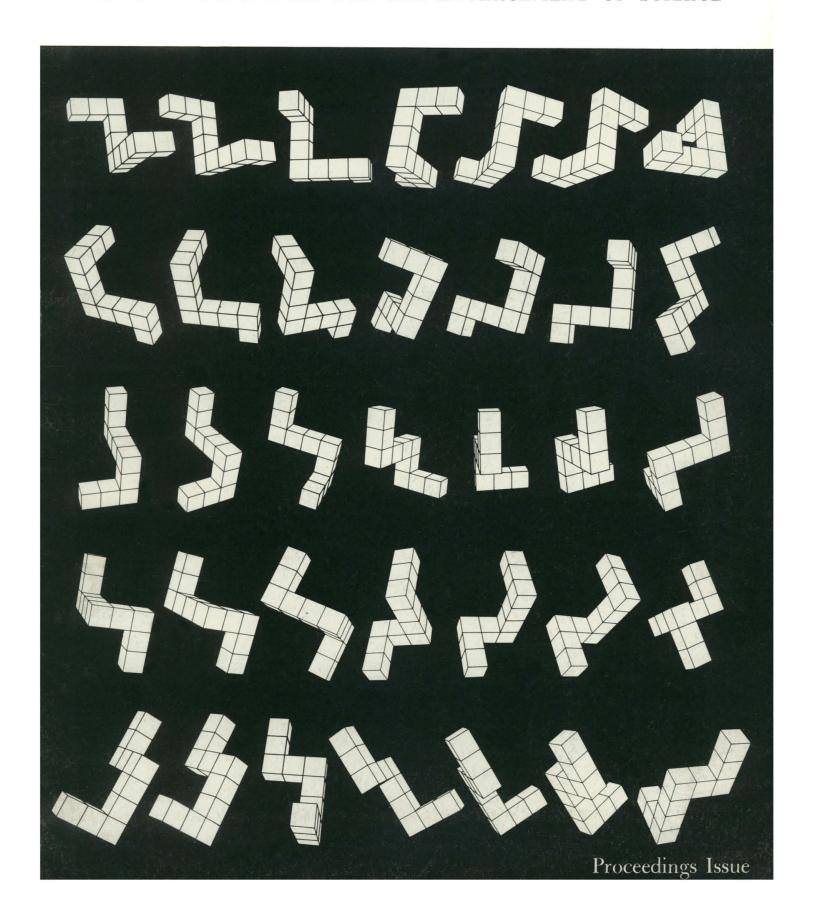
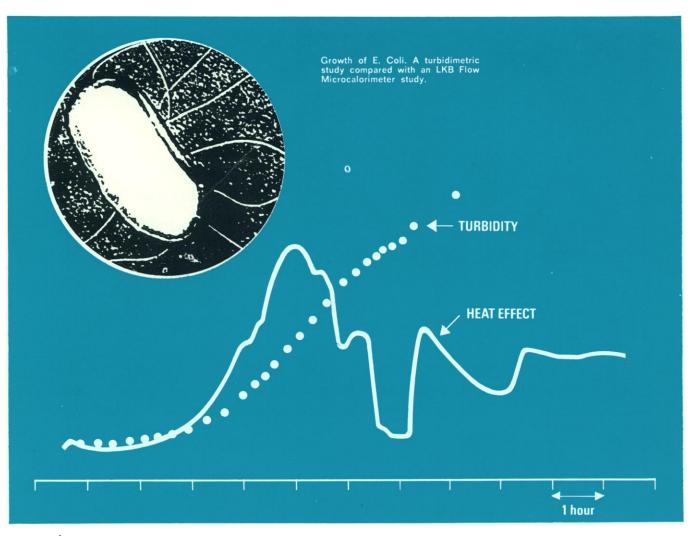
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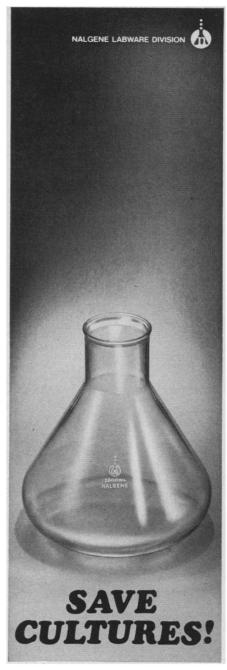
