (Letters, 24 Dec., p. 1278) to Stanley's article of 19 February (p. 640) contains the statement:

Accustomed as we have become for our study to be the launching pad for ETS papers, we were shocked to find that in the latest bibliography of test bias compiled by ETS (*TM Reports No. 2*, 1971) our study is not listed. Our problem now is to decide which is worse, misrepresentation or oblivion.

The introduction to *TM Reports No. 2* states:

The bibliography is limited primarily to material which deals directly with the question of test bias; for example, research reports or commentaries. It does not list reports which are primarily descriptive in nature, such as normative studies of tests on two or more culturally or geographically different groups.

Clark and Plotkin's book, *The Negro Student at Integrated Colleges* (National Scholarship Service and Fund for Negro

Students, New York, 1963), does not, in the judgment of our staff, deal directly with the question of test bias; therefore, it was excluded from the bibliography.

Further, TM Reports No. 2 *Test Bias: A Bibliography* is not an ETS paper but a report issued by the ERIC Clearinghouse on Tests, Measurement, and Evaluation, which is conducted for the U. S. Office of Education by the Educational Testing Service.

RICHARD O. FORTNA
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Antilead Regulations

In his report "Lead poisoning: combating the threat from the air" (News and Comment, 5 Nov., p. 574) Robert J. Bazell states that the New York City antilead gasoline law is the only regulation of its kind in the country.

The City of Buffalo passed an antilead ordinance that was signed into law in December 1970. After Buffalo's law, the first in the nation at any governmental level, was adopted, the State of Maryland and Orange County, California, also passed similar laws.

New York City is to be congratulated for its highly restrictive law, but not necessarily for its pioneering efforts.

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Kansas State University

Deborah Shapley's report (News and Comment, 19 Nov., p. 803) on Kansas State University (KSU) was overall a very fair account, and we were delighted to see it in print. However, I would like to suggest that KSU's history department has come a long way on a small budget. Not only does it include doctoral programs in the history of science, technology, and military affairs, with support from the political science faculty, but in addition the department also publishes two journals, *Military Affairs* and *Aerospace Historian*.

ROBIN HIGHAM
Department of History, Kansas State University, Manhattan 66502

18 FEBRUARY 1972

Energy Conservation

There may be more voices crying in the wilderness about unrestrained energy demands than John Walsh (News and Comment, 1 Oct., p. 44) thinks. In a number of courses at the experimental Residential College of the University of Michigan, we are examining the possible relation of energy conservation to changes in life-style and technological adaptation in urban development. Such changes, we believe, would enhance the quality of life rather than cause its decline. We emphasize the necessity for parsimonious use of energy, especially that derived from fossil fuels (not necessarily zero power growth although that is an appealing epigram).

Our urban society is a profligate abuser of energy resources. Urban components, whether skyscraper office towers or suburban subdivisions, are designed as though energy for space heating and cooling and for transportation were limitless. The official pricing structures for coal, petroleum, and natural gas also reflect this assumption. Too many assume that when our present supplies are exhausted, other sources will be developed through sophisticated search and recovery techniques. The present enthusiasm for developing Alaska's North Slope oil reserve is a case in point. But fossil fuel supplies are finite, and their exploitation is fraught with ecological danger. Difficulties with safety and radiation disposal in atomic reactors now indicate that nuclear power is not the easy answer.

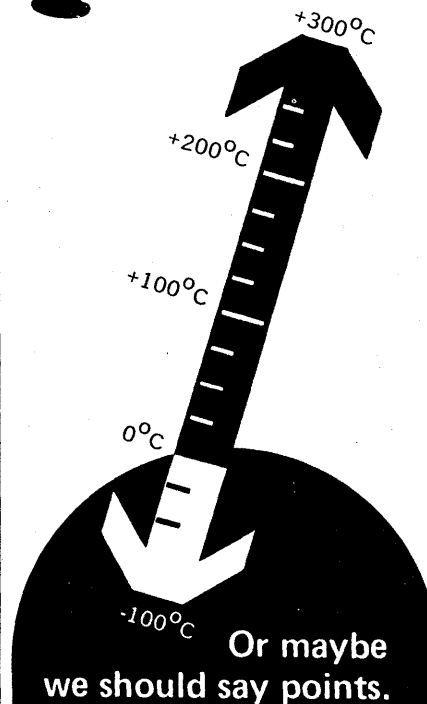
We need a commitment to minimize energy use that will permeate all strata of society including government. The question is not merely "a conflict between unrestrained growth and preservation of the environment" as John Walsh concludes. Rather it is the much larger problem of fitting our industrial economy into the frail ecological system of the earth's surface so that our society survives and does not exhaust itself in the greatest spending spree of all time.

