

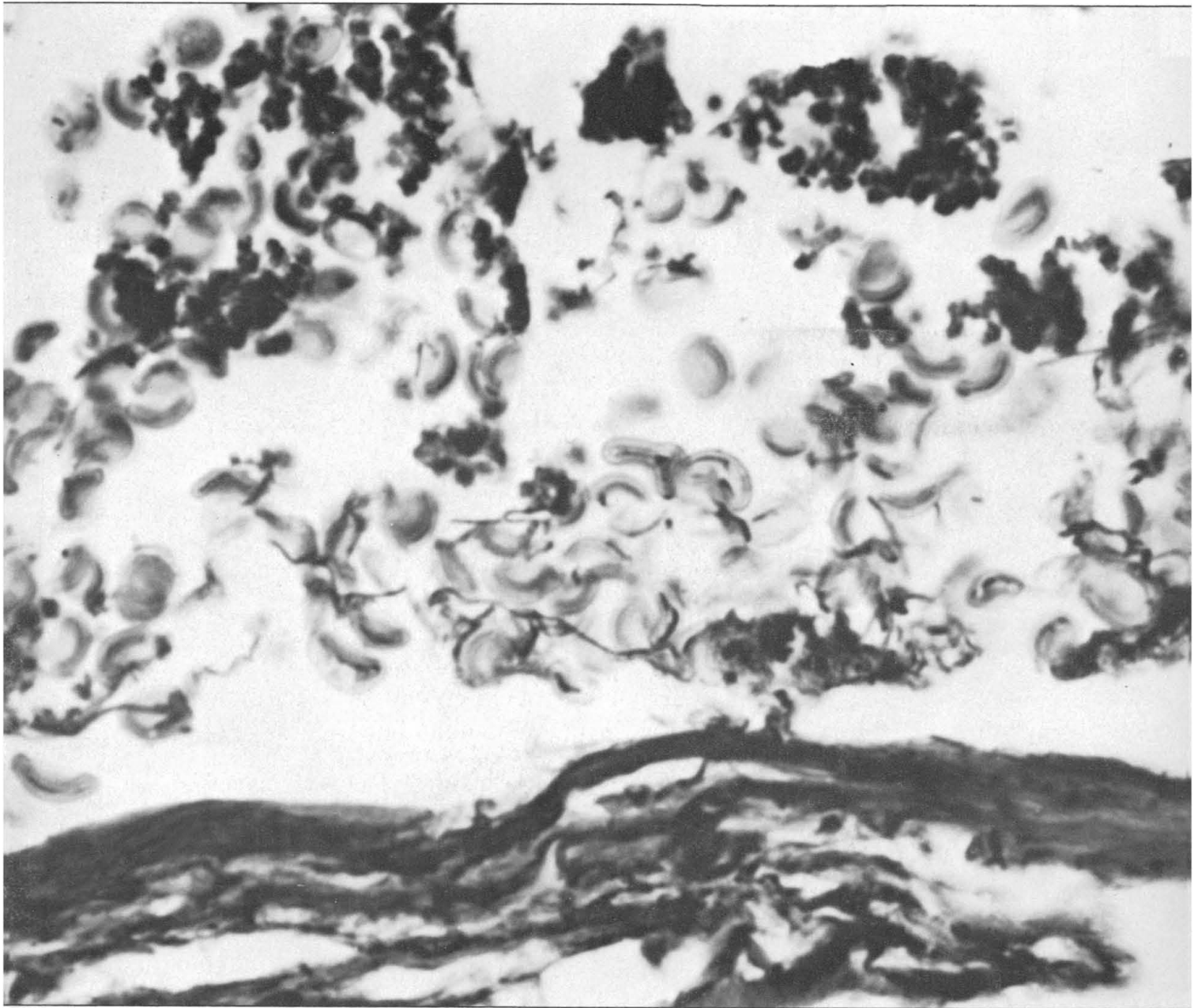
# SCIENCE

20 April 1973

Vol. 180, No. 4083

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

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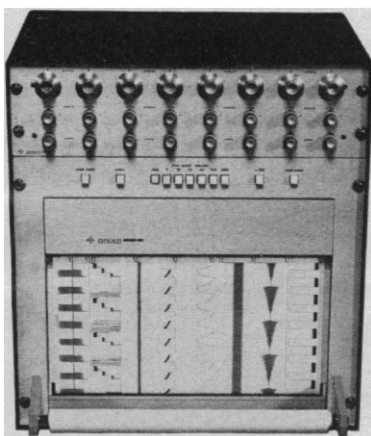
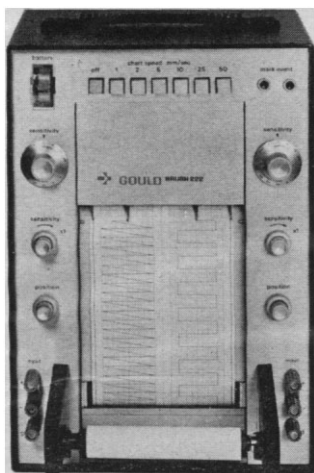
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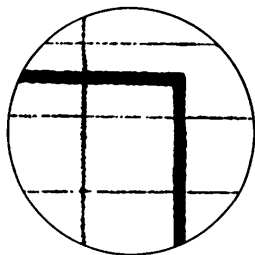
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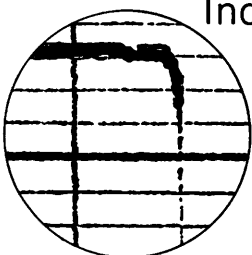
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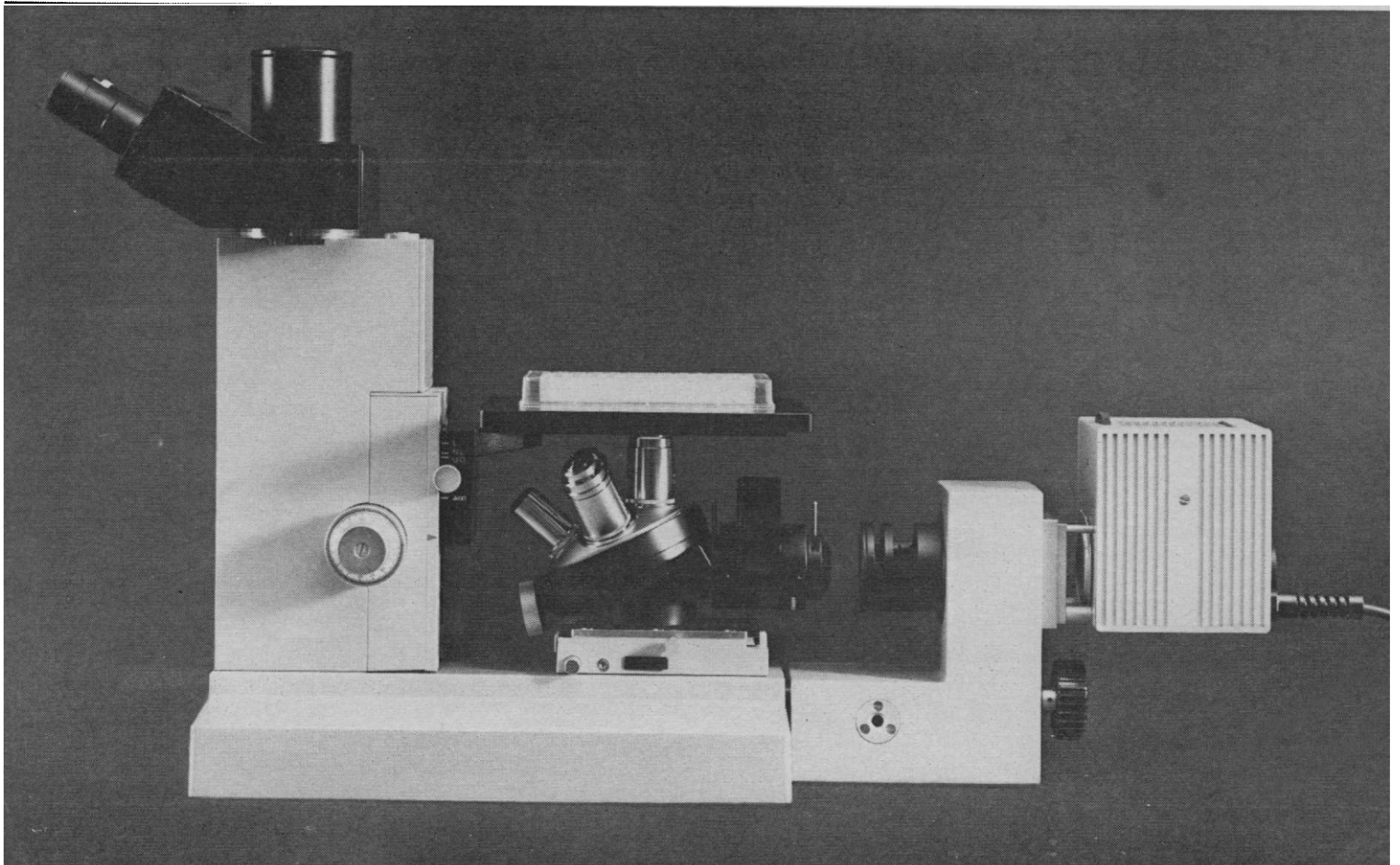
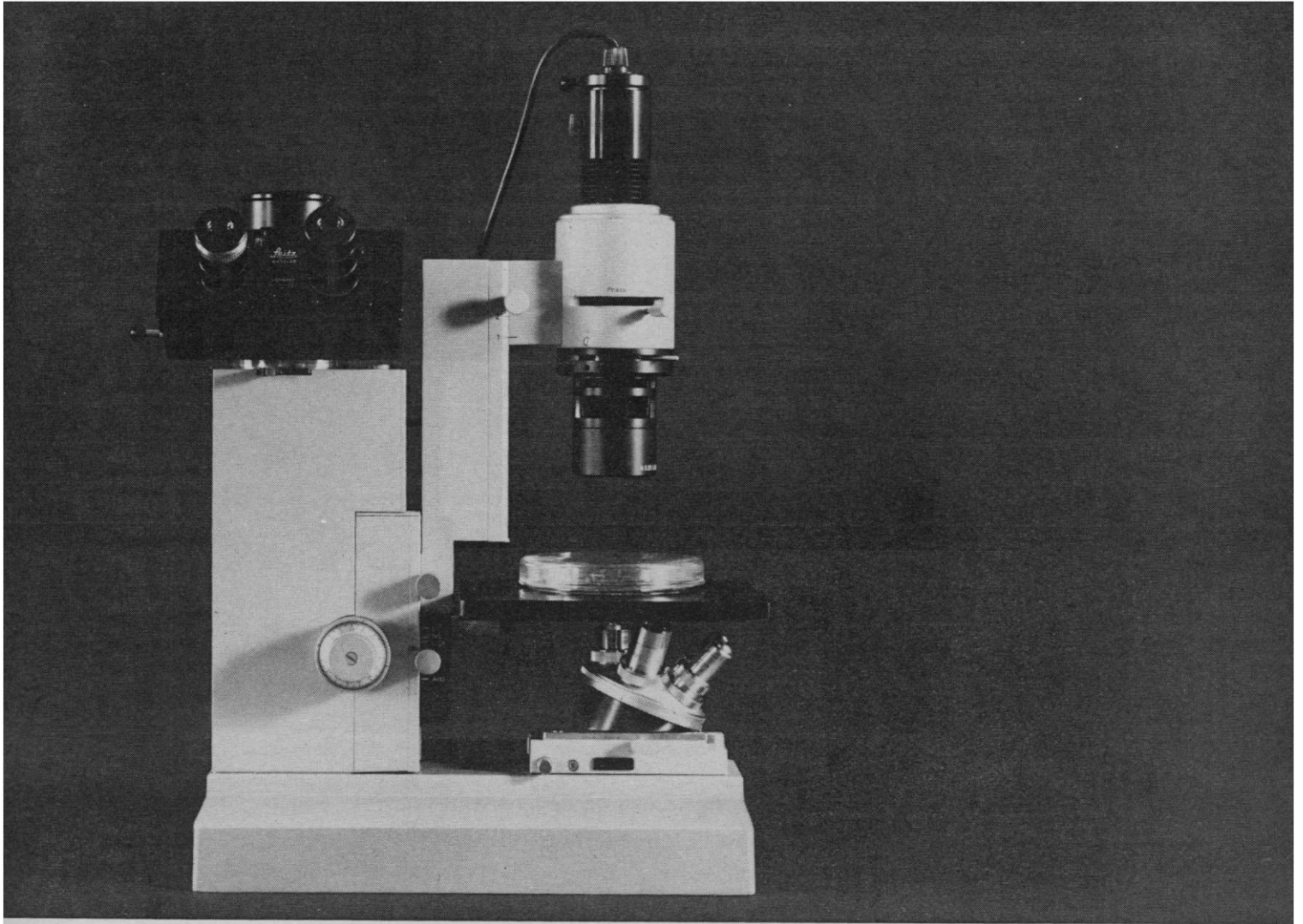
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## COVER

Preserved red blood cells, showing characteristic bioconcavity, in a thoracic vein. The dark granules are autolyzed leukocytes. (Hematoxylin and eosin stain, about  $\times 1400$ ). See page 303. [Michael R. Zimmerman, Hospital of the University of Pennsylvania, Philadelphia]