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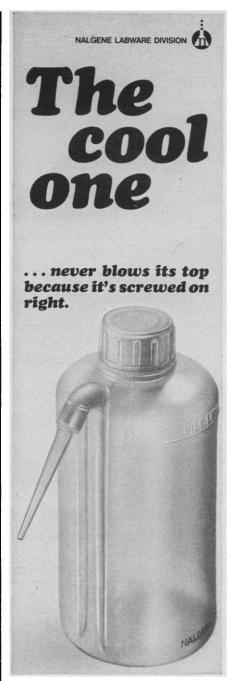
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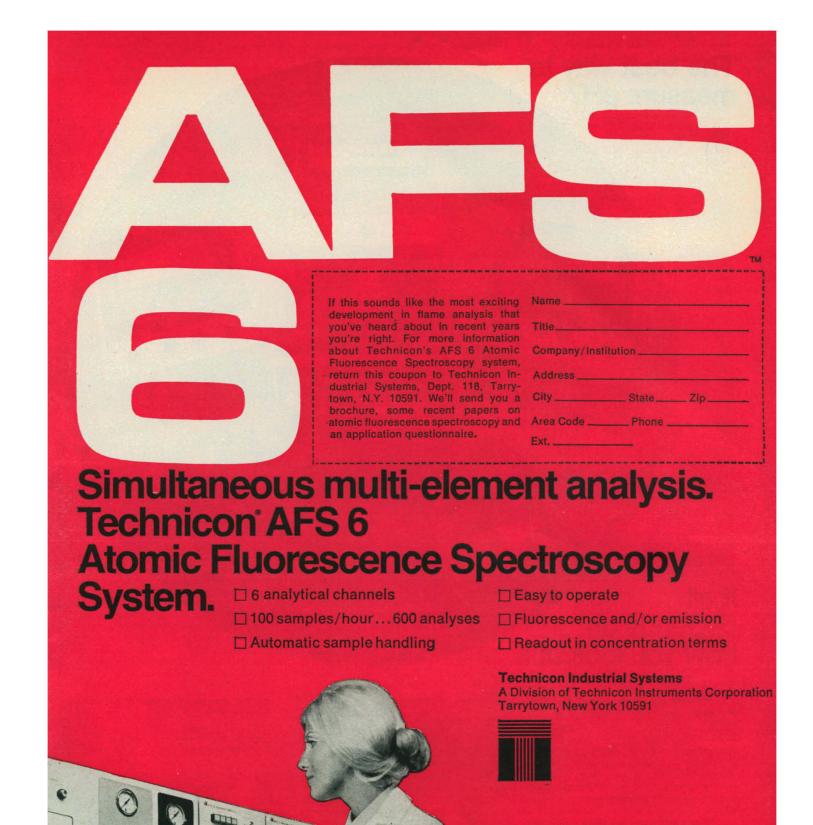


