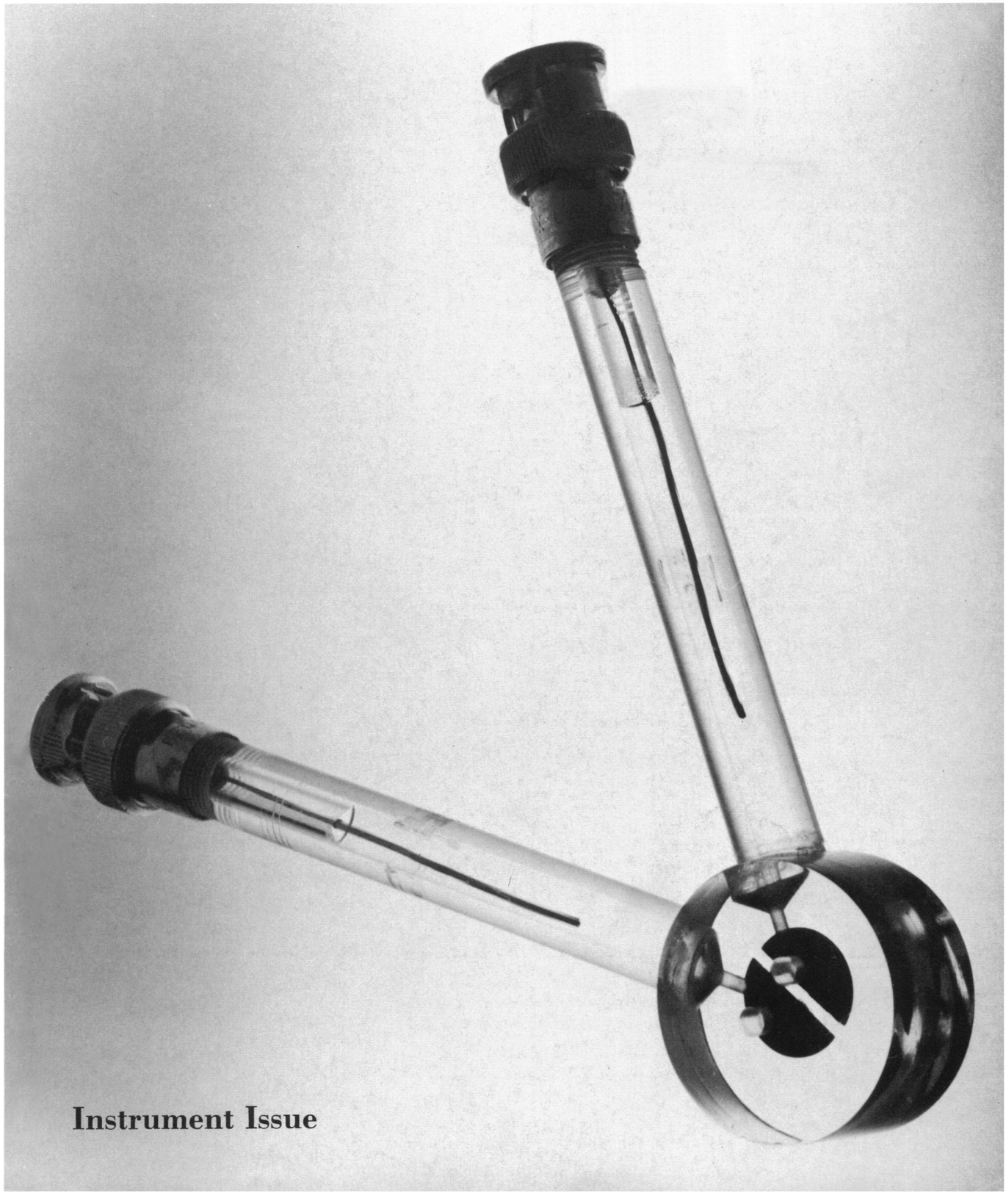
SCIENCE

17 October 1975

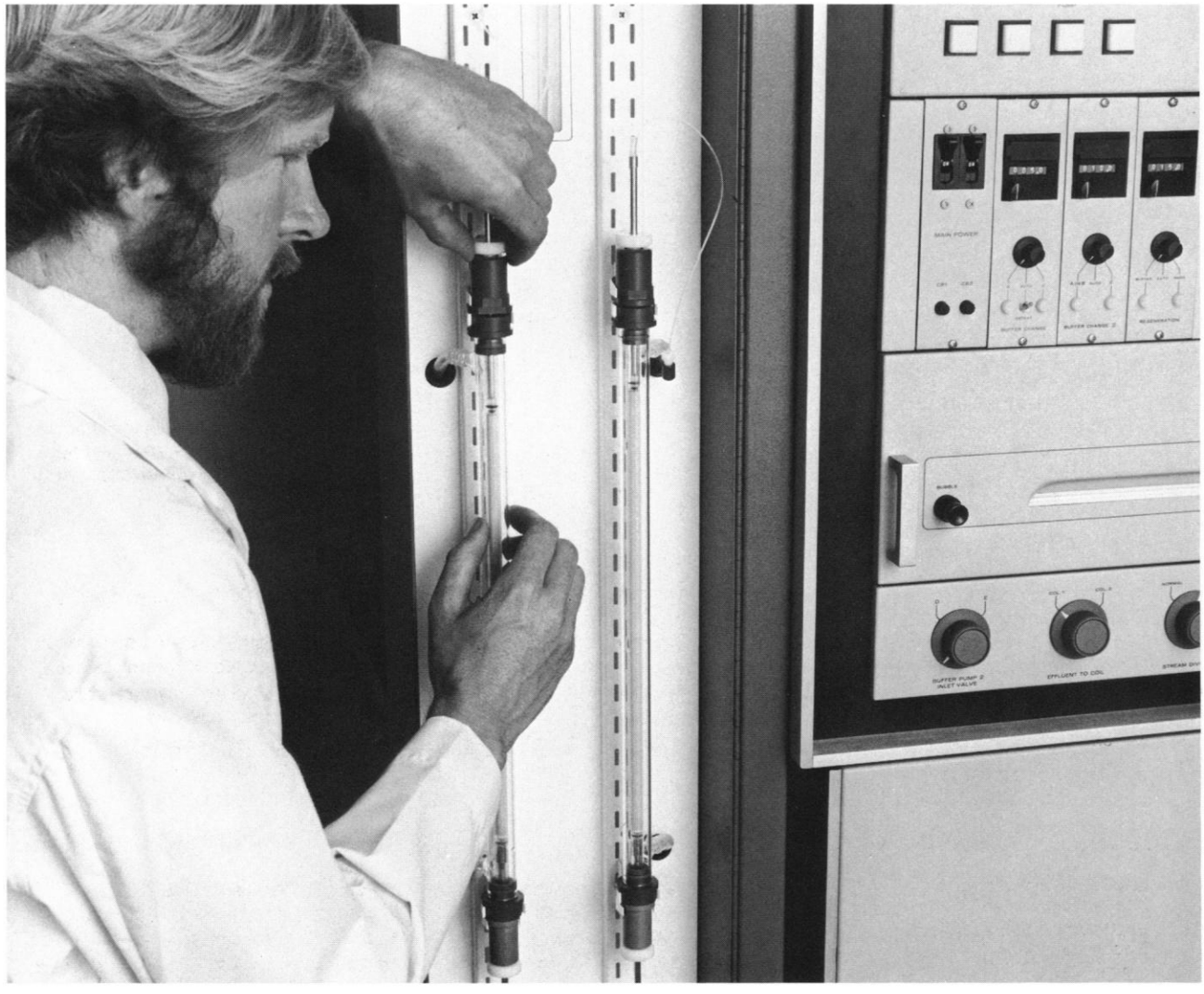
Volume 190, No. 4211

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



Instrument Issue

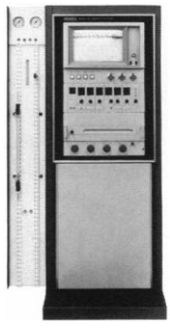
New Beckman Model 119C
The easiest-to-use amino acid analyzer now offers the benefits of 6-mm columns



The Model 119 is well known for its reliability and simplicity of operation. Now in the new Model 119C with 6-mm columns, you can also get the advantages of faster analyses, twice the sensitivity, and half the reagent consumption.

Along with this improved performance comes a new Beckman method for the single-column analysis of physiological samples using lithium citrate buffers. It clearly separates glutamine and asparagine and lets the 119C handle these analyses completely automatically.

The 119C is one of a family of four instruments covering a wide range of needs and budgets. Others include the automatic 119B which uses conventional 9-mm columns, and the semi-automatic 118B and 118C which have manual instead of automatic sample injection.



For more information, write for Data File 428 to Spinco Divison, Beckman Instruments, Inc., 1117 California Avenue, Palo Alto CA 94304.

Beckman

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Eastman Organic Chemicals News

For your consideration . . . new product additions for a variety of applications, relistings of some, and upgrading of others.

Catalog No.

1816	1-Naphthyl Isocyanate (Reagent for amino acid characterization)
1876	4,4′-Bis (dimethylamino) benzhydrol (Reagent for protein sulfhydryl groups)
1977	Ammonium Sulfate (Reagent ACS)
2079	Phosphomolybdic Acid (Reagent ACS)
4792	2-Amino-2-methyl-1,3-propanediol (Biochemical buffer)
5776	3,4-Dihydro-2H-pyran (Functional group protecting agent)
7281	8-Hydroxy-1,3,6-pyrenetrisulfonic Acid Trisodium Salt (Fluorescent probe)
9001	Betaine Ethyl Ester Chloride (Methyl donor for transferase)
11388	1-Amino-2-naphthalenesulfonic Acid (Dye intermediate)
11523	7-[4-Chloro-6-(diethylamino)-5-triazine-2-yl]-amino-3-phenylcoumarin (Fluorescent brightening agent)
11611	2-Naphthol-8-sulfonic acid Potassium Salt (Dye intermediate)
11633	Thiofluorescein
14327	1,3,6,8-Pyrenetetrasulfonic Acid Tetrasodium Salt (Intermediate for fluorescent probes)
14335	Sodium Cyanoborohydride (Selective reducing agent)
14349	Chlorosulfonyl Isocyanate
14357	Nicotinamide Adenine Dinucleotide Disodium Salt (Reduced)
14388	p-Nitrophenyl iodoacetate
14389	5-[N-(2 Iodoacetylaminoethyl) amino]-1-naphthalenesulfonic Acid (1,5-I-AEDANS) (Fluorescent probe)
14392	Perfluorooctanoic Acid
14414	3,3′-Dihexyloxacarbocyanine Iodide (Fluorescent probe)
14432	Chlorodifluoroacetic Acid
14476	1-Octadecyl Isocyanate
14480	Ethyl Chrysanthemate
14553	β-Cyclodextrin
14557	Acridine Yellow
14634	Flavine Adenine Dinucleotide
14667	Boron Tribromide (Reagent for aryl-alkyl ether cleavage)

A group of liquid crystals and intermediates

4503	p-Ethylphenol
10086	Diethyl 4,4′-Azoxydicinnamate
10834	Cholesteryl 2-Ethylhexyl Carbonate
11096	p-Propylbenzaldehyde
11097	p-Butylbenzaldehyde
11185	p-Pentylbenzaldehyde
11648	2-Chloro-4-Hydroxybenzoic Acid
11650	p-Pentylphenyl 2-Chloro-4-(p-pentylbenzoyloxy) benzoate
11868	Pentyl p-[N-(p-Valeryloxy-benzylidene) amino] phenyl Carbonate
11874	p-Cyanophenyl p-Pentyloxy-benzoate
14044	p-Cyanophenyl p-Butylbenzoate
14045	(+)-p-(2-Methylbutyl) benzoyl Chloride
14046	p-Pentylphenyl p-Propylbenzoate
14047	p-Cyanophenyl p-Heptylbenzoate
14049	(+)-(2-Methylbutyl) Benzene
14334	p-Octylbenzaldehyde
14337	p-Hexylbenzaldehyde
14483	p-Heptyloxyphenol