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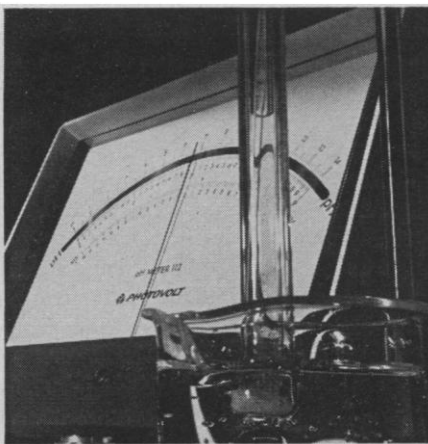
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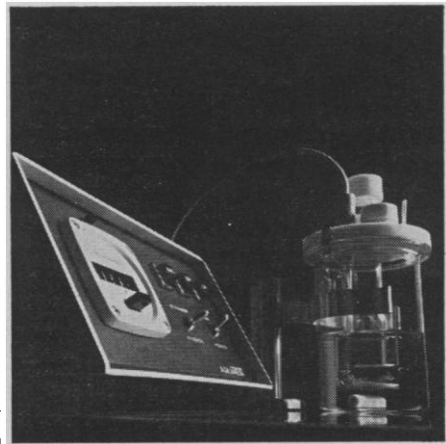
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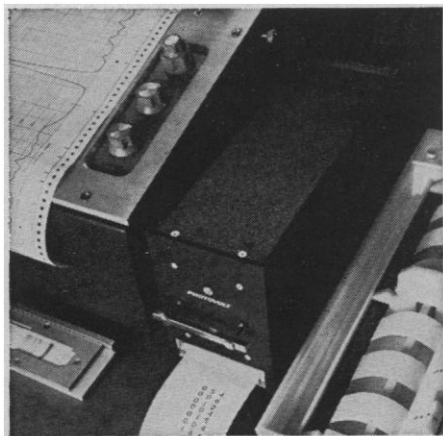
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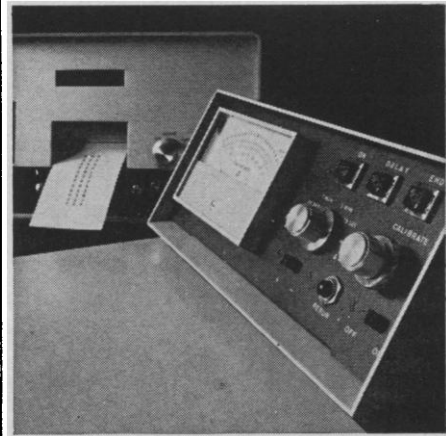
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Old Cities, New Cities, No Cities

As people congregate story-on-story and freeway-on-freeway the acidity of the human solution rises catastrophically. Nature is etched away bit by bit; soon cities become indelible scars on the face of the planet. Not only is nature destroyed in the heart of the modern city, but man's own wastes—smoke, garbage, sewage—threaten to asphyxiate and poison their maker.