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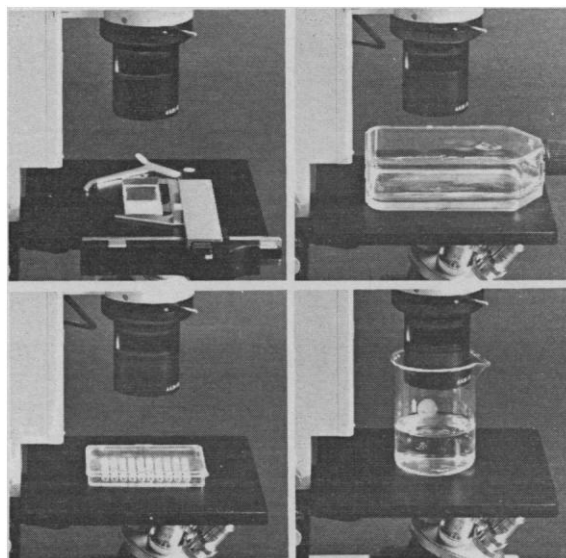
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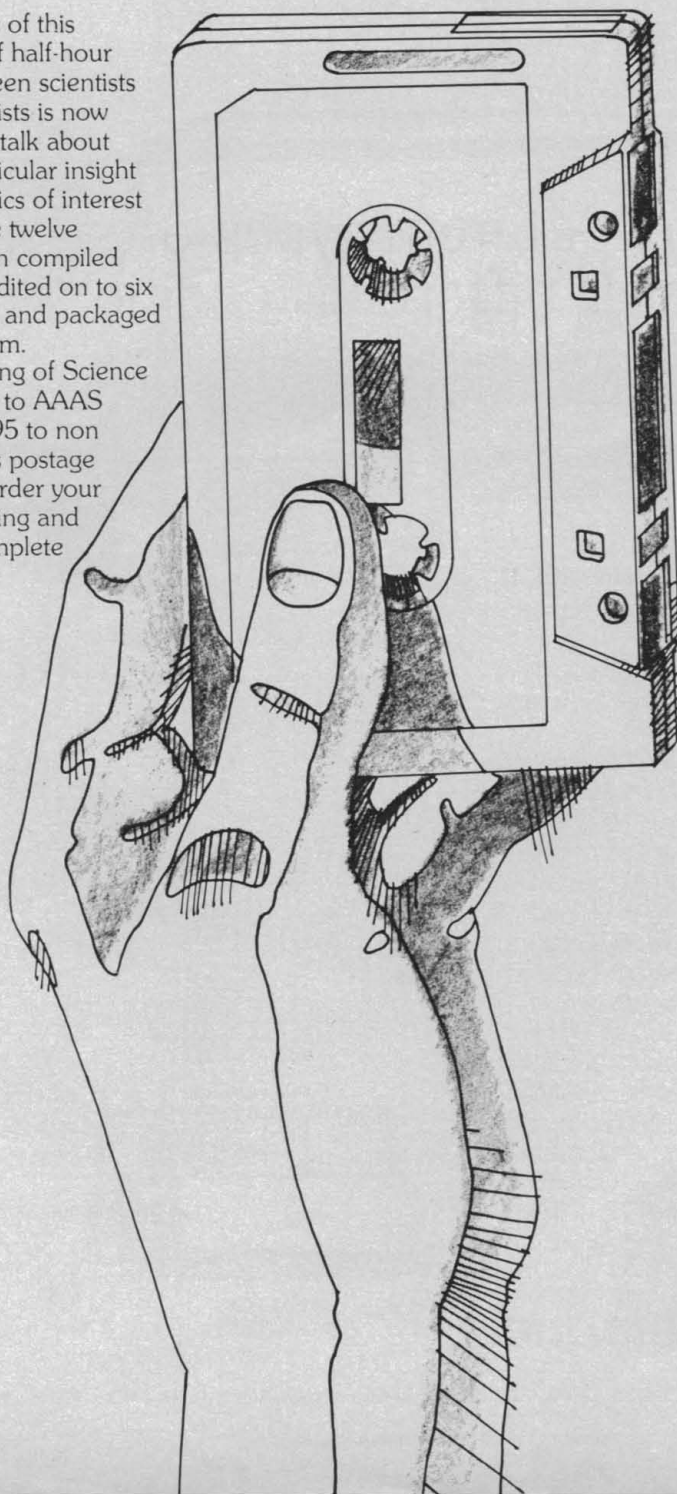
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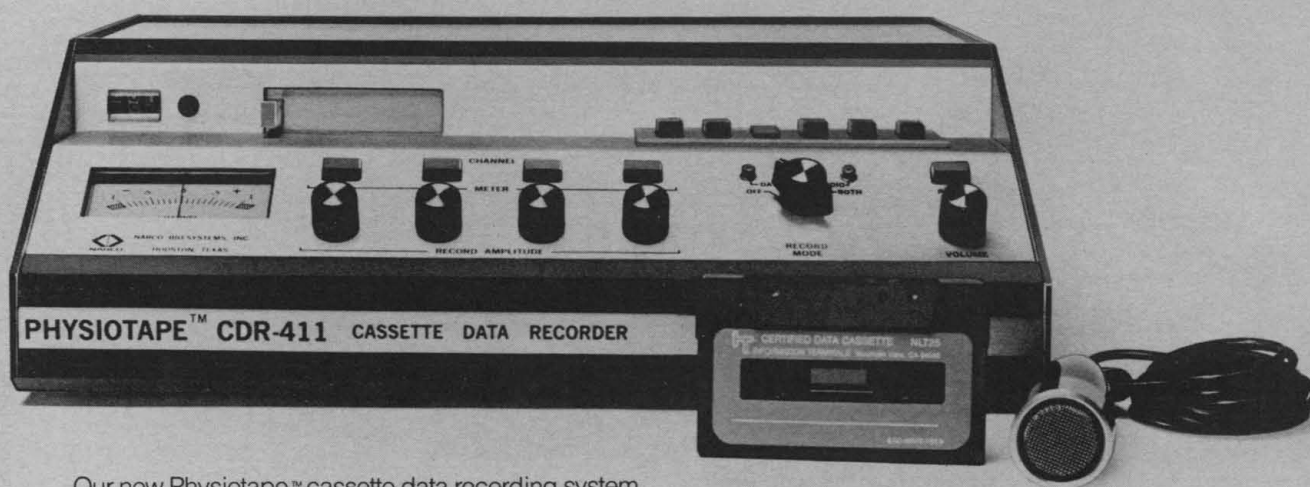
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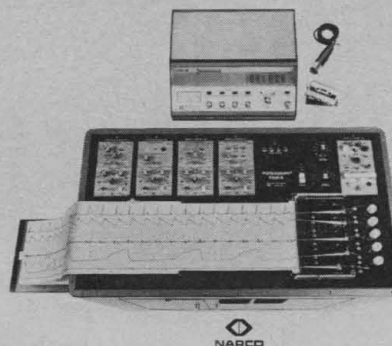
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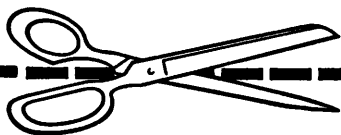
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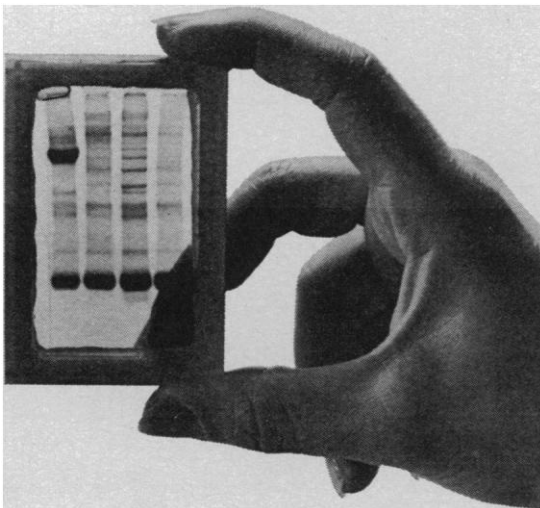
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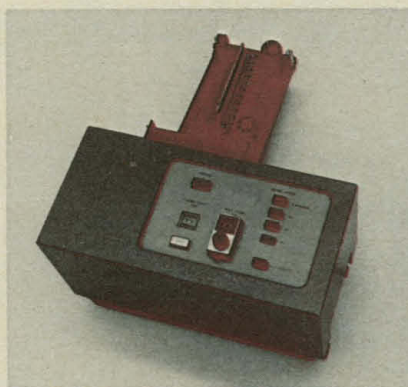
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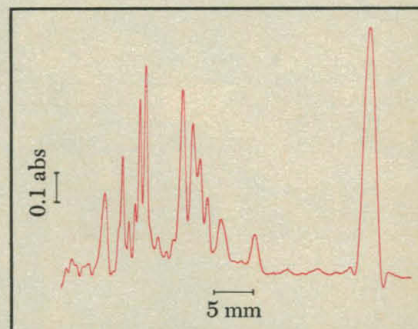


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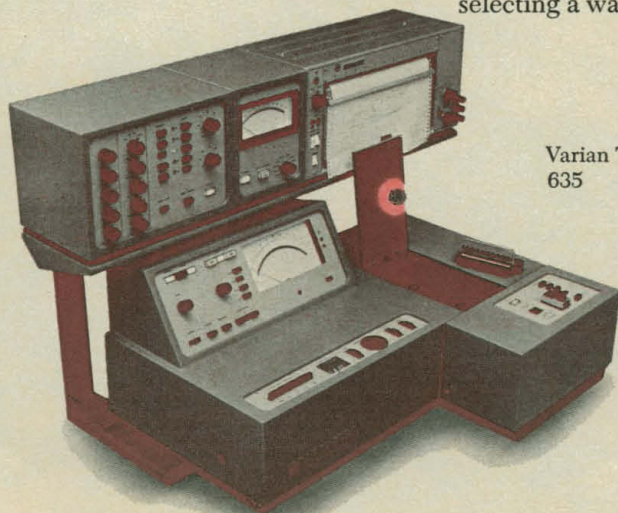