New laser dyes, Q-switch dyes, and solvents

9740	EASTMAN Q-Switch I, for Neodymium Lasers
9860	EASTMAN Q-Switch II, for Neodymium Lasers
13187	1,2-Dichloroethane (Laser Grade)
14321	Sulforhodamine B (Laser Grade)
14351	3,3′-Diethyloxadicarbocyanine Iodide (Laser Grade)
14352	Rhodamine B (Laser Grade)
14353	Carbostyril 124 (Laser Grade)
14354	3,3′-Diethyloxatricarbocyanine Iodide (Laser Grade)
14368	Coumarin 151 (Laser Grade)
14369	Coumarin 152 (Laser Grade)
14370	Coumarin 307 (Laser Grade)
14371	Coumarin 153 (Laser Grade)
14372	Coumarin 311 (Laser Grade)
14373	Coumarin 314 (Laser Grade)
14374	Coumarin 106 (Laser Grade)
14375	Oxazine 170 Perchlorate (Laser Grade)
14400	IR-125 (Laser Grade)
14401	IR-132 (Laser Grade)
14402	IR-140 (Laser Grade)
14403	IR-144 (Laser Grade)
14404	IR-123 (Laser Grade)
14433	8-Hydroxy-1,3,6-pyrenetrisulfonic Acid Trisodium Salt (Laser Grade)
14617	Bis (4-diethylaminodithiobenzil) Nickel (Q-switch for neodymium lasers)

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Scichemco
VWR Scientific (East)

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17 October 1975

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SCIENCE

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

REPORTS

COVER

Dual channel flow-through electrode for Pb^{2+} measurements. Electrode consists of a "split" crystal membrane embedded in clear plastic with sample paths drilled in each membrane portion. Sidearms provide electrical connection to external potentiometer. See page 234. [Ronald Wawro and G. A. Rechnitz, State University of New York, Buffalo]

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Spectronic® 88 Spectrophotometer

With either instrument you have a minimum of controls to set. Wavelength range is continuous—there's no stopping to change phototubes or to insert stray light or second order filters.

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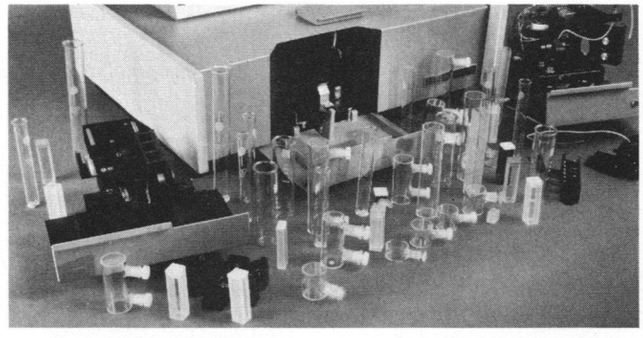

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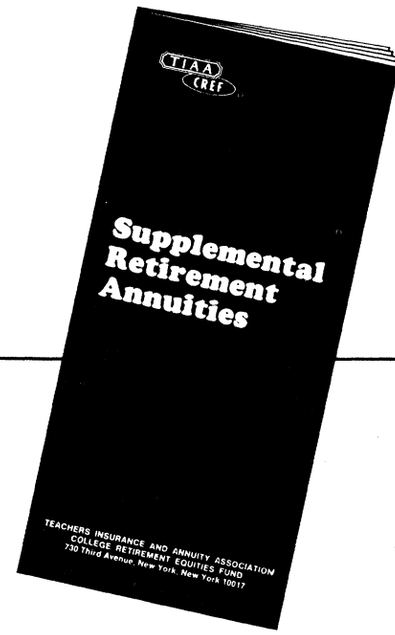

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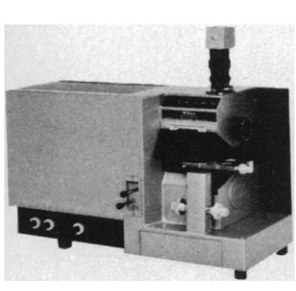
Nikon is involved.



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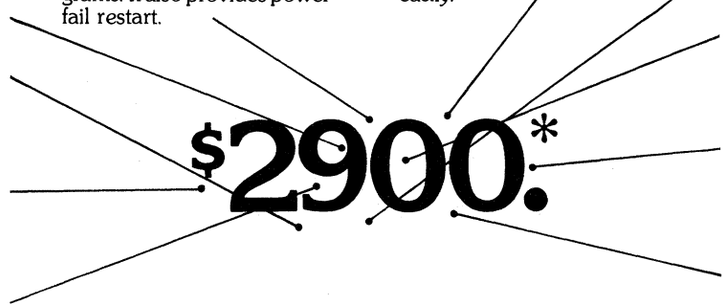

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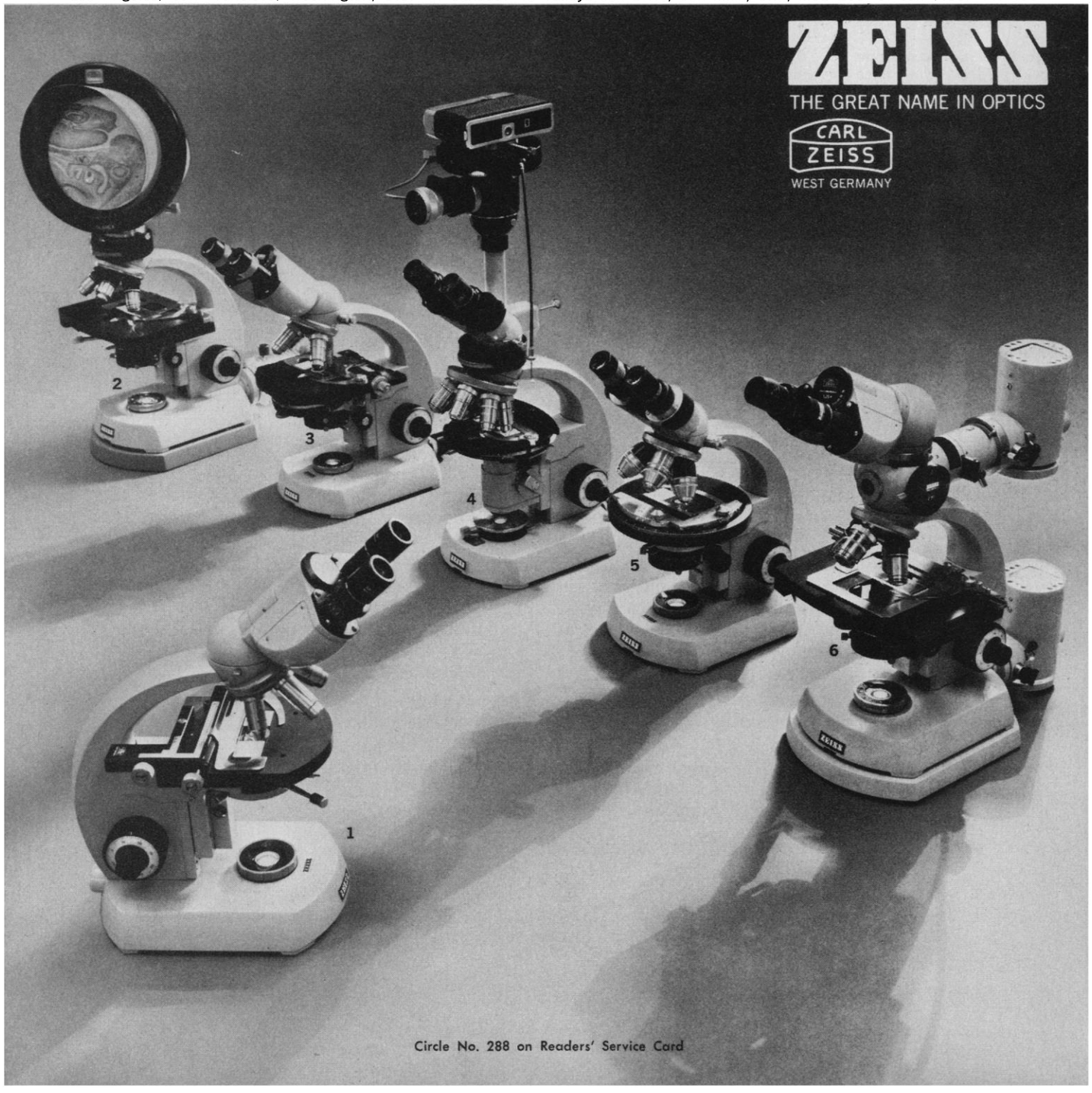

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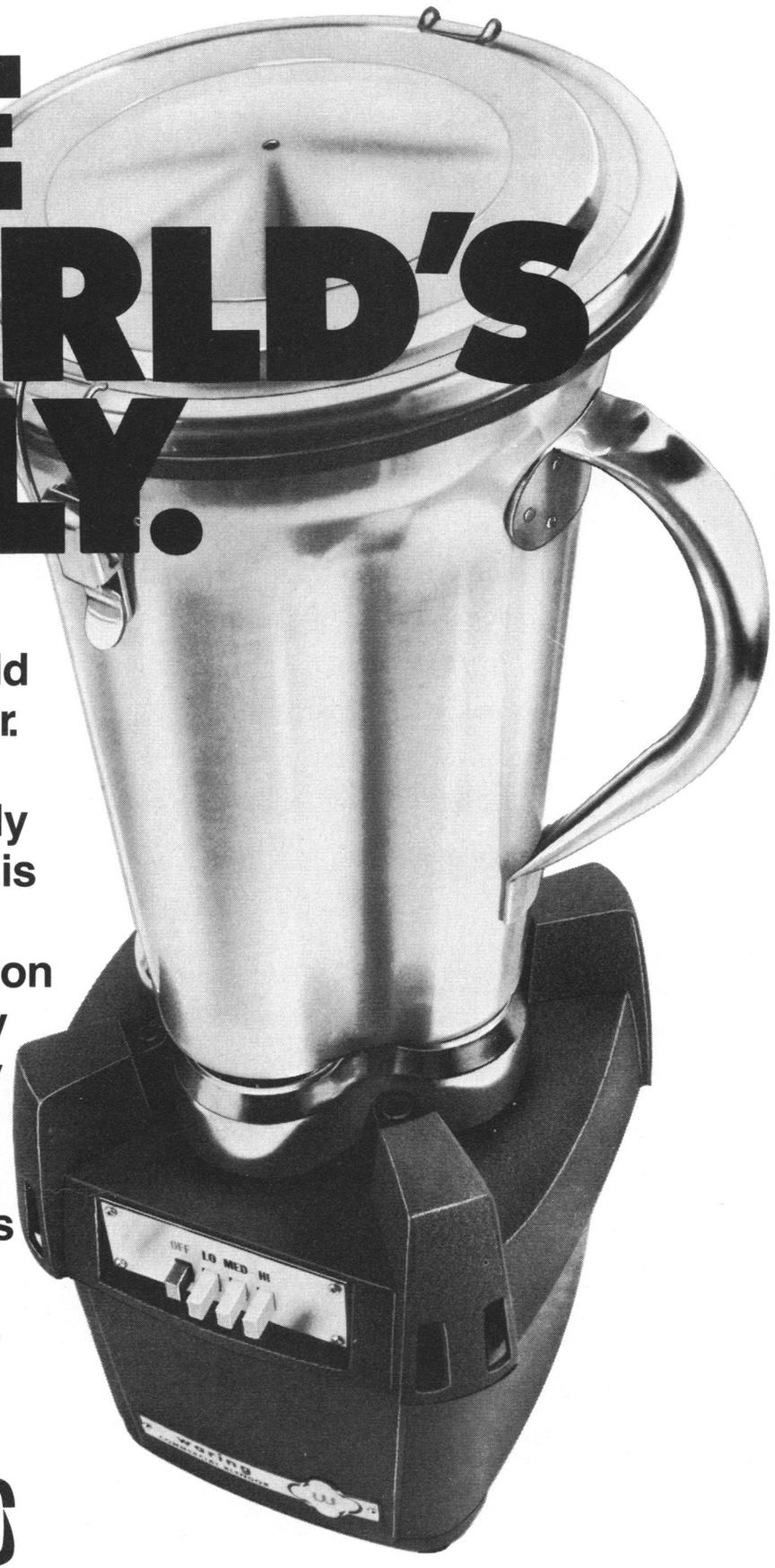