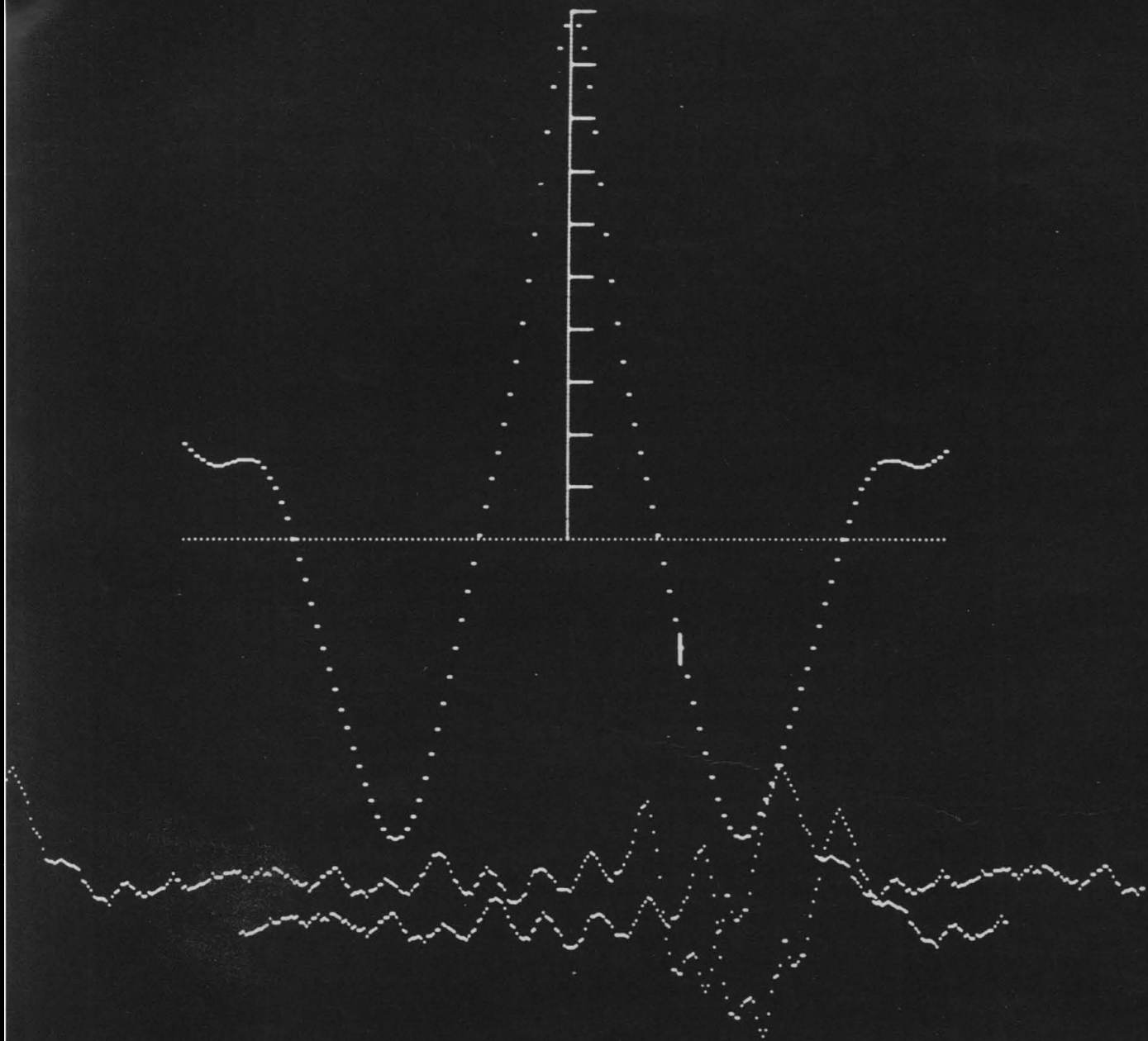
This view of the city is the "apocalyptic" interpretation of modern urban trends. The future is not really so bleak. With imagination and a liberal dose of optimism, we can foresee our old cities remade in more human molds and new cities built with man in mind. The cities of the future could, *if men insist*, be the utopian centers of culture and inspiration we have read about ever since men began to write. Perhaps we would not care to dress for dinner every night or wear top hats perpetually as the city dwellers do in Bellamy's *Looking Backward*, but we do like to congregate with our kind. Given these social instincts, there is no technical reason why these places of congregation—the cities—cannot be stimulating, healthy, and aesthetically pleasing as well as economically sound investments.