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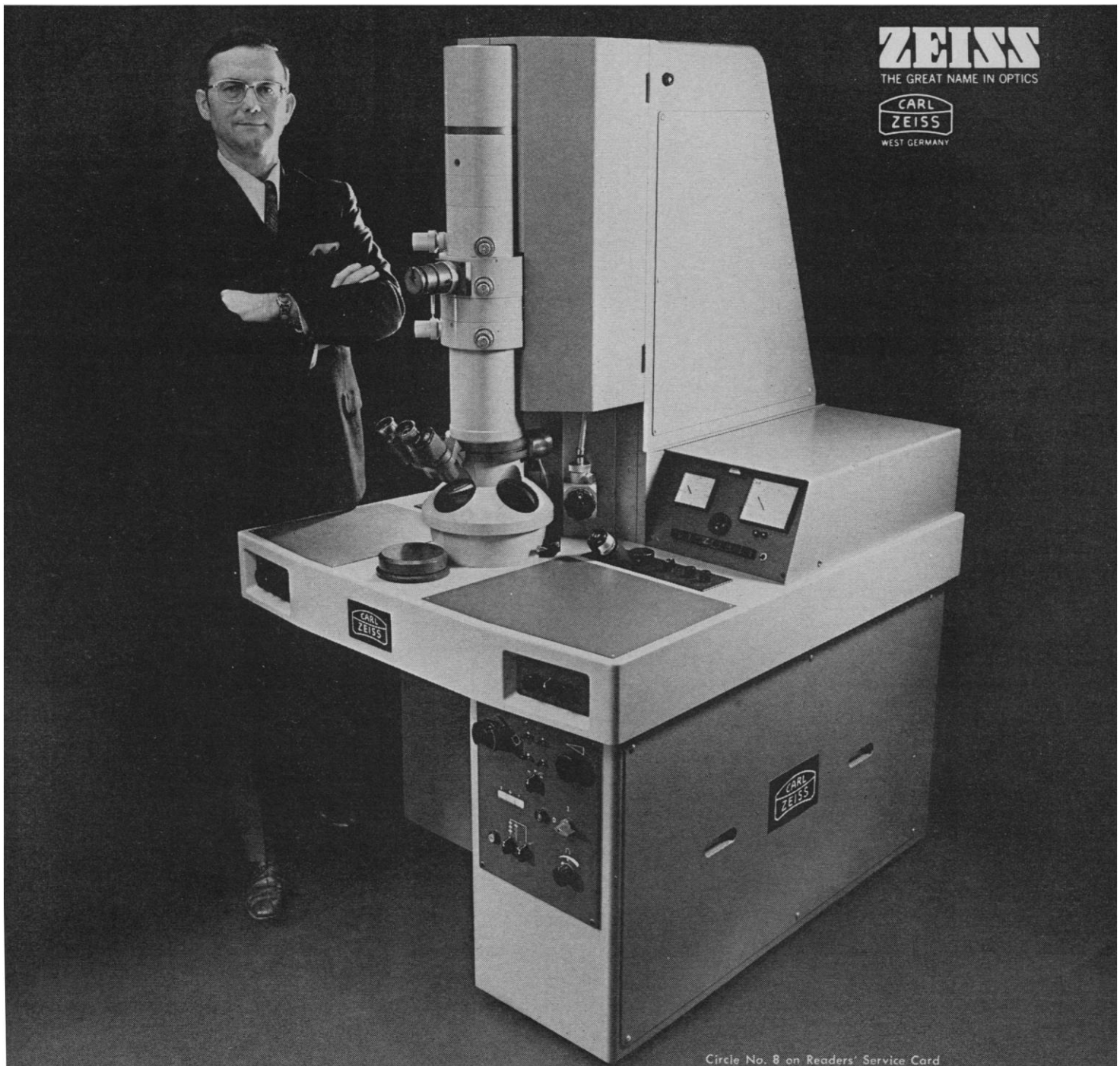
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not be based on the particular lesions seen in this study. The lesions which Allen and Norback describe have been reported only in *Macaca* species. It occurs in response to a variety of agents, such as shale oil (1), organophosphates (2), and putatively non-carcinogenic irritants, such as parasitic infestations (3) and gastric bezoars (4). It is not surprising, therefore, that the oral administration of irritating compounds such as PCB's resulted in such a response in a *Macaca mulatta*. The results would have had far more impact if a similar response had been induced in a nonhuman primate other than a macaque.