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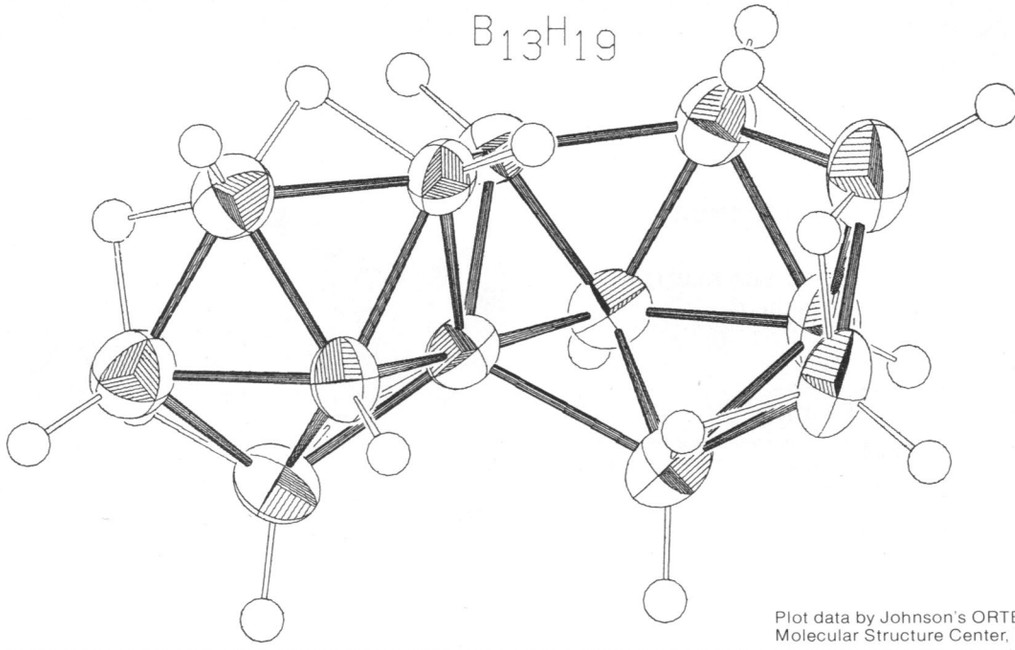

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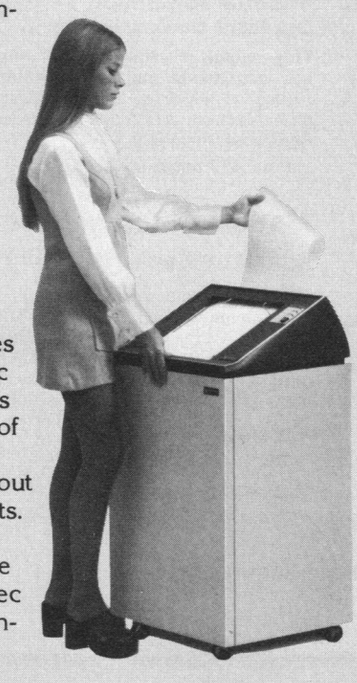

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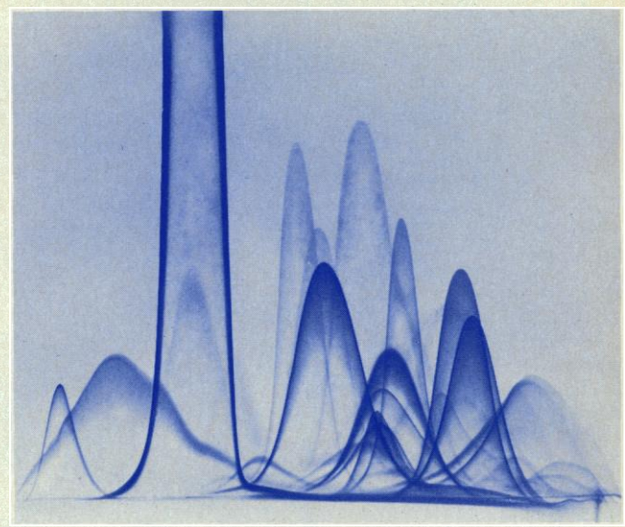
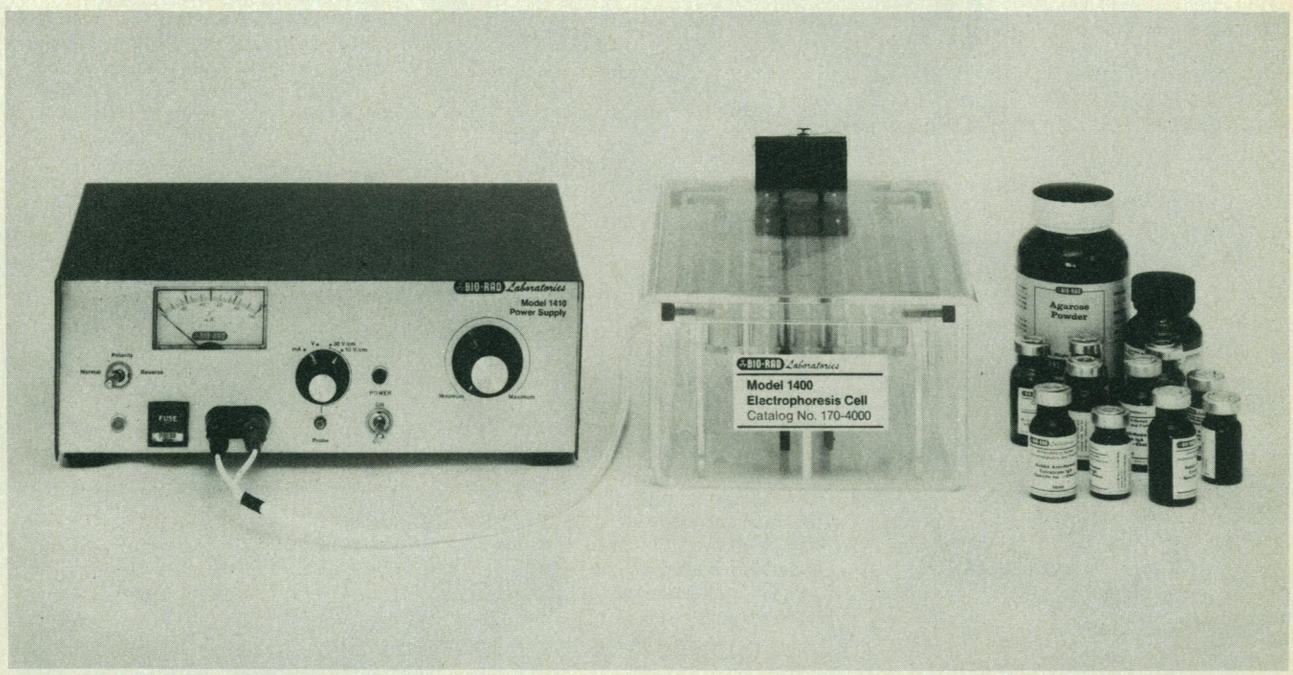


Crossed Immunoelectrophoresis:
Normal human serum vs. rabbit anti-human serum



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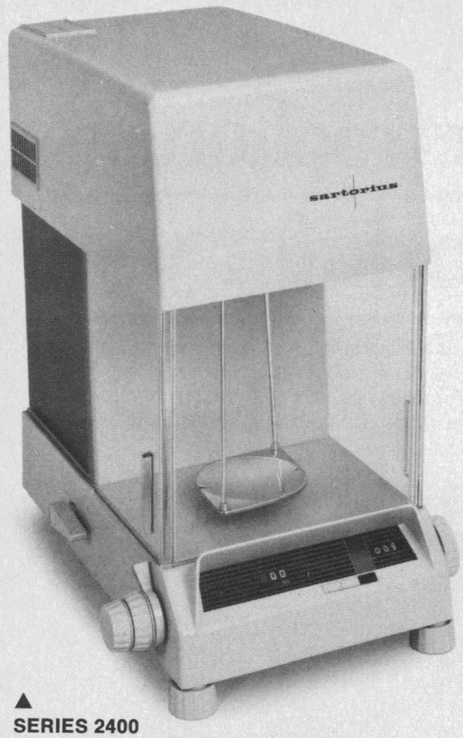

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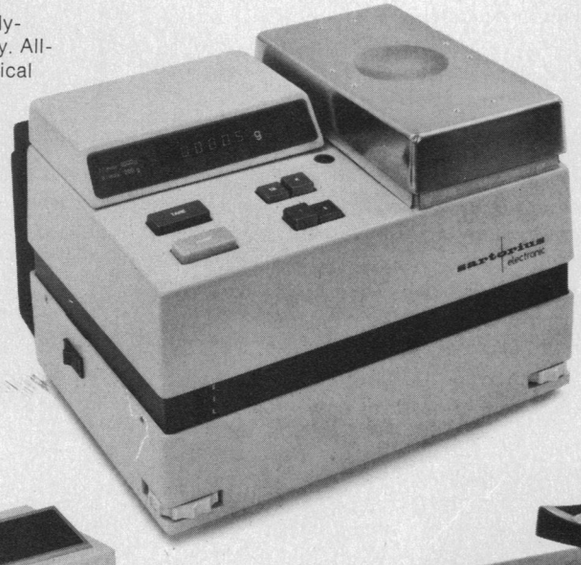

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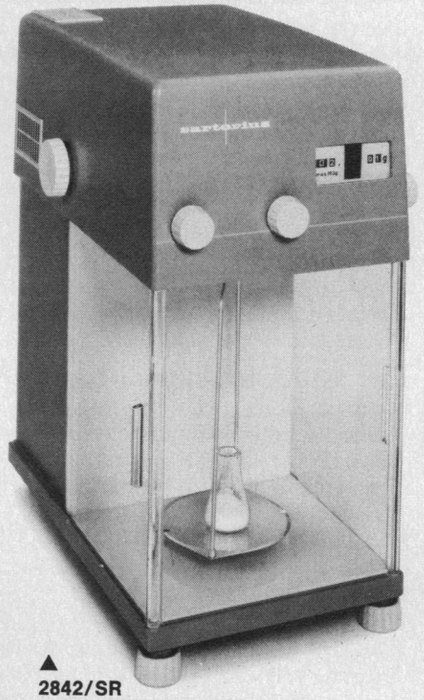

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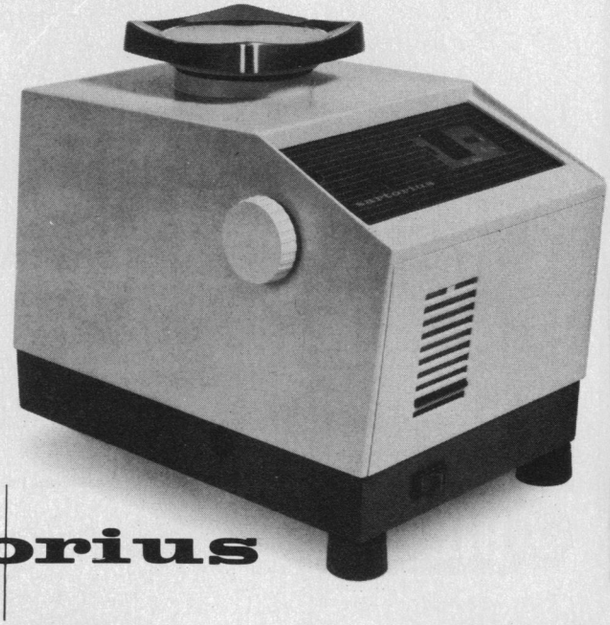

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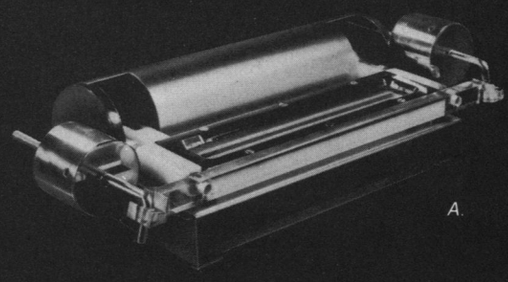