What are the problems? The main problem is that 50 percent of the people in the United States live on 1 percent of the land. More move to the cities every day. It is already worse in some foreign countries. Rome's traffic is nearly impossible; Tokyo is a solid mass of humanity. The symptoms of overpopulation are air pollution, water pollution, high crime rates, short tempers, and encroaching ugliness, to name a few. As presently applied, technology leads to big garbage dumps, foul air, and cesspool-like lakes; but *it does not have to be this way*. Industrial wastes can be treated and smokeless fuels can be developed, to give just two examples. Technology can be turned easily to cleaning up the urban mess originally created partly through the misuse of technology and partly through gross underestimation of humanity's capacity to breed and consume, and to expel wastes. In fact, technology properly used may be the only short-term answer to the city's problems because it will take time to check population growth. More significant than old cities in the long run are the brand-new cities that are now possible, cities in which man and machine are no longer at each other's throats. Even the wastes of the city will one day become valuable lodes of minerals and chemical compounds.

Aspirin may relieve a headache and bring down a fever; technology can treat the symptoms of urban ills. The patient, however, is still sick in both cases. The disease is simply too many people in areas that are too small. Urban renewal cannot solve this problem; it is merely aspirin. Athelstan Spilhaus has said, "The overgrown urban complex must be selectively dismantled and dispersed if we are to cure the ills of the megalopolis."

Building brand new cities, the "minilopolis" instead of the megalopolis, is a good intermediate solution, possibly akin to substituting sulfa drugs for aspirin. The penicillin for urbanitis, the sure cure, though, is either population reduction or the complete elimination of the city. Why cannot people live wherever they wish and congregate electronically? Sight, sound, the sense of touch, and, in the near future, even the sense of smell, can be transmitted anywhere in the world. Many of the business and cultural advantages of the city can be re-created equally well in a study high in the Rocky Mountains or in an artist's studio out on Cape Cod. Thus, the title of this [editorial] spans the spectrum: from old cities refurbished to brand new cities to no cities at all.

Adapted from Glenn T. Seaborg and William R. Corliss, *Man and Atom* (Dutton, New York, 1971), pp. 144-146.



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102-71—Biological and Cultural Bases of Sex Role Differentiation (Sessions I-II). Formation of behavior associated with sex roles.

103-71—Smoking and Health (One Session). Relationship between smoking and health.

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113-71—Technology and Growth in a Resource Limited World (Sessions I-II). Technological innovation and the environmental crisis; use of nonrenewable resources.

114-71—Future of the Cities (One Session). Analysis of our cities as they function and will continue to function.

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Analytic Continuation of Group Representations. Elias M. Stein. Yale University Press, New Haven, Conn., 1971. iv, 36 pp., illus. Paper, \$2.95. Yale Mathematical Monographs, 2.

Annual Review of Physical Chemistry. Vol. 22. H. Eyring, C. J. Christensen, and H. S. Johnston, Eds. Annual Reviews, Palo Alto, Calif., 1971. xii, 638 pp. + plates. \$10.

Approximate Calculation of Multiple Integrals. A. H. Stroud. Prentice-Hall, Englewood Cliffs, N.J., 1971. xvi, 432 pp., illus. \$16.50. Prentice-Hall Series in Automatic Computation.

Astronomy. Robert H. Baker and Laurence W. Fredrick. Van Nostrand Reinhold, New York, ed. 9, 1971. xiv, 632 pp., illus. \$12.95.

Awareness. Exploring, Experimenting, Experiencing. John O. Stevens. Real People Press, Lafayette, Calif., 1971. x, 276 pp. Cloth, \$7; paper, \$3.50.

Away With All Pests. An English Surgeon in People's China: 1954-1969. Joshua S. Horn. Monthly Review Press, New York, 1969. 192 pp. + plates. Cloth, \$6; paper, \$2.45.

Ballistic Missile Defense. Benson D. Adams. Elsevier, New York, 1971. xiv, 274 pp. \$12.50. Policy Sciences Book Series.