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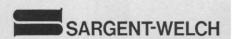
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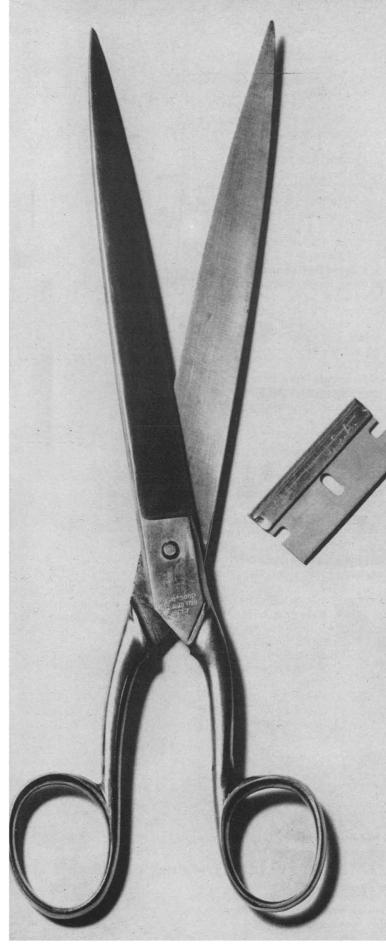


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Guanosine 5'-Triphosphate (8 1°C) Li,	35-50
Uridine 5'-Triphosphate (2 °C) Li.	20-35
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Adenosine 5'-Triphosphate (8 °H) Li.	12-15
Cytidine 5'-Triphosphate (5 3H) Li.	5-15
Guanosine 5'-Triphosphate (3H) Li.	1-1.5
Uridine 5'-Triphosphate (5 'H) Li.	10-25
Deoxyribonucleotides ('*C)	mc/mM
Deoxyadenosine 5'-Triphosphate (8 14C) Na ₂	30-50
Deoxycytidine 5'-Triphosphate (2 14C) Li,	30-50
Deoxyguanosine 5'-Triphosphate ('C) Li, (U)	200-250
Thymidine 5'-Triphosphate (2 14C) Li.	40-50
Deoxyribonucleotides ('H)	c/mM
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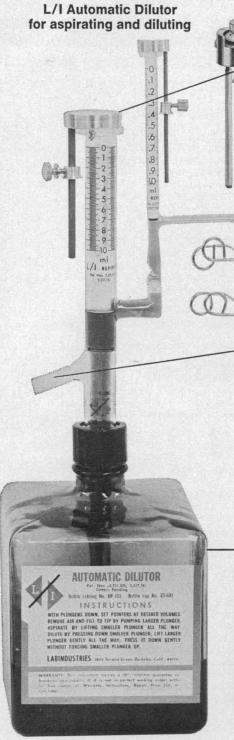
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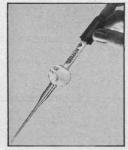
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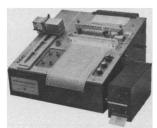
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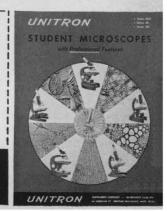




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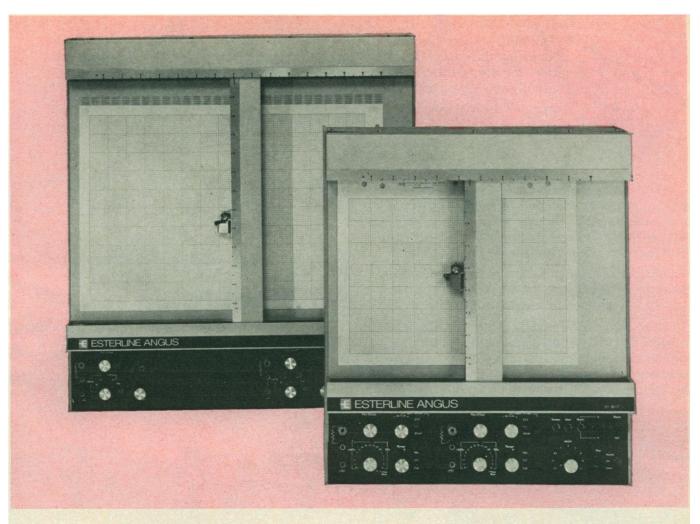
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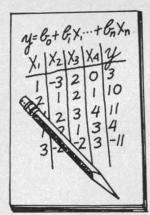
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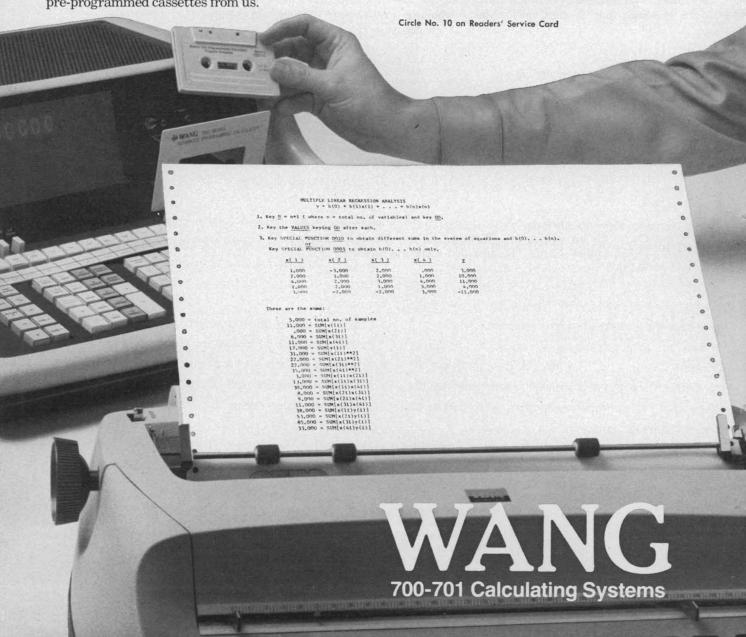
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stroyed by NLF rocket fire from a completely defoliated area that the team had visited.