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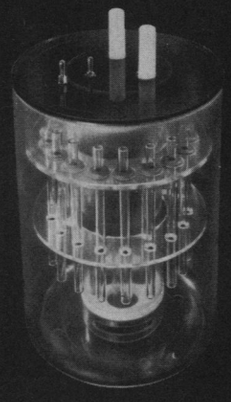

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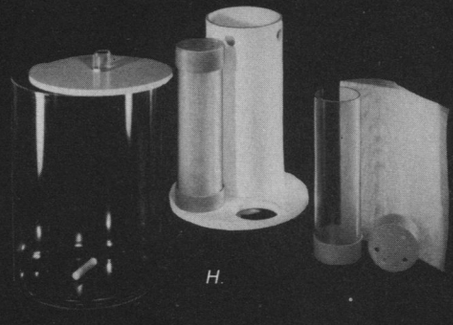

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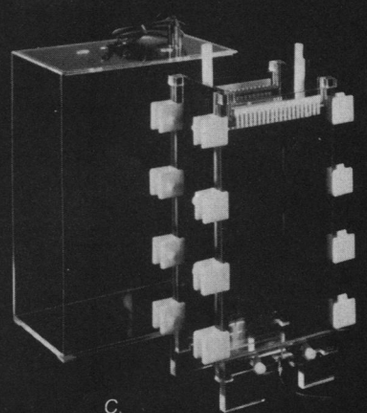

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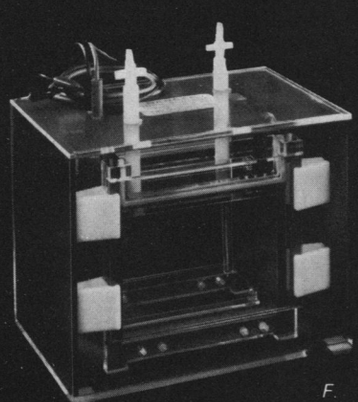

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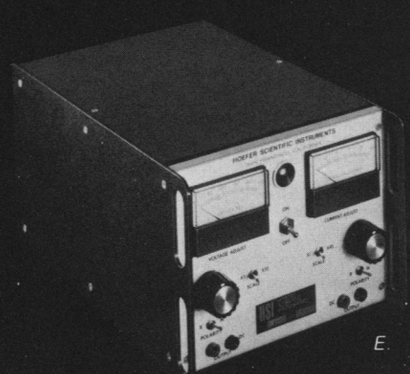

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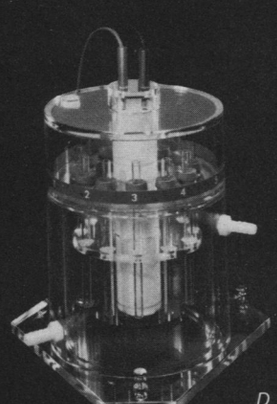

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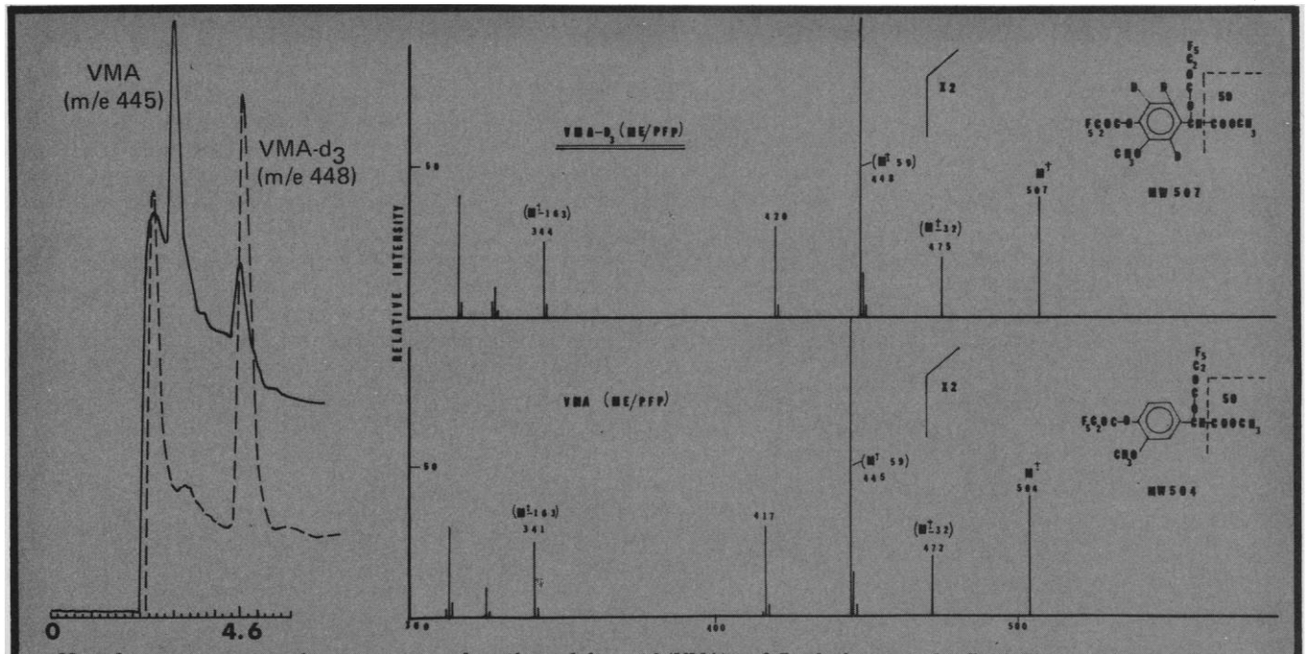

Mass fragmentogram and mass spectra of vanilmandelic acid (VMA) in 0.5 ml of ventricular fluid. The mass fragmentogram is a typical one of the methyl ester-pentafluoropropionate derivative of VMA in ventricular fluid. Solid line was produced by focusing on m/e 445 (VMA), and the broken line by focusing on m/e 448 (VMA-d_3).

Quantitation of Biogenic Amines With Finnigan GC/MS

Quantitative mass fragmentography is being used extensively to measure a variety of biogenic amines, their precursors and metabolites in plasma, cerebrospinal fluid (CSF), and brain tissue. The unique capabilities of Finnigan GC/MS make quantitative mass fragmentography a powerful technique for easily and accurately measuring nanomole quantities of biogenic amines ranging from phenylethylamine to melatonin.

The quantitation of these amines and their metabolites is important for understanding how the central nervous system works in health and disease. To this end, several scientists at the Division of Special Mental Health Research, NIMH are dedicated. At present, mass fragmentography is being used extensively to measure different biogenic amines and their metabolites in CSF (1) and brain tissue (2; 3).

Vanilmandelic Acid (VMA)

It has been assumed that VMA is a minor metabolite of central nervous system norepinephrine and of little importance. The results of recent work by NIMH scientists suggests, however, that VMA may be an important catecholamine metabolite in man. The mass spectra and mass fragmentogram above show typical results of assays of VMA in 0.5 ml of ventricular fluid obtained during neurosurgical procedures in nine patients (1). The mean (±SEM) content of VMA was 3.08 ±0.60 ng/ml.

Using mass fragmentography, precise measurements have also been made of the metabolites and amino acid precursors of norepinephrine and dopamine in the 50 to 200 pg range.

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Here Are The Reasons

In a Finnigan MS, the mass-set voltages applied to the quadrupole for selection of the specific masses to be measured can be switched sequentially in less than 1 msec. With a 100-msec sampling time, the dead time becomes less than 1%. The instrument is therefore collecting the ions of interest virtually all the time. This provides for maximum signal-to-noise ratio.

Rapid switching, especially between ions of widely different masses, poses a real challenge to the stability of the mass spectrometer electronics. Mass-set voltages must be maintained within 0.01% (i.e., better than 0.1 amu precision), even when switching between widely different masses. The RF-to-DC voltage ratio must also be maintained to 1 ppm in order to maintain 0.5% ion peak height stability. Only Finnigan GC/MS systems have demonstrated this level of performance in *users laboratories.*

To make quantitative mass fragmentography a routine task, the data system automatically calculates the peak areas or peak heights, allowing for subtraction of background signal, and reports the ratios of any selected ions. Users published reports of 0.2 to 0.4% precision and 0.3 to 0.6% accuracy for nanogram-level samples derived from biological systems have not been surpassed, or approached, by any other commercial system.

(1) F. Karoum, C. Gillin, R. J. Wyatt, Human cerebrospinal fluid (CSF) of biogenic amine metabolites. *Federation Proceedings* (1975) **34,** 146.
(2) F. Karoum, F. Cattabeni, E. Costa, C. R. Ruthven, and M. Sandler, Gas chromatographic assay of picomole concentrations of biogenic amines. *Analytical Biochemistry* (1972) **47,** 550.
(3) F. Cattabeni, S. H. Koslow, and E. Costa, Gas chromotographic-mass spectrometric assay of four indole alkylamines of rat pineal. *Science* (1972) **178,** 166.

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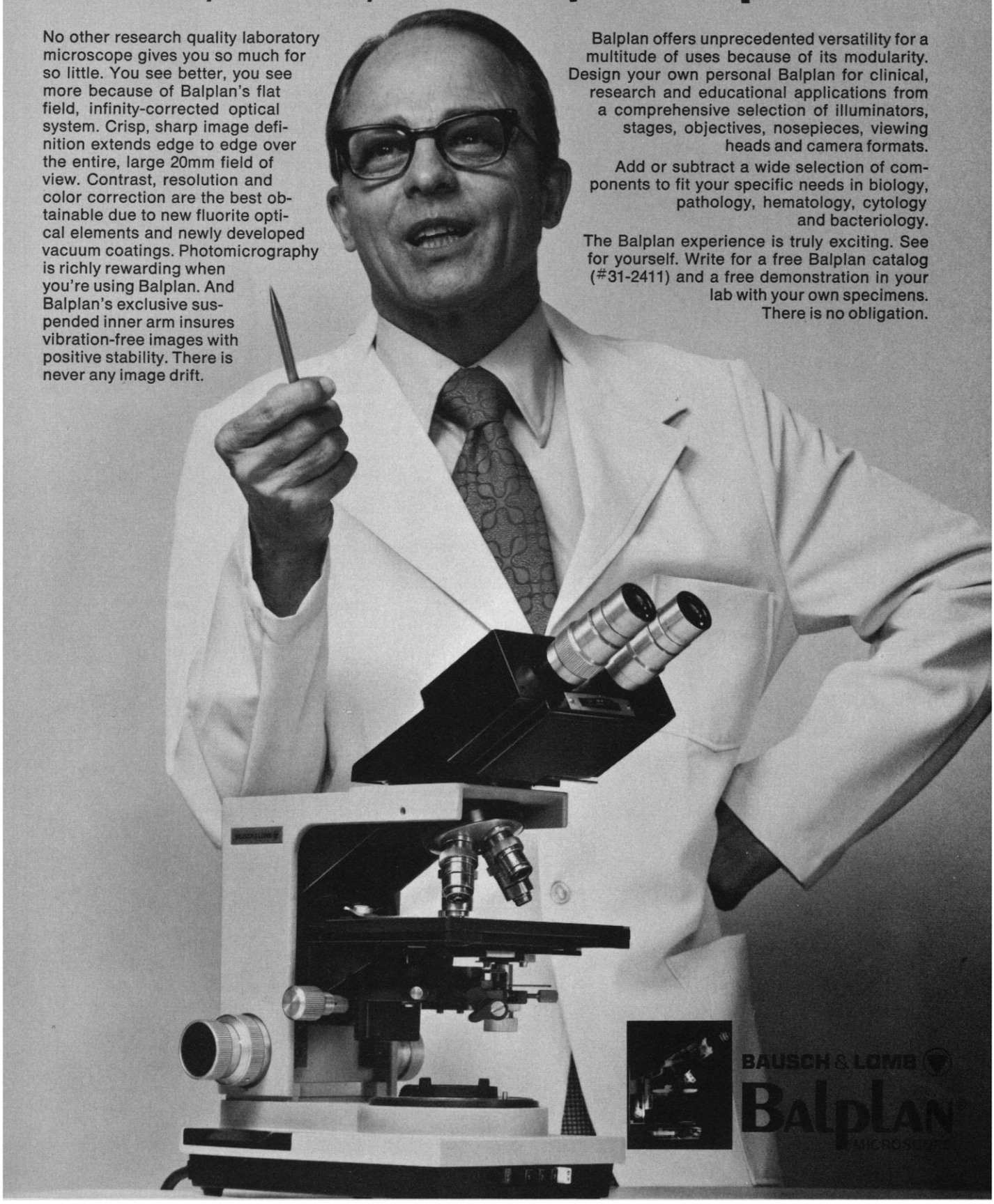