EDWIN J. ANDREWS

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Hershey 17033

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Allen and Norback state that the concentration of PCB's within their experimental diet was less than an order of magnitude greater than that occurring in random food samples sold in the United States. The term random applies to a very clearly defined scientific concept. It is clear from the context of the report that no attempt was made to obtain food samples, random or not, and that the statement in fact refers to reported maximum values.

A careful evaluation of the evidence, including the low reported values for PCB's in cereal, poultry, and eggs, and the fact that an attempt is being made to keep food containing more than 5 parts per million off the market, leads me to conclude that their experimental diets contained concentrations at least two orders of magnitude greater than those in the general diet. There is a degree of acceptance for the view that, insofar as a safe level exists, then such a level might be fixed at an order of magnitude less than the lowest level at which symptoms are known to occur.

DAVID JOWETT

College of Environmental Sciences,  
University of Wisconsin,  
Green Bay 54302

Andrews states that the gastric mucosal response, which consisted of hyperplasia and dysplasia of the mucosa, to PCB's occurs only in the *Macaca* species and occurs as a response to a variety of agents; he denies that the particular lesions we observed are suggestive of a carcinogenic potential for PCB's.

Hypertrophic gastritis, with a similar invasion of the muscularis mucosae, occurs in man (1) and has been reported in three species of the genus *Macaca*—*Macaca speciosa* (stump-tailed macaque) (2), *Macaca mulatta* (rhesus macaque) (3), and *Macaca fascicularis* (Java monkey) (4). Similar changes have been produced in the rat (3), and two incidences of gastric mucosal changes and the development of adenoma in the baboon have been reported, one of which was accompanied by pyloric mucosal hypertrophy (5).

Since it is not practical to use orangutans, gorillas, chimpanzees, or other higher subhuman primates for routine investigations, the paucity of reports describing similar lesions is understandable. The evidence cited above indicates that this is not a lesion peculiar to macaques, and the high phylogenetic position of this animal makes it more suitable for the investigation of disease processes of man than the more primitive primate, such as the marmoset or squirrel monkey.

We are aware that hypertrophic gastritis is a nonspecific response and stated in the text that the changes are "likely due to chronic irritation." One of us (J.R.A.) has also reported this change as a response to irritation from the parasite *Nochti nochti* (6). We reemphasize the association of chronic irritation, regardless of the source, with cancer, particularly of the skin, oral mucosa, larynx, stomach, and bronchial epithelium.

The hyperplastic and dysplastic changes observed after administration of PCB's or PCT's (polychlorinated triphenyls) are suggestive of a neoplastic transformation, but the carcinogenic potential cannot be evaluated from a short-term study. In the reports of the mucosal changes cited by Andrews, the exposure of the animals to the various irritants was of short duration (71 to 213 days of exposure to shale oil) (3) or not reported. However, in one reported case of exposure to DDT and organophosphates, hyperplastic gastritis with carcinoma was present after 9 years (7). Since spontaneous gastric

carcinomas are nearly nonexistent in subhuman primates (5), the carcinogenic potential of irritative compounds which cause gastric hyperplasia and dysplasia must be investigated with adequate controls and over long periods of time.

In regard to Jowett's criticism of the use of the word "random," we listed the highest concentration of PCB's found in food samples randomly taken by the Food and Drug Administration. We emphasize that the gastric lesions were produced by this compound at levels less than an order of magnitude greater than those which have occurred in samples of fish. We concur that the levels in a "general" diet would be lower for most of the population, and we presented the evidence for this conclusion by listing the lower levels found in other food products. We cannot adopt Jowett's acceptance of a safe level being "an order of magnitude less than the lowest level at which symptoms are known to occur" without consideration for the time factor. In our experiment, the animals developed the lesions within 3 months, whereas dietary contamination by the compound would ensure intake for indefinite lengths of time and conceivably for a lifetime. We again recognize the efforts of the Food and Drug Administration to remove contaminated samples which exceed 5 parts per million and urge the support of such actions.

J. R. ALLEN  
D. H. NORBACK

Department of Pathology, Medical  
School, and Regional Primate Research  
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Madison 53706

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4. C. Bonne and J. H. Sandground, *Amer. J. Cancer* **37**, 173 (1939).
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7. R. Kimbrough, *Arch. Pathol.* **81**, 343 (1966).

#### Reaction to Rhetoric

I would like to comment on Leo A. Orleans' article, "How the Chinese scientist survives" (8 Sept. 1972, p. 864). Whenever we are faced with messages

of unpalatable content, someone will provide us with a tranquilizer, saying not to overreact to rhetoric and that people did not mean what they said. To those who believe in this, I recommend the following reading list: (i) A. Hitler, *Mein Kampf*; (ii) G. A. Nasser, *Speeches and Broadcasts*; (iii) M. T. Cicero, *Speeches against L. Sergius Catilina*; and (iv) Demosthenes, *The Philippika*.

The fact that people do not achieve their previously stated programs and goals does not necessarily prove that they did not mean them.

F. P. BORNSTEIN

2001 North Oregon Street,  
El Paso, Texas 79902

#### Snapping Turtle Plea

Surely the most obvious conclusion to be drawn from the findings of Thomas H. Jukes and Richard Holmquist (11 Aug. 1972, p. 530) is that the time has come for a taxonomy based on gross morphological traits to be replaced by one more securely rooted in biochemistry and genetics. One might almost, if one wished to be frivolous, imagine the snapping turtle pleading, in parody of St. Thomas of Celano:

inter *Aves* locum praesta  
et a *Boidis* me sequestra.