Chamlin concludes that "given a choice between the life of a tree, and the life of an American soldier, we must choose in favor of the life of an American soldier." His point is irrelevant as our article attempted to describe some of the ecological effects of war in Vietnam and was not an assessment of the military value of defoliation. However, U.S. policy is not in accord with Chamlin's conclusion. French rubber plantations have always been off limits to defoliation attacks, which led U.S. military commanders to complain bitterly to us that, during the battle on the Dau Tieng (Michelin) plantations, French rubber trees were apparently worth more than American soldiers.

E. W. PFEIFFER

Department of Zoology, University of Montana, Missoula 59801

International Association of Microbiological Societies

The tenth International Congress of Microbiology was held in Mexico City from 9 to 15 August 1970. At this meeting the International Association of Microbiological Societies (IAMS) adopted new statutes and bylaws to define and govern its operations.

At present, the American Society for Microbiology is the only representative of the United States within IAMS. However, under the new statutes, any national scientific or technological society that is principally concerned with microbiology, and whose members have been trained at the university level, is welcome to join the IAMS, subject to the payment of basic annual dues of \$100. For the establishment of eligibility, microbiology is defined as the study of bacteria, viruses, yeasts, and microfungi.

The IAMS will be financed by an annual contribution from each member nation. The amount of the contribution, to be decided by the executive board of IAMS, will vary from year to year, depending on the association's budgetary requirements and the number of microbiologists in the member societies of each nation. Thus, the total annual contribution from member nations may exceed the total of the basic annual fees assessed against member societies of each country.

Officers of societies that are con-

sidered eligible for membership in IAMS may write to Donald E. Shay, Secretary, American Society for Microbiology, Department of Microbiology, Schools of Dentistry and Pharmacy, University of Maryland, 666 West Baltimore Street, Baltimore, Maryland 21201. The American Society for Microbiology would like to negotiate with all eligible and interested societies in the United States for the formation of a national committee, in order that the United States may be represented in the IAMS.

ASGER F. LANGLYKKE American Society for Microbiology, 1913 Eye Street, NW, Washington, D.C. 20006

After the Storm

Since when has patriotic service to the United States become a crime of such magnitude as to disqualify a man, otherwise highly qualified, from nomination as president of an association ostensibly devoted to "the advancement of science" ("AAAS presidency: Controversy flares over Seaborg candidacy," 11 Dec., p. 1177). The concept of "conflict of interest with the public" could apply to practically every university professor. Those who are not on some public payroll are subsidized through government grants to their students and by the tax exemption allowed their institutions. Many work on government contracts. . . .

The furor over the nomination of Seaborg was raised by a group of members who are highly emotional, who espouse dissent for the sake of dissension, and who condemn the intelligence, morals, and ethics of anyone who dissents from their dissension. . . . Perhaps the AAAS should stick to its knitting as a scientific society and not try to run the country through demonstrations and partisan politics.

B. S. GARVEY, JR. 5 Briar Road, Strafford Village, Wayne, Pennsylvania 19087

Suppression of news during the AAAS election has not only damaged *Science*, the magazine, but science, the enterprise. Suppression of news is just as much interference in the election process as publishing news. The question is: Whose interests are more important, the "establishment" of science or the general public of science (as represented by *Science* readers)? This is



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Brinkmann Instruments, Inc. Cantiague Road, Westbury, L. I., N.Y. 11590 Brinkmann Instruments (Canada), Ltd. 50 Galaxy Boulevard, Rexdale (Toronto), Ontario. the kind of incident that reinforces the image of science as a self-serving club rather than an open democratic enterprise.

Science, the magazine, will suffer from the loss of Daniel Greenberg, who is to be commended for his integrity. But that loss is small compared to the damage done to science, the enterprise.

EDWIN B. PARKER

Institute for Communication Research, Stanford University, Stanford, California 94305

I note the departure of Daniel Greenberg from the news staff of Science with great regret. If some of his reporting has been flavored with vinegar, it has also been composed with knowledge, insight, and humor. His work has reflected both the widening interests of the scientific community to matters beyond the laboratory and helped to develop a sense of this community among scientists. Almost entirely because of Greenberg and his staff Science has become an exciting forum for the profession of science.