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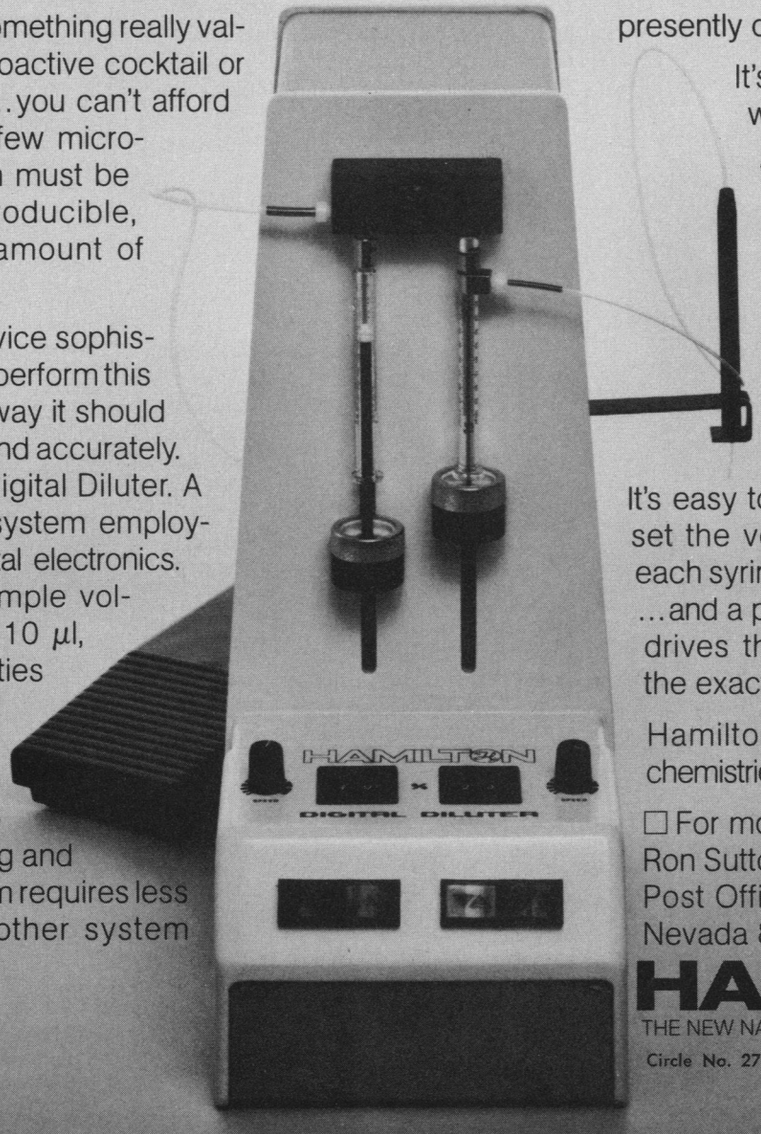

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LETTERS

Jensen's Address at APA Meeting

In a briefing (News and Comment, 19 Sept., p. 978) concerning my address before the American Psychological Association (APA) annual meeting in Chicago, it is stated, "Some APA officials were uncomfortable about having Jensen on the program at all, and were irritated that Jensen, in a press release, appeared to represent himself as having been invited by the leadership of APA when he was in fact invited by the division of educational psychology."

The only press release that was issued was written and sent out by the Office of Public Information of the University of California, Berkeley, and contained just one sentence concerning the status of my presentation, as follows: "Jensen reported his findings this afternoon (Tuesday, Sept. 2) in an invited paper at the 83rd Annual Convention of the American Psychological Association in Chicago." The official program of the APA convention lists my paper in two places (pages 163 and 215) under the heading "Invited Addresses on Test Bias."

ARTHUR R. JENSEN
Institute of Human Learning, University of California, Berkeley 94720

Oil Spill Effects

The article by Mark Panitch, "Offshore drilling: Fishermen and oilmen clash in Alaska" (News and Comment 18 July, p. 204), contains several quotations regarding research findings from the Auke Bay Fisheries Laboratory of the National Marine Fisheries Service (NMFS). Some of these statements are largely speculative, some are preliminary, and others are solidly backed by past or ongoing research.

In the first category, I meant by the statement "Any spill situation will exceed these [LD_{50}] values even at depth" that any *major* crude oil spill situation in which the mixing energy (such as storm-driven waves) is sufficient to result in the formation of oil emulsions at depth (as occurred in the Chedabucto Bay, Nova Scotia, spill of Bunker C fuel oil) will likely produce water-soluble oil concentrations at depth in which these LD_{50} values (1 to 5 parts per million as determined by infrared spectrophotometry) are exceeded. The duration and extent of these water-soluble oil concentrations depends upon circulation patterns, flushing rates, and sediment loads in the spill area. The potential for these values occurring will be greatest in areas of poor flushing and circular gyres. My

prediction is partially based on the results of studies of the behavior of oil-water mixtures in our laboratory, but more data on the distribution and dynamics of water-soluble concentrations of crude oil resulting from oil spills under a variety of environmental conditions is needed to correlate laboratory bioassays with real spill situations.

Furthermore, because of the dynamic complexities of oil in contact with biological systems and the specificities of various chemical methods, determination of LD_{50} values with other analytical techniques in addition to infrared spectroscopy (ultraviolet and fluorescent spectroscopy, gas chromatography, and mass spectroscopy) may be necessary before we can obtain complete information on the relative and synergistic toxicities of various components of crude oil. Thus, LD_{50} values quoted in the article (based on infrared data) should not be viewed as the final answer with regard to the toxicity of crude oil.

Comments on the relative shrimp production of Kachemak Bay and the Gulf of Mexico by Evan Haynes, as they appear in the article, may be misleading to the reader. On the basis of catch per unit effort, the shrimp production of Kachemak Bay may indeed exceed ten times the *average* catch rate in the Gulf of Mexico. This type of comparison is probably not valid, however, since the Kachemak Bay shrimp fishery is a day fishery with little effort being expended in locating shrimp, while the Gulf fishery is typified by fishing trips of 2 to 27 days during which considerable effort is expended on exploratory fishing. There is no doubt that Kachemak Bay is an extremely productive area where shrimp production may be equivalent to or exceed some of the most productive areas in the Gulf of Mexico (*1*).

Other comments identified by Haynes as speculative in nature are supported by available data. The existence of anticyclonic circulation or low flushing rates in outer Kachemak Bay is strongly suggested by NMFS current meter data, drogue studies by the Alaska Department of Fish and Game, and by Haynes' data on larval shrimp and crab distribution. Haynes suggests a circular current in the area holding larvae hatched there for several months, but larvae may also be carried in and out of the bay by prevailing currents. Therefore, the accumulation of larvae may result from the low flushing rate in the area rather than a circular flow per se. Important unknown factors are the duration and seasonal persistence of the current and the circulation at depth.

The article by Panitch is well written and, as a whole, appears to be the type of objective reporting one expects from *Sci-*

ence. However, several errors in spelling are readily apparent to Alaskan readers, namely Kasitsna Bay, not Kisitsna Bay; Evan Haynes, not Evans Haines; and Tony Mecklenburg, not Tony Micklenburg.

The $175,000 NMFS toxicity study mentioned in the article was cooperatively funded by a group of oil companies including the Shell Oil Company, Union Oil Company of California, Standard Oil Company of California, Marathon Oil Company, Phillips Petroleum Company, and Texaco, Inc. All comments in the article by investigators associated with this project and other NMFS studies should be regarded as personal opinions and not official NMFS positions or those of the funding organizations.

JOHN F. KARINEN
Auke Bay Coastal Fisheries Research Center, National Marine Fisheries Service, Auke Bay, Alaska 99821

References

1. K. W. Osborn, B. W. Maghan, S. B. Drummond, *Gulf of Mexico Shrimp Atlas* (Government Printing Office, Washington, D.C., 1969), pp. 1–20.

Lost Strain of Rats

The National Multiple Sclerosis Society has been interested in the use of experimental allergic encephalomyelitis (EAE) as a laboratory model for evaluating the efficacy of drugs for therapeutic treatment of multiple sclerosis. Such an evaluation is made difficult by the tendency of most strains of rats to recover relatively rapidly and spontaneously from EAE.

From 1968 to 1971, scientists at the Upjohn Company did an important series of therapy experiments (*1*) using a strain of Wistar rats from Manor Farms. In this strain, EAE was easily produced and the paralysis lasted for many weeks, so the therapeutic effects of drugs could be evaluated with ease.

Unfortunately, this strain of rats is no longer maintained commercially and may very well have been lost. If any scientists presently possess breeding colonies derived from Wistar rats obtained from Manor Farms during the period from 1968 to 1971, the society would appreciate the opportunity to obtain and test some of these animals.

HARRY M. WEAVER
National Research Programs, National Multiple Sclerosis Society, 257 Park Avenue South, New York 10010

References

1. M. E. Greig, A. J. Gibbons, G. A. Elliott, *J. Pharmacol. Exp. Ther.* **173**, 85 (1970); G. A. Elliott, A. J. Gibbons, M. E. Greig, *Arch. Int. Pharmacodyn. Ther.* **204**, 62 (1973).

Age and Tenure

Since a journal such as *Science* should stress facts rather than fiction, I was concerned when I read the editorial by Frank Press (18 July, p. 126). Press states that there "are many university scientists in the age range 55 to 65 who believe that their contributions to science are behind them." Since he is below this most productive age range, I assume his statement is not a self-appraisal. It may relate to some scientists in his department, but I am confident that it is not typical of my associates.

As a scientist in this alleged obsolescent age range, who is in his most productive years, I am aware of juvenile propaganda which has resulted in many forced early retirements of productive scientists and limitations on earned income by those receiving social security benefits. However, I am unaware of any facts that might be used to support such unsound edicts.

With regard to the alternate careers suggested by Press for these discarded scientists, I have worked in local government and in foreign technical assistance programs, taught science at a small college, written textbooks, and served as a staff member of professional and educational organizations. Was I mistaken when I considered such assignments as worthwhile contributions?

I doubt that my experienced colleagues, such as Robert A. Alberty (age 54), Paul Doty (age 55), William Doering (age 58), R. B. Woodward (age 58), Glenn Seaborg (age 63), Norman Hackerman (age 63), or Melvin Calvin (age 64), would agree with Press's proposal. Perhaps they, like myself (age 63), would appreciate hearing of any factual data showing that their contributions are behind them. Please say it isn't so, Dr. Press.

RAYMOND B. SEYMOUR
Department of Chemistry, University of Houston, Houston, Texas 77004

I cannot understand Seymour's response to my modest proposal that those scientists in the age range 55 to 65, who themselves believe they can contribute more to other endeavors than academic research, be allowed to do so in a respectable and financially rewarding manner. I am just as aware as Seymour of the many important contributions made by scientists over the age of 55, and I would be the last one to tamper with this reservoir of talent.

FRANK PRESS
Department of Earth and Planetary Sciences, Massachusetts Institute of Technology, Cambridge 02139

17 October 1975, Volume 190, Number 4211 **SCIENCE**

Federal Intervention in Universities

University presidents and other spokesmen are beginning to state publicly what they have been saying privately*. Congress and the federal bureaucracy are increasing their many modes of interference with universities. No institution is immune, and indeed the more prestigious one is, the more it is an object for attack. A common device is the ultimatum with a short deadline: If you do not do such and such, your grants and contracts will be cut off.