G. T. NURSE

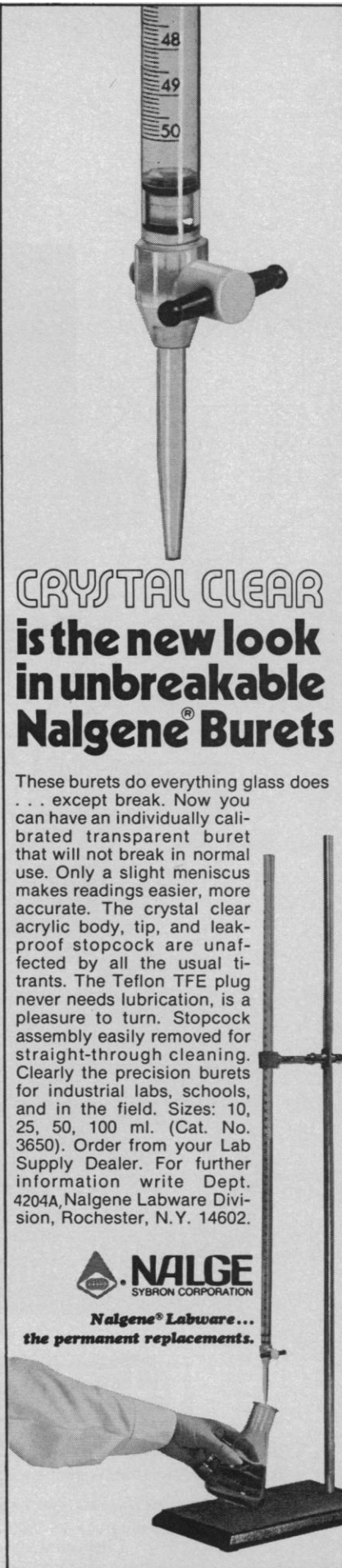
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Our taxonomically oriented colleagues have reacted tepidly to Nurse's suggestion that a morphologically based taxonomy be replaced by one of biochemical derivation. Furthermore, a telephone call to the California State Board of Education was unproductive. However, a friendly Mock Turtle (*Pseudochelonia dodgsonii*) was quite receptive. "Once," he began, "I was a real turtle. . . ." Examination of his cytochrome c sequence revealed phenylalanine at position 36, aspartic acid at 50, glycine at 89, and asparagine at 103—all identical with bovine—and no less than 12 hypervariable sites, showing evolutionary instability. When we told him this, he rudely gave us the bird.

THOMAS H. JUKES

RICHARD HOLMQUIST

Space Sciences Laboratory,  
University of California,  
Berkeley 94720

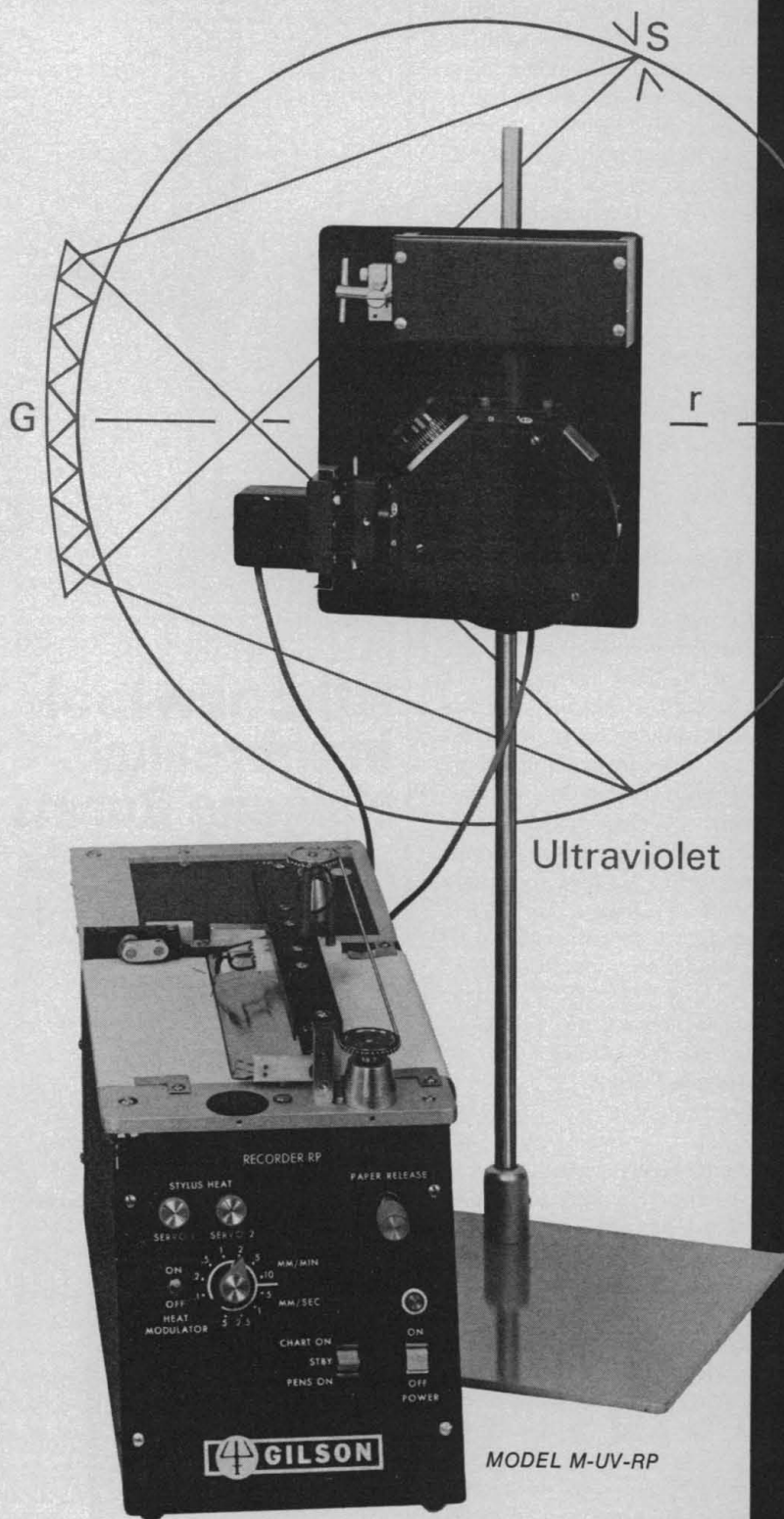


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## Additional Sources of Financial and Political Support for Science

The dismantling of the academic scientific research establishment continues. This is manifest at those universities that traditionally have been the leaders of American science, and particularly at the private institutions. In some places, and in some departments, the number of graduate students next year will be fewer than a third of that a few years ago. The state-supported schools have generally not been so hard-hit, but they must be apprehensive that their turn is coming.

Conversations with professors at various institutions give the impression that most have not yet adjusted their thinking to new realities. They ask about when funding will be restored and what scientists can do to bring about favorable action in Washington. They are thinking, of course, of such moves as writing to their congressmen or seeing somebody.

The reality is that the status of science and scientists has changed. Once scientists were regarded as supermen, and academic research was supported as the key to national security and commercial leadership. Scientists had an influence on national policies that far exceeded their numbers. Today scientists are regarded as mortals—fairly intelligent, fairly well-meaning, but still merely mortals. As pressure groups go, they are one of many, and their numbers are inconsiderable. When they make statements, however meritorious, their views are discounted just as those of any other group.

At one time, science needed no allies or advocates, and the federal government was a more than adequate source of funds. Today science must seek additional sources of political and financial support.

At one time, industry was a very effective ally of academic science. Both publicly and in private, spokesmen for industry emphasized the value and importance of healthy university science departments. Many cooperative arrangements existed between universities and industry, and these included various forms of financial support.

The relationship withered when massive government funds became available. Industry was not inclined to try to compete with the federal treasury. It withered for another reason. The universities de-emphasized training students for industry; they prepared their best students for university positions. This required that a student of any consequence must persist to the Ph.D. degree. Industry has found that the typical Ph.D. tends to be inflexible; he usually wishes to keep on redoing his thesis, and he expects to pursue a self-directed course. For many purposes, a B.S. or M.S. degree is adequate, and individuals with such degrees are more likely to adapt readily to a company's needs. The situation was especially evident at a recent visiting committee meeting at a leading university. The representatives of industry told of unfilled needs at the B.S. and M.S. levels, but the school was turning out only Ph.D.'s, for which industry had little enthusiasm. It is questionable whether academic science will acquire the political base it needs unless it responds more realistically to the needs of industry.