Beginner's Guide to Seaweeds. C. L. Duddington. Drake, New York, 1971. 188 pp. + plates. \$6.95.

The Bile Acids. Chemistry, Physiology, and Metabolism. Vol. 1, Chemistry. Padmanabhan P. Nair and David Kritchevsky, Eds. Plenum, New York, 1971. xii, 372 pp., illus. \$19.50.

Biomechanics II. A seminar, Eindhoven, The Netherlands, Aug. 1969. J. Vredenburg and J. Wartenweiler, Eds. University Park Press, Baltimore, 1971. xii, 336 pp., illus. \$22.50. Medicine and Sport, vol. 6.

The Biopsychology of Development. A conference. Ethel Tobach, Lester R. Aronson, and Evelyn Shaw, Eds. Academic Press, New York, 1971. xx, 594 pp., illus. \$22.50.

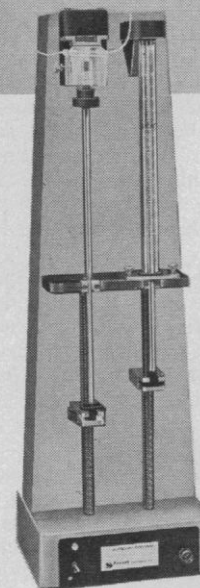
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Comparative Physiology of Thermoregulation. Vol. 2, Mammals. G. Causey Whittow, Ed. Academic Press, New York, 1971. xii, 410 pp., illus. \$21.

Computer Programming System/360. Ivan Flores. Prentice-Hall, Englewood Cliffs, N.J., 1971. viii, 376 pp., illus. \$12.95.

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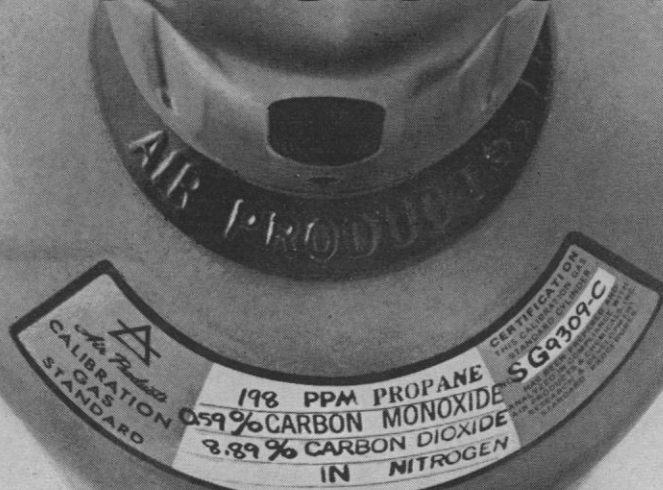
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A Flora of Tropical Florida. A Manual of the Seed Plants and Ferns of Southern Peninsular Florida. Robert W. Long and Olga Lakela. University of Miami Press, Coral Gables, Fla., 1971. xviii, 962 pp., illus. \$29.50.