For some schools the confrontation is not dramatic, it is piecemeal. There are at least 12 federally mandated programs that cumulatively impinge on the financial health of all universities. The American Council on Education has stated that one large public university's annual expenses for implementing federal programs increased from $438,000 to $1.3 million between 1965 and 1975. During the same period a large private university's expenses increased from $110,000 to $3.6 million, and a private college's $2,000 to $300,000. The monetary expenditures are only part of the costs. They do not reflect the diversion of effort from scholarship to attention to federal demands.

Until about 1960 government involvement in academia was not great and interference was minimal. But in the late fifties, federal grants for research started to become a substantial factor in university budgets. The government chose to demand detailed accounting for individual grants. Since that time, the fastest growing component at many universities has been the business office. The sixties also brought a weakening of the status of presidents of universities. A contributing factor was the Vietnam war, but the federal grants system also played a major role in diminishing the authority of university leaders. In addition, the sudden termination of large federal fellowship programs which had previously grown rapidly caused substantial financial problems.

Thus, in the seventies the leaders of universities were ill-equipped to deal decisively with Washington and its agents. In consequence, the universities are now forced to cope with laws, proposed laws, regulations, proposed regulations, and authority-grabbing bureaucrats. The laws are proposed and enacted for worthy purposes, such as occupational safety, fair employment, or social security. Each of itself is laudable and defensible. But their total impact on the financial and intellectual life of the universities is severe. Moreover, the laws are subject to interpretation by the Executive Branch. Enforcement of regulations is in the hands of local agents, who often extend federal interference with university affairs. For example, auditors from the San Francisco office of the Department of Health, Education, and Welfare have been pushing around the California State University and College System. They demand that anyone paid on a federal project account for his or her total effort and that the schools change their payroll systems, under the threat that noncompliance will result in withholding of letters of credit.

A saddening development in the federal approach to universities in the past decade has been a shift from offering inducements to threatening punishments. This is especially significant in the area of fair employment practices. The universities have been slow in recruiting women and minorities, but bludgeoning and threats are creating a poor climate for change. Competent women appointees are being taunted that they owe their positions not to their own qualifications but to federal pressure. How much better change might have gone with the carrot instead of the stick!

The irony of punitive federal intervention is that a government which is unable to manage its own affairs competently insists on spreading its own brand of inefficiency throughout higher education. It is to be hoped that the university faculties will unite behind their presidents in opposing further federal involvement. A truly unified academic community could halt the federal crippling of higher education.—PHILIP H. ABELSON

*For example, K. Brewster, *Science*, 11 April 1975; S. K. Bailey, keynote address, annual meeting of the National Association of College and University Business Officers, New Orleans, 10 July 1975; D. Aldrich, testimony before the Subcommittee on Education, U.S. Senate, 15 July 1975; J. C. Calhoun, testimony before the Committee on Science and Technology, U.S. House of Representatives, 17 July 1975.

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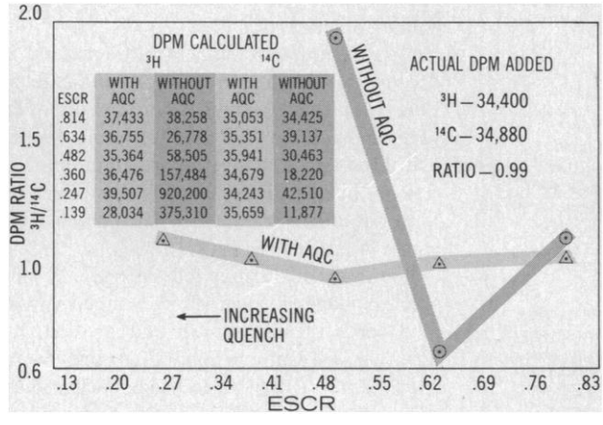

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BOOKS RECEIVED

(Continued from page 264)

Applications of Computer/Telecommunications Systems. Proceedings of a seminar, Paris, Nov. 1972. Organisation for Economic Co-operation and Development, Paris, 1975 (U.S. distributor, OECD Publications Center, Washington, D.C.). 272 pp. Paper, $9. OECD Informatics Studies, 8.

Applied Superconductivity. Vol. 2. Vernon L. Newhouse, Ed. Academic Press, New York, 1975. xiv, 700 pp., illus. $32.

Aquatic Microbiology. G. Rheinheimer. Translated from the German edition (Jena, 1971) by Anna Mayr-Harting. Wiley-Interscience, New York, 1975. x, 184 pp., illus. $11.

The Assault on World Poverty. Published for the World Bank by Johns Hopkins University Press, Baltimore, 1975. xiv, 426 pp. Cloth, $17.50; paper, $5.95.

Atomic Inner-Shell Processes. Vol. 1, Ionization and Transition Probabilities. Bernd Crasemann, Ed. Academic Press, New York, 1975. xii, 468 pp., illus. $47.50.

Atomic Physics. J. C. Willmott. Wiley, New York, 1975. xiv, 358 pp., illus. $22. Manchester Physics Series.

Basic Chemistry. Glenn H. Miller with the assistance of Frederick B. Augustine. Canfield (Harper and Row), San Francisco, 1975. xviii, 360 pp., illus. Paper, $9.95.

Basic Psychopathology. A Programed Text. C. W. Johnson, J. R. Snibbe, and L. A. Evans, Eds. Spectrum, New York, 1975 (distributor, Wiley, New York). xiv, 418 pp. Paper, $9.95.

Bees and Beekeeping. Roger A. Morse. Cornell University Press, Ithaca, N.Y., 1975. 296 pp., illus. $13.50.

A Bibliography for Finite Elements. J. R. Whiteman, Ed. Academic Press, New York, 1975. Not paged. Paper, $9.25.

Biology of the Mouse Histocompatibility-2 Complex. Principles of Immunogenetics Applied to a Single System. Jan Klein. Springer-Verlag, New York, 1975. xii, 620 pp., illus. $39.80.

Biopharmaceutics and Pharmacokinetics. An Introduction. Robert E. Notari with the assistance of Joyce L. DeYoung and Raymond C. Anderson. Dekker, New York, ed. 2, 1975. x, 286 pp., illus. $13.95.

Birds of New Jersey. Their Habits and Habitats. Charles Leck. Rutgers University Press, New Brunswick, N.J., 1975. xviii, 190 pp., illus. $12.50.

Borderline Conditions and Pathological Narcissism. Otto F. Kernberg. Aronson, New York, 1975. xviii, 362 pp. $15. Classical Psychoanalysis and Its Applications.

Boron Hydride Chemistry. Earl L. Muetterties, Ed. Academic Press, New York, 1975. xii, 532 pp., illus. $49.50.

Brain Function and Macromolecular Synthesis. B. Jakoubek. Pion Limited, London, 1974 (U.S. distributor, Academic Press, New York). x, 156 pp., illus. $9.

Bureaucratic Encounters. A Pilot Study in the Evaluation of Government Services. Daniel Katz, Barbara A. Gutek, Robert L. Kahn, and Eugenia Barton. Institute for Social Research, University of Michigan, Ann Arbor, 1975. xvi, 264 pp., illus. Cloth, $12.50; paper, $7.

Calcium Metabolism, Bone and Metabolic Bone Diseases. Proceedings of a symposium, Hamburg, Germany, Sept. 1973. Friedrich Kuhlencordt and Hans-Peter Kruse, Eds. Springer-Verlag, New York, 1975. xx, 382 pp., illus. $24.10.

Campus in Transition. Educational Facilities Laboratories, New York, 1975. 76 pp., illus. Paper, $4.

Caretaker of the Dead. The American Funeral Director. Vanderlyn R. Pine. Irvington, New York, and Halsted (Wiley), New York, 1975. xii, 220 pp. $12.95.

Cenozoic Reef Biofacies. Tertiary Larger Foraminifera and Scleractinian Corals from Chiapas, Mexico. Stanley H. Frost and Ralph L. Langenheim, Jr. Northern Illinois University Press, DeKalb, 1975. xii, 388 pp., illus. $50.

Chemical Carcinogenesis Essays. Proceedings of a workshop, Brussels, Belgium, Dec. 1973. R. Montesano, L. Tomatis, and W. Davis, Eds. International Agency for Research on Cancer, Lyon, France, 1974 (U.S. distributor, Q Corp., Albany, N.Y.). xiv, 230 pp., illus. Paper, $21. IARC Scientific Publications No. 10.

Chemical and Molecular Basis of Nerve Activity. David Nachmansohn with a supplement by Eberhard Neumann. Academic Press, New York, 1975. xviii, 404 pp., illus. $19.50.

Childhood Obesity. Papers from a conference. Myron Winick, Ed. Wiley-Interscience, New York, 1974. viii, 190 pp., illus. $16.95. Current Concepts in Nutrition.

Circuit Theory. A Computational Approach. Stephen W. Director. Wiley, New York, 1975. xviii, 680 pp., illus. $18.95.

Cobalamin. Biochemistry and Pathophysiology. Bernard M. Babior, Ed. Wiley-Interscience, New York, 1975. xiv, 478 pp., illus. $25.

Cold Spring Harbor Symposia on Quantitative Biology. Vol. 39, Tumor Viruses. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.,

1975. Two volumes, illus. xxvi + pp. 1–656 + index, and xviii + pp. 657–1200 + index. $60.

Core Mathematics. Dennis Bila, Ralph Bottorf, Paul Merritt, and Donald Ross. Worth, New York, 1975. xx, 604 pp., illus. Paper, $9.95.

Creep, Viscoelasticity and Creep Fracture in Solids. John Gittus. Halsted (Wiley), New York, 1975. xxviii, 726 pp., illus. $77.50.

Current Topics in Microbiology and Immunology. Ergebnisse der Microbiologie and Immunitätsforschung. Vol. 67. W. Arber and 14 others, Eds. Springer-Verlag, New York, 1974. iv, 164 pp., illus. $27.90.

Desalination and Technological Forecasting. Proceedings of a symposium, Mar. 1973. Gideon A. Levite and Amiel Dickmann, Eds. National Council for Research and Development, Prime Minister's Office, Jerusalem, 1975. vi, 244 pp., illus. Paper, $10.

Diabetes in Juveniles. Medical and Rehabilitation Aspects. Proceedings of a symposium, Jerusalem, Oct. 1972. Zvi Laron and Moshe Karp, Eds. Karger, Basel, 1975. xiv, 418 pp., illus. $75. Modern Problems in Paediatrics, vol. 12.

Dictionary of Scientific Biography. Vol. 11, A. Pitcairn—B. Rush. Charles Coulston Gillispie, Ed. Scribner, New York, 1975. xiv, 618 pp., illus. $40.

Dominance and Reproduction in Baboons *(Papio cynocephalus)*. A Quantitative Analysis. Glenn Hausfater. Karger, Basel, 1975. viii, 150 pp., illus. Paper, $30.50. Contributions to Primatology, vol. 7.

Dynamics of Helicopter Flight. George H. Saunders. Wiley-Interscience, New York, 1975. x, 304 pp., illus. $16.95.

Dynamik, Koronardurchblutung und Sauerstoffverbrauch des normalen und kranken Herzens. Experimentell-pharmakologische Untersuchungen und Herzkatheterstudien am Patienten. B. E. Strauer. Karger, Basel, 1975. vi, 118 pp., illus. Paper, $16.25.

An Economic Simulation Model for Regional Development Planning. Herbert H. Fullerton and James R. Prescott. Ann Arbor Science, Ann Arbor, Mich., 1975. viii, 134 pp., illus. $12.50.

The Educated Woman. Prospects and Problems. Formulated by the Committee on the College Student, Group for the Advancement of Psychiatry. Scribner, New York, 1975. 188 pp. $7.95.

Electron Microprobe Analysis. S. J. B. Reed. Cambridge University Press, New York, 1975. xvi, 400 pp., illus. $34.50. Cambridge Monographs on Physics.

The Electronic Criminals. Robert Farr. McGraw-Hill, New York, 1975. x, 194 pp. $8.95.

Emotions. Their Parameters and Measurement. Proceedings of a symposium, Stockholm. Lennart Levi. Raven Press, New York, 1975. xiv, 800 pp., illus. $25.

Energy Information Resources. An Inventory of Energy Research and Development Information Resources in the Continental United States, Hawaii and Alaska. Patricia L. Brown, Clarence C. Chaffee, Robert S. Kohn, and Joseph B. Miller, Eds. American Society for Information Science, Washington, D.C., 1975. vi, 208 pp. Paper, $18.50; to members and libraries, $14.80.