At one time, academic science enjoyed excellent financial support from private foundations. Last year they allocated \$784 million, but only a small fraction went to academic science or support of fellowships. If the plight of the universities were better comprehended, diversion of an additional 10 percent of foundation funds to the support of science might be feasible, and it would have very substantial beneficial consequences.—PHILIP H. ABELSON

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#### BASIC TRAVEL DATES

Depart	Return	Depart	Return
June 19	June 24	June 23	July 1
June 19	July 1	June 23	July 5
June 19	July 5	June 28	July 5

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Depart	Return	Depart	Return
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DALLAS	\$107.74	\$121.74	ST. LOUIS	\$149.48	\$163.48
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Aristos		Emporio	Hotel Del Prado	Hotel Metropol
		Kings Palace	Gran Hotel De La	Versailles
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Please indicate below which sessions you expect to attend at the meeting.

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The Sea and Its Resources	June 25, 26, 27 and 28	<input type="checkbox"/>	Hurricanes	June 22 and 23	<input type="checkbox"/>
Ecology and Deterioration of the Environment	June 27, 28 and 29	<input type="checkbox"/>	Symmetry	June 20 and 21	<input type="checkbox"/>
Deserts and Arid Lands	June 25, 26 and 27	<input type="checkbox"/>	Psychodysleptic Drugs, Addiction, and		
Nutrition and New Food Technology	June 20, 21, 22 and 23	<input type="checkbox"/>	Pharmaceutical Education	June 28 and 29	<input type="checkbox"/>
Earthquakes and Earthquake Engineering	June 20, 21 and 22	<input type="checkbox"/>	Research in Natural Products	June 25 and 26	<input type="checkbox"/>
Science, Development, and Human Values	July 2 and 3	<input type="checkbox"/>	Mathematical Questions in Biology	June 30	<input type="checkbox"/>
Problems of Population	June 26, 27 and 28	<input type="checkbox"/>	Educational Planning	June 29 and 30	<input type="checkbox"/>
Opportunities in Education	June 25, 26, 27, 28, 29 and 30	<input type="checkbox"/>	Environmental Health in the Americas	July 3 and 4	<input type="checkbox"/>
Non-Nuclear Energy for Development	June 20, 21, 22 and 23	<input type="checkbox"/>	Health Services	July 2 and 3	<input type="checkbox"/>
Earth Sciences for Development	July 2 and 3	<input type="checkbox"/>	Health and Illness, Birth and Death: The Cultural Context for Bio-medical Intervention	June 29 and 30	<input type="checkbox"/>
			Neurohumoral Coding of Brain Function	June 26 and 27	<input type="checkbox"/>
			Aerobiology of Diseases, Pests, and Allergens in the Western Hemisphere	July 2 and 3	<input type="checkbox"/>

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Transfer of Technology and National Economic Development	June 20, 21, 22 and 23	<input type="checkbox"/>	Effects of Malnutrition on Human Development	June 25 and 26	<input type="checkbox"/>
Aerial Inventory of National Resources	June 21, 22 and 23	<input type="checkbox"/>	Development of Arid Lands	July 3 and 4	<input type="checkbox"/>
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CATEGORY	TWIN ROOM, DAILY (per person)*	SINGLE ROOM, DAILY
Deluxe & Moderate Deluxe	\$17.50	\$29.30
First Class & Moderate First Class	\$ 9.20	\$17.30
Tourist	\$ 8.20	\$12.20

\* Triple rates on request

Features included in the BASIC PLAN (IT2AMYCT01)

- Roundtrip air transportation between the city of your choice and MEXICO CITY on the airfares shown for that city
- Hotel accommodations at the hotel of your choice at the rate shown
- Roundtrip transfers between airport and hotel in Mexico City and handling of two pieces of luggage per person
- Scheduled transfers (unlimited) between your hotel and the site of the meetings, CENTRO MEDICO and return
- Services of a travel escort for the duration of your visit
- Hospitality desk service at your hotel for the duration of your visit (for information about local events and facilities)
- Consultant services at the Centro Medico
- Reception at hotel for members during your stay
- List of participating persons from your departure city
- List of speakers for the Central Theme and/or Technical Symposium you will be attending (per your information on the accompanying reservation form)

### HOLIDAY PLAN FEATURES

The HOLIDAY PLAN hotels in Mexico are the same used in the BASIC PLAN, listed previously. The hotels in ACAPULCO are as follows:

DELUXE		FIRST CLASS	TOURIST
Holiday Inn	Paraiso Marriott	Hotel Maris	De Gante
Elcano	Condesa Del Mar		El Cid

Rates for the HOLIDAY PLAN differ according to the time spent in Mexico City and Acapulco, respectively. Generally speaking, Acapulco hotels are more expensive than hotels in Mexico City and longer periods in Acapulco will raise your costs.

#### DATE

Arrive Mexico City June 19	
Depart Mexico City June 24	(overnight in Taxco)
Depart Acapulco June 30	
Deluxe: Twin room, per person	\$270.15
Single accommodations	\$374.93
First Class: Twin room, per person	\$185.86
Single accommodations	\$255.88
Tourist: Twin room, per person	\$163.59
Single accommodations	\$185.95

Arrive Mexico City June 19	
Depart Mexico City July 1	(overnight in Taxco)
Depart Acapulco July 7	
Deluxe: Twin room, per person	\$397.70
Single accommodations	\$579.96
First Class: Twin room, per person	\$250.26
Single accommodations	\$376.98
Tourist: Twin room, per person	\$221.04
Single accommodations	\$296.76

#### DATE

Arrive Mexico City June 23	
Depart Mexico City July 1	(overnight in Taxco)
Depart Acapulco July 7	
Deluxe: Twin room, per person	\$322.70
Single accommodations	\$462.80
First Class: Twin room, per person	\$213.46
Single accommodations	\$307.78
Tourist: Twin room, per person	\$188.24
Single accommodations	\$247.96

Arrive Mexico City June 28	
Depart Mexico City July 5	(overnight in Taxco)
Depart Acapulco July 11	
Deluxe: Twin room, per person	\$305.20
Single accommodations	\$433.51
First Class: Twin room, per person	\$204.26
Single accommodations	\$290.48
Tourist: Twin room, per person	\$180.04
Single accommodations	\$235.76

Features included in the HOLIDAY PLAN (IT2AMYCT01—M)

- All features in Mexico City as outlined in BASIC PLAN, plus
- Roundtrip air transportation from the city of your choice to Mexico City and return from Acapulco
- Deluxe Motorcoach transportation between Mexico City and Taxco (overnight in Taxco) and between Taxco and Acapulco
- Transfer between hotel in Acapulco and airport for your return flight
- Hotel accommodations of your choice in Mexico City and Acapulco in one of the hotels listed in each city and overnight accommodations in Taxco at a similar hotel
- Three meals in Taxco and breakfast and lunch or dinner in Acapulco for the duration of your stay in that city
- Reception at hotel in Acapulco during your stay

Not included in either Basic or Holiday Plan are items of a personal nature, i.e., telephone and cable charges, room services, valet service, gratuities to hotel personnel and any other item not mentioned in the included features of each plan.

For returning this form to VIA immediately we will guarantee you first option on air transportation and hotel accommodations. All reservations will be confirmed on a first-come, first-served basis.

Please consult elsewhere in this issue for information on Central Themes and Technical Symposia before completing the attached form.

Name \_\_\_\_\_

Address \_\_\_\_\_

Home Phone \_\_\_\_\_ Office Phone \_\_\_\_\_

Departure City \_\_\_\_\_

I would like to leave on \_\_\_\_\_ Date \_\_\_\_\_ and return on \_\_\_\_\_ Date \_\_\_\_\_

BASIC PLAN \_\_\_\_\_ HOLIDAY PLAN \_\_\_\_\_ OTHER \_\_\_\_\_

I will be attending the \_\_\_\_\_ Central Theme(s)

and/or the \_\_\_\_\_ Technical Symposium(s)

MEXICO CITY HOTEL

ACAPULCO HOTEL

(1st) \_\_\_\_\_ (1st) \_\_\_\_\_

(2nd) \_\_\_\_\_ (2nd) \_\_\_\_\_

(3rd) \_\_\_\_\_ (3rd) \_\_\_\_\_

Every effort will be made to accommodate you in your first choice hotel, depending upon availability at the time we receive your reservation.

I will require \_\_\_\_\_ Twin room(s)  
\_\_\_\_\_ Single room(s)  
\_\_\_\_\_ Triple room(s)  
\_\_\_\_\_ Other (special suites or meeting rooms for your group)

Total number of people in your party \_\_\_\_\_

Names \_\_\_\_\_

I am enclosing \$ \_\_\_\_\_ as a deposit to reserve the above arrangements.