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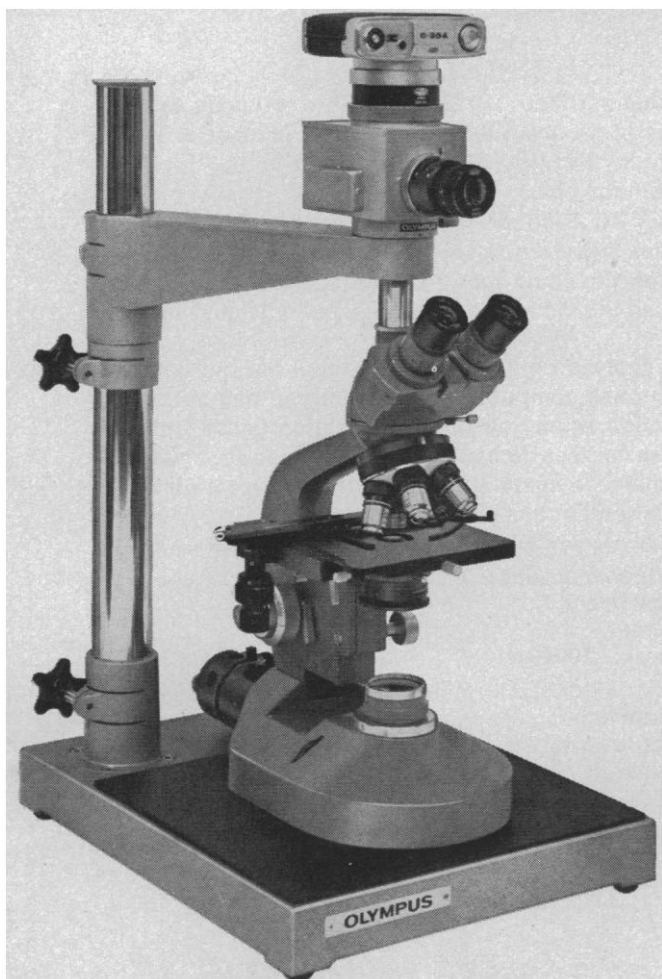
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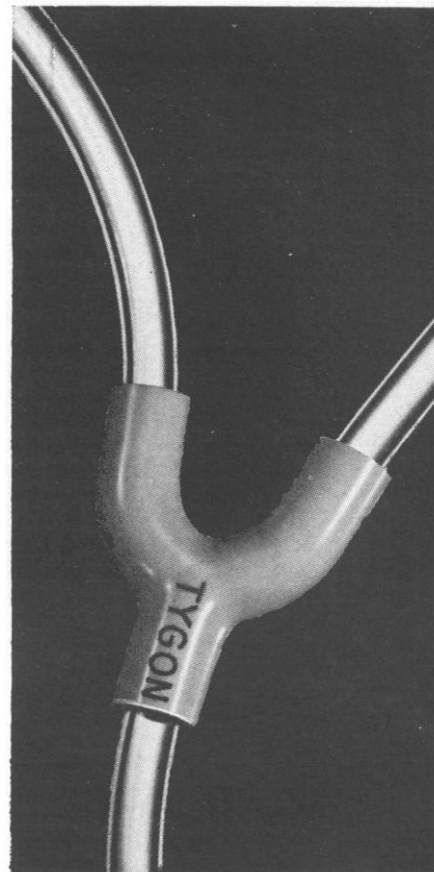
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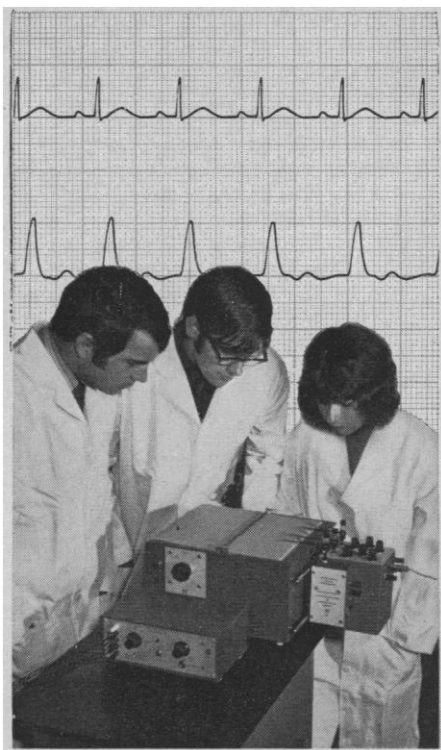
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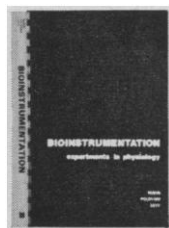


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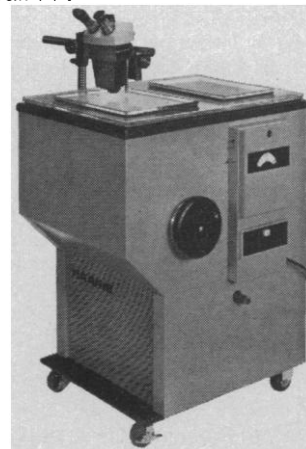
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