Engineering Anthropometry Methods. J. A. Roebuck, Jr., K. H. E. Kroemer, and W. G. Thomson. Wiley-Interscience, New York, 1975. xiv, 460 pp., illus. $27.95. Wiley Series in Human Factors.

Environmental Quality Management. Granville H. Sewell. Prentice-Hall, Englewood Cliffs, N.J., 1975. xii, 300 pp., illus. Cloth, $9.95; paper, $6.95.

Estrogen Receptors in Human Breast Cancer. Papers from a meeting, Bethesda, Md., July 1974. W. L. McGuire, P. P. Carbone, and E. P. Vollmer, Eds. Raven Press, New York, 1975. xvi, 284 pp., illus. $16.95.

Ethnic Groups of Insular Southeast Asia. Vol. 2, Philippines and Formosa. Frank M. Lebar, Ed. Human Relations Area Files Press, New Haven, Conn., 1975. viii, 174 pp., illus. $15.

Fast Reactions. J. N. Bradley. Clarendon (Oxford University Press), London, 1975. x, 122 pp., illus. $10.50. Oxford Chemistry Series.

A Field Guide to Reptiles and Amphibians of Eastern and Central North America. Roger Conant. Illustrated by Isabelle Hunt Conant. Houghton Mifflin, Boston, ed. 2, 1975. xviii, 430 pp. + plates. Cloth, $10; paper, $6.95. The Peterson Field Guide Series, 12.

A Field Guide to Western Mushrooms. Alexander H. Smith. University of Michigan Press, Ann Arbor, 1975. vi, 280 pp., illus. $16.50.

Green Algae. Structure, Reproduction and Evolution in Selected Genera. Jeremy D. Pickett-Heaps. Sinauer, Sunderland, Mass., 1975. viii, 606 pp., illus. $45.

Group Psychotherapies for Children. A Textbook. S. R. Slavson and Mortimer Schiffer. International Universities Press, New York, 1975. viii, 478 pp. $17.50.

Handbook of Psychobiology. Michael S. Gazzaniga and Colin Blakemore, Eds. Academic Press, New York, 1975. xvi, 640 pp., illus. $29.50.

Human Biology in Health and in Disease. Shirley R. Burke. Wiley, New York, 1975. xiv, 414 pp., illus. + plates. $10.95.

Human Congenital Malformations. The Design of a Computer-Aided Study. E. Gal and Isabel Gal. Butterworths, Boston, 1975. x, 194 pp., illus. $16.95.

Hypothalamic Hormones. Papers from a colloquium, Detroit, Feb. 1974. E. S. E. Hafez and J. R. Reel. Ann Arbor Science, Ann Arbor, Mich., 1975. xii, 156 pp., illus. $10. Perspectives in Human Reproduction, vol. 1.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. Vol. 6, Sex Hormones. International Agency for Research on Cancer, Lyon, France, 1974 (U.S. distributor, Q Corp., Albany, N.Y.). 244 pp., illus. Paper, $8.20.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. Vol. 7, Some Anti-Thyroid and Related Substances, Nitrofurans and Industrial Chemicals. International Agency for Research on Cancer, Lyon, France, 1974 (U.S. distributor, Q Corp., Albany, N.Y.). 326 pp., illus. Paper, $13.80.

IgG-Subklassen der menschlichen Immunglobuline. Immunochemische, genetische, biologische und klinische Aspekte. A. Morell, F. Skvaril, and S. Barandun. Karger, Basel, 1975. viii, 104 pp., illus. Paper, $13.25.

Immune Disorders. Leo Van der Reis, Ed. Karger, Basel, 1975. x, 188 pp., illus. Paper, $41. Frontiers of Gastrointestinal Research, vol. 1.

Impact: Science on Society. Robert L. Wolke, Ed. Saunders, Philadelphia, 1975. xxii, 248 pp., illus. Paper, $6.95. Saunders Golden Series in Environmental Studies.

Intelligence Tests and Reviews. A Monograph Consisting of the Intelligence Sections of the Seven *Mental Measurements Yearbooks* (1938–72) and *Tests in Print II* (1974). Oscar Krisen Buros, Ed. Gryphon, Highland Park, N.J., 1975. xxx, 1130 pp. $55. An MMY Monograph.

Intermediate Algebra. Dennis Bila, Ralph Bottorff, Paul Merritt, and Donald Ross. Worth, New York, 1975. xx, 626 pp., illus. Paper, $9.95.

The International Bureau of Weights and Measures 1875–1975. Chester H. Page and Paul Vigoureux, Eds. Translated from the French. National Bureau of Standards, Washington, D.C., 1975 (available from Superintendent of Documents, Washington, D.C.). viii, 248 pp., illus. Paper, $3. National Bureau of Standards Special Publication 420.

Introduction to Modern Biochemistry. P. Karlson. Translated from the German edition (Stuttgart, 1974) by Charles H. Doering. Academic Press, New York, ed. 4, 1975. xiv, 546 pp., illus. $15.95.

An Introduction to Numerical Classification. H. T. Clifford and W. Stephenson. Academic Press, New York, 1975. xii, 230 pp., illus. $19.50.

Introductory Algebra. Dennis Bila, Ralph Bottorff, Paul Merritt, and Donald Ross. Worth, New York, 1975. xx, 610 pp., illus. Paper, $9.95.

Invertebrate Immunity. Mechanisms of Invertebrate Vector-Parasite Relations. Papers from a workshop, Bethesda, Md., Apr. 1974. Karl Maramorosch and Robert E. Shope, Eds. Academic Press, New York, 1975. xii, 366 pp., illus. $16.50.

Learning about the Built Environment. Educational Facilities Laboratories, New York, 1974 (available from National Association of Elementary School Principals, 1801 N. Moore St., Arlington, Va.). 88 pp., illus. Paper, $3.

Lebesgue's Theory of Integration. Its Origins and Development. Thomas Hawkins. Chelsea, New York, ed. 2, 1975. xvi, 228 pp., illus. $9.50.

Lymphoproliferative Diseases. David W. Molander, Ed. Thomas, Springfield, Ill., 1975. xx, 570 pp., illus. $39.50.

Magnetic Oxides. D. J. Craik, Ed. Wiley-Interscience, New York, 1975. Two volumes, illus. Part 1. xxii + pp. 1–482. $42. Part 2. xxii + pp. 483–798. $42.

Man and Computer. Proceedings of a conference, Bordeaux, Sept. 1972. M. Marois, Ed. North-Holland, Amsterdam, and Elsevier, New York, 1975. 610 pp., illus. $74.95.

Man and the Environment. An Introduction to Human Ecology and Evolution. Arthur S. Boughey. Macmillan, New York, and Collier Macmillan, London, ed. 2, 1975. xii, 576 pp., illus. Paper, $8.95.

The Management of Compensation. Allan N. Nash and Stephen J. Carroll, Jr. Brooks/Cole, Monterey, Calif., 1975. xvi, 304 pp. $9.95. Behavioral Science in Industry Series.

Marine Ecology. A Comprehensive, Integrated Treatise on Life in Oceans and Coastal Waters. Vol. 2, Physiological Mechanisms. Part 2. Otto Kinne, Ed. Wiley-Interscience, New York, 1975. xvi + pp. 451–992, illus. $49.50.

The Mathematical Theory of Diffusion and Reaction in Permeable Catalysts. Vol. 2, Questions of Uniqueness, Stability, and Transient Behaviour. Rutherford Aris. Clarendon (Oxford University Press), New York, 1975. xiv, 218 pp., illus. $25.75.

Mechanics of Polymers. R. G. C. Arridge. Clarendon (Oxford University Press), New York, 1975. x, 246 pp., illus. $21.

Mechanisms of Regulation of Plant Growth. Papers from a symposium, Palmerston North, New Zealand, Aug. 1973. R. L. Bieleski, A. R. Ferguson, and M. M. Cresswell, Eds. Royal Society of New Zealand, Wellington, 1974. liv, 934 pp., illus. Paper, NZ$16. Bulletin 12, The Royal Society of New Zealand.

Medicinal Plants. Vol. 1. Papers by Vimala Ramalingam, N. Singh, H. C. Mital, and others. MSS Information Corp., New York, 1974. 162 pp., illus. $17.

Metal-to-Metal Bonded States of the Main Group Elements. M. J. Taylor. Academic Press, New York, 1975. x, 212 pp., illus. $15.25.

Methods in Cell Biology. Vol. 9. David M. Prescott, Ed. Academic Press, New York, 1975. xxvi, 398 pp., illus. $34.

Methods of Experimental Physics. Vol. 2, Electronic Methods. Part B. E. Bleuler and R. O. Haxby, Eds. Academic Press, New York, ed. 2, 1975. xviii, 524 pp., illus. $39.50.

Microbial Seascapes. A Pictorial Essay on Marine Microorganisms and Their Environments. John McNeill Sieburth. Underwater photomacrography by Harold L. Pratt with the assistance of Paul W. Johnson and Donald Scales. University Park Press, Baltimore, 1975. Not paged. Paper, $9.50.

Migration to the Stars. Never Again Enough People. Edward S. Gilfallan, Jr. Robert B. Luce Co., Washington, D.C., 1975 (distributor, McKay, New York). xiv, 226 pp. $8.95.

Minnesota Birds. Where, When, and How Many. Janet C. Green and Robert B. Janssen. Published for the James Ford Bell Museum of Natural History by University of Minnesota Press, Minneapolis, 1975. xviii, 218 pp., illus. $9.75.

Mixing. Principles and Applications. Shinji Nagata. Kodansha, Tokyo, and Halsted (Wiley), New York, 1975. xviii, 458 pp., illus. $32.50.

Modern Physical Electronics. L. Solymar, Ed. Chapman and Hall, London, 1975 (U.S. distributor, Halsted [Wiley], New York). viii, 214 pp., illus. Paper, $8.95. A Review of the Principles of Electrical and Electronic Engineering, vol. 3.

Molecular Population Genetics and Evolution. Masatoshi Nei. North-Holland, Amsterdam, and Elsevier, New York, 1975. xiv, 288 pp., illus. $34. Frontiers of Biology, vol. 40.

Museums USA. National Endowment for the Arts, Washington, D.C., 1975 (available from the Superintendent of Documents, Washington, D.C.). xvi, 204 pp., illus. Paper, $4.40.

Names in the History of Psychology. A Biographical Sourcebook. Leonard Zusne. Hemisphere, Washington, D.C., 1975 (distributor, Wiley, New York). xviii, 490 pp., illus. $17.95.

Neurophysiologie Fonctionnelle. Centres Nerveux, Montricité et Regulation Végétatives Autonomes. Pierre Buser and Michel Imbert. Hermann, Paris, 1975. xx, 466 pp., illus. Paper, 84 F. Collection Méthodes.

***N*-Nitroso Compounds in the Environment**. Proceedings of a conference, Lyon, France, Oct. 1973. P. Bogovski, E. A. Walker, and W. Davis, Eds. International Agency for Research on Cancer, Lyon, France, 1975 (U.S. distributor, Q Corp., Albany, N.Y.). xvi, 244 pp., illus. Paper, $21. IARC Scientific Publications No. 9.

Nonlinear Systems. Processing of Random Signals—Classical Analysis. A. H. Haddad, Ed. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1975 (distributor, Wiley, New York). xiv, 412 pp., illus. $25. Benchmark Papers in Electrical Engineering and Computer Science, vol. 10.

Nuclear Magnetic Resonance in Biochemistry. Principles and Applications. Thomas L. James. Academic Press, New York, 1975. xiv, 414 pp., illus. $26.50.

Nuclear and Particle Physics. Part A, Background and Symmetries. Hans Frauenfelder and Ernest M. Henley. Benjamin, Reading, Mass., 1975. xviii, 574 pp., illus. Cloth, $21.50; paper, $13.50. Lecture Notes and Supplements in Physics, No. 14.

On Being a Master Planner. A Step by Step Guide from a Nationwide Study of Environmental Education Planning. Richard Rocchio and Eve Lee. ERIC Information Analysis Center, Ohio State University, Columbus, 1974. x, 156 pp. Paper, $3.50.