A deposit of \$100.00 per person is required to reserve space. Upon receipt of your deposit VIA will forward you confirmation of your arrangements and an invoice for the balance due.

NOTE: All rates given are based on current tariffs and are subject to revision. Rates do not include personal items such as telegrams, telephone calls, valet service, room service, gratuities or any other item not mentioned in the Basic Plan Features.

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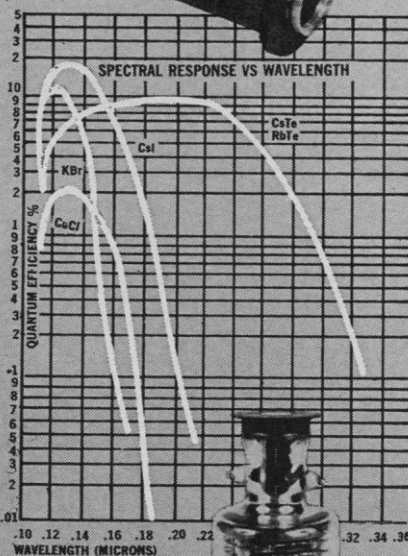
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## BOOKS RECEIVED

(Continued from page 293)

Ehrhardt. Johns Hopkins University Press, Baltimore, 1973. xvi, 312 pp., illus. Cloth, \$12.50; paper, \$3.50.

**Mathematics of Contemporary Physics.** Proceedings of a conference, London, Aug. 1971. R. F. Streater, Ed. Academic Press, New York, 1972. xii, 274 pp. \$17.50.

**A Method for Measuring Decision Assumptions.** Jarrod W. Wilcox. M.I.T. Press, Cambridge, Mass., 1972. x, 252 pp., illus. \$12.50.

**Methods in Enzymology.** Vol. 28, Complex Carbohydrates. Part B. Victor Ginsburg, Ed. Academic Press, New York, 1972. xxviii, 1058 pp., illus. \$35.

**Modern Aspects of Electrochemistry.** No. 8. J. O'M. Bockris and B. E. Conway, Eds. Plenum, New York, 1972. x, 348 pp., illus. \$25.

**Modern Perspectives in Psycho-Obstetrics.** John G. Howells, Ed. Brunner/Mazel, New York, 1972. xviii, 592 pp., illus. \$20. **Modern Perspectives in Psychiatry,** vol. 5.

**A Monograph of the Genus Abies.** Tang-Shui Liu. National Taiwan University Department of Forestry, Taipei, Taiwan, China, 1971. xxxii, 608 pp., illus. \$25.

**Moving Frontiers in Invertebrate Virology.** A workshop, Budapest, 1971. Thomas W. Tinsley and Keith A. Harrap, Eds. Karger, Basel, 1972 (U.S. distributor, Phiebig, White Plains, N.Y.). viii, 66 pp., illus. \$10.95. **Monographs in Virology,** vol. 6.

**Nutrition and Physical Fitness.** L. Jean Bogert, George M. Briggs, and Doris Howes Calloway. Saunders, Philadelphia, ed. 9, 1973. xii, 598 pp., illus. \$10.

**Nutrition Research in the USSR, 1961-1970.** W. H. Fitzpatrick. National Institutes of Health, Bethesda, Md., 1972 (available from the Superintendent of Documents, Washington, D.C.). xii, 144 pp. + chart. \$3.75. Department of Health, Education, and Welfare Publication No. (NIH) 72-57.

**The Official Associated Press Almanac 1973.** Laurence Urdang, Ed. Almanac Publishing Co., New York, 1973 (available from Quadrangle, New York). 944 pp., illus. Cloth, \$4.95; paper, \$1.95.

**Organic Functional Group Preparations.** Vol. 3. Stanley R. Sand'ar and Wolf Karo. Academic Press, New York, 1972. xiv, 498 pp., illus. \$24.50. **Organic Chemistry,** vol. 12-3.

**Organic Phosphorus Compounds.** G. M. Kosolapoff and L. Maier. Wiley-Interscience, New York, 1972. 4 vols. Vol. 1, xiv, 546 pp., illus. Vol. 2, viii, 508 pp., illus. Vol. 3, viii, 500 pp., illus. Vol. 4, viii, 532 pp., illus. Each vol., \$29.95. Second edition of *Organophosphorus Compounds*.

**Organic Syntheses.** An Annual Publication of Satisfactory Methods for the Preparation of Organic Chemicals. Vol. 52, 1972. Herbert O. House, Ed. Wiley, New York, 1972. Various pages, illus. \$9.50.

**Paper Profits.** Pollution in the Pulp and Paper Industry. Leslie Allan, Eileen Kohl

Kaufman, and Joanna Underwood with the assistance of Howard Dykoff, Abby Friedman, Holly Miller, Constance Peters, and Michael Taylor. Published for the Council on Economic Priorities by M.I.T. Press, Cambridge, Mass., 1972. xviii, 506 pp. \$10.

**Percepts, Concepts and Theoretic Knowledge.** A Study in Epistemology. Harold N. Lee. Memphis State University Press, Memphis, 1973. xii, 258 pp. \$10.50.

**Perspectives in Group Psychotherapy.** A Theoretical Background. P. B. de Maré. Science House (Aronson), New York, 1972. 208 pp., illus. \$10.

**Phase Transitions and Critical Phenomena.** Vol. 1, Exact Results. C. Domb and M. S. Green, Ed. Academic Press, New York, 1972. xvi, 506 pp., illus. \$31.

**The Phylogenetic Classification of Diptera Cyclorrhapha with Special Reference to the Structure of the Male Postabdomen.** G. C. D. Griffiths. Junk, The Hague, 1972. 340 pp., illus. + chart. 70 G. Series Entomologica, vol. 8.

**Physical Acoustics.** Principles and Methods. Vol. 9. Warren P. Mason and R. N. Thurston, Eds. Academic Press, New York, 1972. xii, 294 pp., illus. \$16.50.

**Physical Methods in Heterocyclic Chemistry.** Vol. 5, Handbook of Molecular Dimensions. X-Ray Bond Angles and Lengths. P. J. Wheatley. Academic Press, New York, 1972. xiv, 598 pp., illus. \$39.

**Population Dynamics.** Proceedings of a symposium, Madison, Wis., June 1972. Academic Press, New York, 1972. x, 446 pp., illus. \$13.50. University of Wisconsin Mathematics Research Center, Publication No. 29.

**Population Growth.** Anthropological Implications. Proceedings of a colloquium, Philadelphia, Mar. 1970. Brian Spooner, Ed. M.I.T. Press, Cambridge, Mass., 1972. xxviii, 426 pp., illus. \$15.

**The Prehistoric People of the Fort Ancient Culture of the Central Ohio Valley.** Louise M. Robbins and Georg K. Neumann. University of Michigan, Ann Arbor, 1972. x, 648 pp. + plates. Paper, \$6. University of Michigan Museum of Anthropology Anthropological Papers, No. 47.

**Principles of Environmental Science.** Kenneth E. F. Watt. McGraw-Hill, New York, 1973. xiv, 320 pp., illus. \$10.95.

**Principles of Plasma Physics.** Nicholas A. Krall and Alvin W. Trivelpiece. McGraw-Hill, New York, 1973. xiv, 674 pp., illus. \$25. International Series in Pure and Applied Physics.

**Principles of Psychotherapy with Children.** John M. Reisman. Wiley-Interscience, New York, 1973. xvi, 328 pp. \$12.95. Wiley Series on Personality Processes.