One-Dimensional Conductors. Papers from a conference, Saarland, Germany, July 1974. H. G. Schuster, Ed. Springer-Verlag, New York, 1975. x, 372 pp., illus. Paper, $13.80. Lecture Notes in Physics, vol. 34.

Origin of Cosmic Rays. Proceedings of a NATO Advanced Study Institute, Durham, England, Aug. 1974. J. L. Osborne and A. W. Wolfendale, Eds. Reidel, Boston, 1975. x, 466 pp., illus. $39.50. NATO Advanced Study Institutes Series C, vol. 14.

Our Fragmented World. An Introduction to Political Geography. W. Gordon East and J. R. V. Prescott. Macmillan, London, 1975 (U.S. distributor, Crane, Russak, New York). xvi, 276 pp., illus. Paper, $7.95.

Our Geological Environment. Joel S. Watkins, Michael L. Bottino, and Marie Morisawa. Saunders, Philadelphia, 1975. xii, 520 pp., illus. Paper, $9.95. Saunders Golden Series in Environmental Studies.

The PAG Compendium. The Collected Papers Issued by the Protein-Calorie Advisory Group of the United Nations System, 1956–1973. Worldmark Press, New York, and Halsted (Wiley), New York, 1975 (distributor, Halsted). Vol. A. xl. 82 pp. Vol. E2. x + pp. 647–1320. The nine-volume set, $650.

Particles, Quantum Fields and Statistical Mechanics. Proceedings of a summer institute, Mexico City, 1973. A. Alexanian and A. Zepeda, Eds. Springer-Verlag, New York, 1975. vi, 132 pp., illus. Paper, $7.80. Lecture Notes in Physics, vol. 32.

The Peripheral Arterial Chemoreceptors. Proceedings of a workshop, Bristol, England, July 1973. M. J. Purves, Ed. Cambridge University Press, New York, 1975. xiv, 492 pp., illus. $39.50.

Personalized Data Base Systems. Benjamin Mittman and Lorraine Borman. Melville (Wiley), Los Angeles, 1975. xiv, 312 pp., illus. $18.95. Information Sciences Series. A Wiley-Becker and Hayes Series Book.

Physiological Anthropology. Albert Damon, Ed. Oxford University Press, New York, 1975. xiv, 368 pp., illus. Cloth, $15; paper, $6.95.

Plant a Tree. A Working Guide to Regreening America. Michael Weiner. Macmillan, New York, 1975. x, 278 pp., illus. $15.95.

Plants in the Landscape. Philip L. Carpenter, Theodore D. Walker, and Frederick O. Lanphear. Freeman, San Francisco, 1975. viii, 482 pp., illus. $16.

The Political Geography of the Oceans. J. R. V. Prescott. Halsted (Wiley), New York, 1975. 248 pp., illus. $13.95.

Polymer Chemistry. An Introduction. Malcolm P. Stevens. Addison-Wesley, Reading, Mass., 1975. xvi, 458 pp., illus. Cloth, $25; paper, $17.50.

Population and the Environmental Crises. Papers from a symposium, Johnson City, Tenn., 1974. Stephen White, Ed. East Tennessee State University Research Advisory Council, Johnson City, 1975. xii, 116 pp. Paper, $3.50.

Le Potassium dans les Cultures et les Sols Tropicaux. Potassium in Tropical Crops and Soils. Proceedings of a colloquium, Abidjan, Ivory Coast, Dec. 1973. International Potash Institute, Berne-Worblaufen, Switzerland, 1974. 604 pp., illus. Sw. Fr. 42.

Principles of Anatomy and Physiology. Gerard J. Tortora and Nicholas Peter Anagnostakos. Harper and Row, New York, 1975. xiv, 624 pp., illus. $13.95.

Principles of Comparative Respiratory Physiology. Pierre Dejours. North-Holland, Amsterdam, and Elsevier, New York, 1975. xvi, 254 pp., illus. Cloth, $24.95; paper, $14.75.

Principles of Fishery Science. W. Harry Everhart, Alfred W. Eipper, and William D. Youngs. Comstock (Cornell University Press), Ithaca, N.Y., 1975. 288 pp., illus. $12.50.

Principles of Neurotransmission. Proceedings of a symposium, Vienna, Nov. 1973. L. Stockinger, Ed. Springer-Verlag, New York, 1975. viii, 152 pp. $38.30. *Journal of Neural Transmission* Supplementum XII.

Proceedings of the Fourth International Conference on Numerical Methods in Fluid Dynamics. Boulder, Colo., June 1974. Robert D. Richtmyer, Ed. Springer-Verlag, New York, 1975. vi, 458 pp., illus. Paper, $16. Lecture Notes in Physics, vol. 35.

Proceedings of the Third International Congress on Photosynthesis. Rehovot, Israel, Sept. 1974. Mordhay Avron, Ed. Elsevier, New York, 1975. Three volumes. xx, 2194 pp., illus. $133.50.

Producing Your Own Power. How to Make Nature's Energy Sources Work for You. Carol Hupping Stoner, Ed. Vintage (Random), New York, 1975. 322 pp., illus. Paper, $3.95. Reprint of the 1974 edition.

Professionals in Chemistry: 1974. A Comprehensive Report on Growth and Characteristics, Work Activities and Employers, Salaries, Women Chemists, Supply/Demand. Panagis A. Benetatos with the assistance of Maria D. Frizat. American Chemical Society Office of Manpower Studies, Washington, D.C., 1975. x, 98 pp., illus. Paper, $5; to members, $1.

Progress in Behavior Modification. Vol. 1. Michel Hersen, Richard M. Eisler, and Peter M. Miller, Eds. Academic Press, New York, 1975. xviii, 352 pp., illus. $19.50.

Public Policy Development. Linking the Technical and Political Processes. Robert F. Baker, Richard M. Michaels, and Everett S. Preston. Wiley-Interscience, New York, 1975. xii, 316 pp., illus. $17.

Quantum Mechanics for Organic Chemists. Howard E. Zimmerman. Academic Press, New York, 1975. x, 216 pp., illus. $16.50.

The Quest for a Federal Manpower Partnership. Sar A. Levitan and Joyce K. Zickler. Harvard University Press, Cambridge, Mass., 1974. xii, 132 pp. $6.50.

Radio Astronomy for the Amateur. Dave Heiserman. Tab Books, Blue Ridge Summit, Pa., 1975. 252 pp., illus. Cloth, $8.95; paper, $5.95.

Random Sets and Integral Geometry. G. Matheron. Wiley, New York, 1975. xxvi, 262 pp. $18.95. Wiley Series in Probability and Mathematical Statistics.

Rationing Health Care. Michael H. Cooper. Halsted (Wiley), New York, 1975. 126 pp. $13.50.

Readings in Population and Community Ecology. William E. Hazen. Saunders, Philadelphia, ed. 3, 1975. viii, 430 pp., illus. Paper, $7.95.

Recommended Instrumentation for Uranium and Thorium Exploration. International Atomic Energy Agency, Vienna, 1974 (U.S. distributor, Unipub, New York). viii, 96 pp. Paper, $5. Technical Reports Series No. 158.

Restless River. International Law and the Behavior of the Rio Grande. Jerry E. Mueller. Texas Western Press (University of Texas at El Paso), El Paso, 1975. xii, 156 pp., illus. Cloth, $8; paper, $5.

Restorative Dental Materials. Robert G. Craig and Floyd A. Peyton, Eds. Mosby, St. Louis, ed. 5, 1975. xii, 496 pp., illus. Paper, $15.

Roches et Minéraux. J. Lameyre. Doin, Paris,

1975. Two volumes, illus. Vol. 1, Les Matériaux. 128 pp. Paper, 60 F. Vol. 2, Les Formations. pp. 129–352. Paper, 120 F.

Salivary Glands and the Facial Nerve. John Conley. Grune and Stratton, New York, 1975. viii, 392 pp., illus. $85.

San Fernando, California, Earthquake of February 9, 1971. Vol. 2, Utilities, Transportation, and Sociological Aspects. Leonard M. Murphy, Scientific Coordinator. National Oceanic and Atmospheric Administration, Washington, D.C., 1973 (available from the Superintendent of Documents, Washington, D.C.). viii, 326 pp., illus. + loose map. $11.70.

Science Past—Science Future. Isaac Asimov. Doubleday, Garden City, N.Y., 1975. xiv, 346 pp. $8.95.

Selected Bibliography on Algae. No. 14, 1973. Nova Scotia Research Foundation, Dartmouth, Canada, 1974. 200 pp. Paper, C$15.

Semiconducting Temperature Sensors and Their Applications. Herbert B. Sachse. Wiley-Interscience, New York, 1975. xii, 380 pp., illus. $22.95.

Separation Methods in Chemical Analysis. James M. Miller. Wiley-Interscience, New York, 1975. x, 310 pp., illus. $14.95.

The Shaman and the Jaguar. A Study of Narcotic Drugs among the Indians of Colombia. G. Reichel-Dolmatoff. Temple University Press, Philadelphia, 1975. xxii, 280 pp. + plates. $15.

Social Science and Public Policy in the United States. Irving Louis Horowitz and James Everett Katz. Praeger, New York, 1975. xvi, 190 pp. Cloth, $16.50; paper, $5.95. Praeger Special Studies in U.S. Economic, Social, and Political Issues.

Solidarity in a Slum. Joseph B. Tamney. Schenkman, Cambridge, Mass., 1975 (distributor, Wiley, New York). viii, 182 pp., illus. Cloth, $10; paper, $4.50.

Spatial Synthesis in Computer-Aided Building Design. Charles M. Eastman, Ed. Halsted (Wiley), New York, 1975. xii, 334 pp., illus. $37.50.

Spouted Beds. Kishan B. Mathur and Norman Epstein. Academic Press, New York, 1974. xvi, 304 pp., illus. $24.50.

Statistics at the School Level. Proceedings of a conference, Vienna, Aug. 1973. Lennart Råde, Ed. Almqvist and Wiksell, Stockholm, and Halsted (Wiley), New York, 1975. 242 pp., illus. $19.95.

Stochastic Processes. Rodney Coleman. Allen and Unwin, London, 1974, and Crane, Russak, New York, 1975. vi, 94 pp., illus. Paper, $4.95. Problem Solvers, No. 14.

Stone Age Crisis. A Psychiatric Appraisal. B. G. Burton-Bradley. Vanderbilt University Press, Nashville, Tenn., 1975. xiv, 128 pp. $8.95. The Abraham Flexner Lectures in Medicine, 1973.

Structural Stability and Morphogenesis. An Outline of a General Theory of Models. René Thom. Translated from the French edition (Reading, Mass., 1972) by D. H. Fowler. Benjamin, Reading, Mass., 1975. xxvi, 348 pp., illus. Cloth, $22.50; paper, $13.50.

Supercritical Wing Sections II. A Handbook. Frances Bauer, Paul Garabedian, David Korn, and Antony Jameson. Springer-Verlag, New York, 1975. vi, 296 pp., illus. Paper, $12.10. Lecture Notes in Economics and Mathematical Systems, vol. 108.

Telecommunication Transmission Handbook. Roger L. Freeman. Wiley-Interscience, New York, 1975. xx, 588 pp., illus. $27.50.

Textbook of Pollen Analysis. Knut Fægri and Johs. Iversen. Munksgaard, Copenhagen, ed. 3, 1975. 296 pp., illus. D. kr. 100.

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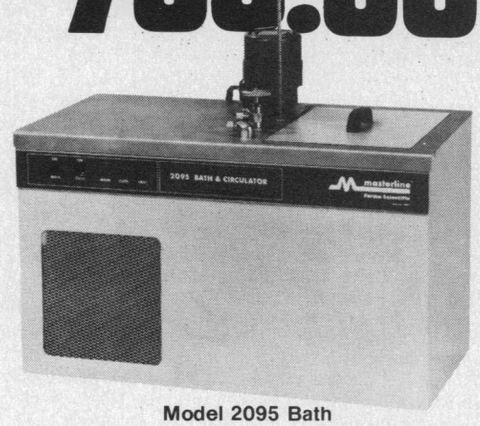

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