**Proceedings of the Third Lunar Science Conference.** Houston, Jan. 1972. M.I.T. Press, Cambridge, Mass., 1972. 3 vols. Vol. 1, Mineralogy and Petrology. Elbert A. King, Jr., Ed. [xiv] pp. + pp. 1-1132, illus. + xx pp. + index. Vol. 2, Chemical and Isotope Analyses, Organic Chemistry. Dieter Heymann, Ed. [xiv] pp. + pp. 1133-2156, illus. + xiv pp. + index. Vol. 3, Physical Properties. David R. Criswell, Ed. [xx] pp. + pp. 2157-3264, illus. +

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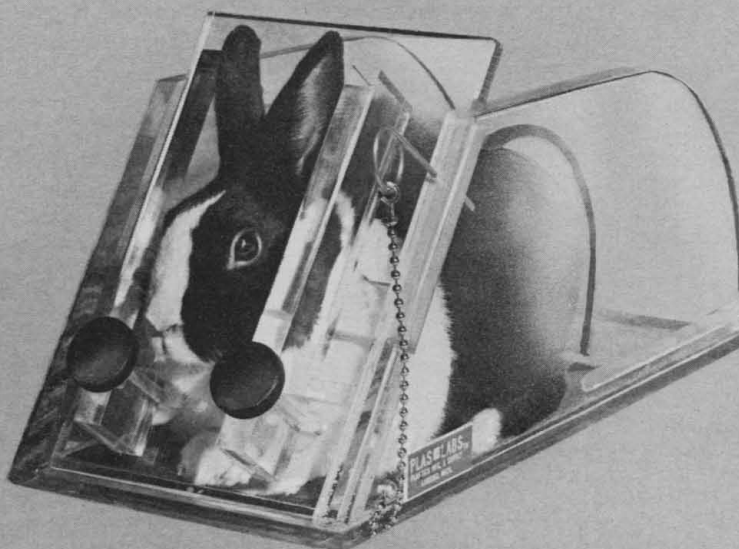
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**Radionuclide Studies of the Gastrointestinal System.** Leonard M. Freeman and M. Donald Blafox, Eds. Grune and Stratton, New York, 1973. xiv, 208 pp., illus. \$13.75. Reprinted from *Seminars in Nuclear Medicine*, Vol. 2, Nos. 2 and 3, 1972.

**Rapeseed.** Cultivation, Composition, Processing and Utilization. L. A. Appleqvist and R. Ohlson, Eds. Elsevier, New York, 1973. x, 392 pp., illus. \$60.

**Reinventing Anthropology.** Dell Hymes, Ed. Pantheon (Random), New York, 1972. vi, 470 pp. \$12.95.

**Relativistic Quantum Mechanics.** I. J. R. Aitchison. Barnes and Noble (Harper and Row), New York, 1973. xvi, 260 pp., illus. \$18.50.

**Science, Medicine and Society in the Renaissance.** Essays to honor Walter Pagel. Allen G. Debus, Ed. Science History (Watson), New York, 1973. 2 vols., boxed. Vol. 1, vi, 276 pp., illus. Vol. 2, vi, 338 pp., illus. \$50; prepaid, \$35.

**The Social Behaviour of Monkeys.** Thelma Rowell. Penguin, Baltimore, 1973. 204 pp., illus. Paper, \$2.50. Penguin Science of Behaviour.

**The Social Psychology of Work.** Michael Argyle. Taplinger, New York, 1972. xii, 292 pp. \$8.50.

**Soil Mechanics in Foundation Engineering.** Vol. 1, Properties of Soil and Site Investigations. Zenon Wifun and Krzysztof Starzewski. Halsted (Wiley), New York, 1972. xx, 252 pp., illus. \$10.75.

**Solar Activity Observations and Predictions.** Patrick S. McIntosh and Murray Dryer, Eds. M.I.T. Press, Cambridge, Mass., 1972. xvi, 444 pp., illus. \$17.50. Progress in Astronautics and Aeronautics, vol. 30.

**Speech and Cortical Functioning.** Proceedings of a symposium, Vancouver, Canada, Apr. 1972. John H. Gilbert, Ed. Academic Press, New York, 1972. xii, 272 pp., illus. \$9.

**Spindle Dynamics and Chromosome Movements.** Andrew S. Bajer and J. Molè-Bajer. Academic Press, New York, 1972. xii, 272 pp., illus. \$17.50. International Review of Cytology, supplement 3.

**Statistics.** Problems and Solutions. J. Murdoch and J. A. Barnes. Halsted (Wiley), New York, 1973. xii, 226 pp., illus. Paper, \$7.50.

**Stimulus Schedules.** The  $t$ - $\tau$  Systems. William N. Schoenfeld and Brett K. Cole. With coauthors Joel Blaustein, Gerald D. Lachter, John M. Martin, and Christopher Vickery. Harper and Row, New York, 1972. x, 166 pp., illus. Paper, \$4.95.

**Subcellular Components.** Preparation and Fractionation. G. D. Birnie. Butterworths, London, and University Park Press, Baltimore, ed. 2, 1972. xii, 320 pp., illus. \$17.50.

**Symmetry Groups and Their Applications.** Willard Miller, Jr. Academic Press, New York, 1972. x, 434 pp., illus. \$22.50. Pure and Applied Mathematics, vol. 50.

**Synopsis of Gross Anatomy.** John B. Christensen and Ira Rockwood Telford. Harper and Row, New York, ed. 2, 1972. xii, 304 pp., illus. Paper, \$10.95.

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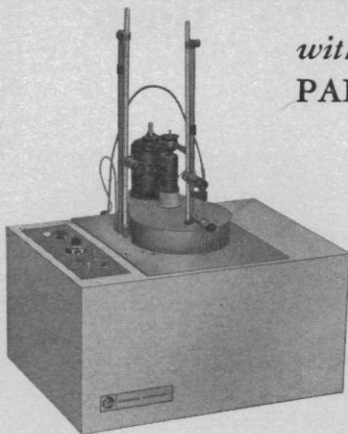
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**Test Your Logic.** Fifty Puzzles in Deductive Reasoning. George J. Summers. Dover, New York, 1972. vi, 100 pp., illus. Paper, \$1.50.

**Thermoelectricity in Metals and Alloys.** R. D. Barnard. Taylor and Francis, London, and Halsted (Wiley), New York, 1973. x, 260 pp., illus. \$21.

**Thought.** Gilbert Harman. Princeton University Press, Princeton, N.J., 1973. x, 200 pp. \$9.

**Tissue Interactions in Carcinogenesis.** D. Tarin, Ed. Academic Press, New York, 1972. xviii, 484 pp., illus. \$24.50.

**A Theory of Objective Self Awareness.** Shelley Duval and Robert A. Wicklund. Academic Press, New York, 1972. x, 238 pp., illus. \$11.95. Social Psychology.

**Theory of Pharmaceutical Systems.** Vol. 1, General Principles. J. Thurg Carstensen. Academic Press, New York, 1972. xiv, 282 pp., illus. \$15.

**Topics in Lipid Chemistry.** Vol. 3. F. D. Gunstone, Ed. Halsted (Wiley), New York, 1972. x, 282 pp., illus. \$17.50.

**Topics in Radiation Dosimetry.** Radiation Dosimetry Supplement 1. Frank H. Attix, Ed. Academic Press, New York, 1972. xii, 556 pp., illus. \$28.

**Treatise on Analysis.** Vol. 3. J. Dieudonné. Translated from the French edition (Paris, 1970) by I. G. Macdonald. Academic Press, New York, 1972. xviii, 390 pp. \$18.50. Pure and Applied Mathematics, vol. 10-3.

**The Triumph of the Darwinian Method.** Michael T. Ghiselin. University of California Press, Berkeley, 1972. x, 289 pp., illus. Paper, \$3.25. Reprint of the 1969 edition.

**Tropical Forest Ecosystems in Africa and South America.** A Comparative Review. Betty J. Meggers, Edward S. Ayensu, and W. Donald Duckworth, Eds. Smithsonian Institution Press, Washington, D.C., 1973 (distributor, Braziller, New York). viii, 350 pp., illus. Cloth, \$15; paper, \$5.95.

**Tumor Immunology.** Papers by J. Stjernsward and others. MSS Information Corp., New York, 1973. 198 pp., illus. \$15.

**Urban Geography.** A Social Perspective. David Herbert. Praeger, New York, 1973. 320 pp., illus. Cloth, \$10; paper, \$3.95.

**Urbanization and Human Health.** T. Bakács. Akadémiai Kiadó, Budapest, 1972. 168 pp., illus. \$7.

**Used Math for the First Two Years of College Science.** Clifford E. Swartz with the assistance of Paul A. Swartz and B. Katherine Swartz. Prentice-Hall, Englewood Cliffs, N.J., 1973. xiv, 270 pp., illus. Cloth, \$8.95; paper, \$4.95.

**Utopian Motherhood.** New Trends in Human Reproduction. Robert T. Francoeur. Barnes, Cranbury, N.J., 1973. x, 296 pp. Paper, \$2.95. Reprint of the 1970 edition.

**Valuation Theory.** Otto Endler. Springer-Verlag, New York, 1972. xii, 244 pp. Paper, \$8.

**Weather Forecasting as a Problem in Physics.** Andrei S. Monin. Translated from the Russian edition (Moscow, 1969) by Paul Superak. M.I.T. Press, Cambridge, Mass., 1972. x, 200 pp., illus. \$12.50.

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