LAWRENCE BADASH

Department of History, University of California, Santa Barbara 93106

Isn't it about time that all the members of the AAAS participate in the election of "their" president?

ALEXANDER STRASSER (Nonvoting member since 1943) 409 South Dallas Avenue, Pittsburgh, Pennsylvania 15208

In spite of the excellence of Science magazine, I have repeatedly refused invitations to join the AAAS because of the denial to members of the right to elect the officers of the Association. Can anyone explain why 100,000 scientists—all of whom would be furious if forbidden the right to vote for candidates for public office—are so meekly willing to surrender this basic privilege to a 530-man presidium?

LAWRENCE SLIFKIN Department of Physics,

University of North Carolina, Chapel Hill 27514

Degrees Celsius—Never Centigrade

It is commendable that Science published "Metric system: Status of adoption by the United States" (18 Dec., p. 1337). The subject merits the concern

not only of the scientific community but also the general public. However, the statement: "Some doctors record patients'... temperatures in degrees centigrade" is undoubtedly factual, but the physician should be encouraged to use degrees Celsius (°C) since the temperature unit "degree centigrade" no longer exists (1). It will be helpful if editors would assist in deleting "degrees centigrade" from the literature so that, at some time in the future, degrees Celsius will be a natural expression.

H. H. PLUMB

Temperature Section, Institute for Basic Standards, National Bureau of Standards, Washingon, D.C. 20234

Reference

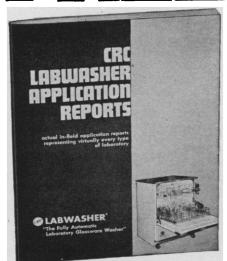
1. Comptes Rendus de la Neuvième Conférence Générale des Poids et Mesures (Librairie-Imprimerie Gauthier-Villars, Paris, 1949), p. 64.

Rescue Plan for Indian Monkeys

Southwick et al. ("Primate populations and biomedical research." 4 Dec., p. 1051) have highlighted the serious shortages of several primate species and suggested that at some point even the relatively abundant rhesus may not be in adequate supply to meet the biomedical demand. It seems clear that current harvesting practices in India depend upon social, economic, and ecological factors that are likely to undergo marked changes in the next several decades. We should like to suggest the outlines of a program that might slow or stop the decline of animals and at the same time increase the scientific value of the individual animal.

The central point is that farmers and villagers must be given an economic stake in the monkey trade in their area. The animals surrounding a village and its agricultural supply should be treated as a natural resource belonging to the village; harvesting of that resource should bring financial gain to the village. This feature of the program will be necessary if villagers are to achieve a proper attitude toward monkeys and their harvesting, one that is positively balanced between veneration (stemming from the doctrine of ahimsa and the theology surrounding the monkey god Hanuman) and hostility (stemming from the damage monkeys do to crops and structures). Farmers and villagers must come to view the animals as a natural product of their region which, with proper management, can increase the wealth of the community. We will give

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two examples of ways in which this attitude might be fostered.

First, farmers whose crops are raided by monkeys should be directly compensated for their losses. Thus an individual farmer might choose to plant specifically for monkey consumption and expect to receive fair market value for the food the monkeys eat.

Second, villages should be encouraged and helped to build and maintain large monkey corrals in which known populations could be maintained. Training should be provided to keep simple records of births and deaths within the corrals. Animals harvested from these corrals could bring a premium price because of known parentage, age, and, perhaps in the long run, disease history.

Similar examples could be provided without difficulty. The exact form that commercialized monkey farming would take depends in some measure upon the methods by which the program were financed and administered. Here there are a number of options, including multilateral governmental programs (the United Nations), bilateral governmental programs (between the United States and Indian governments), and programs involving existing or newly developed private Indian enterprise operating under contract to major monkey users (for example, the National Institutes of Health). In our opinion this last approach would be the most economic of time and money. But in any case the criterion for success will be involvement of those people who are closest to the sources of supply. Providing these farmers and villagers with valid incentives for participation in a sound harvesting program would allow the development of a mutually beneficial arrangement between their economic needs and the maintenance of monkey populations. This is the positive balance that will bring success.

GORDON BERMANT
S. CHANDRASEKHAR

Battelle Seattle Research Center, 4000 N.E. 41st Street, Seattle, Washington 98105

Polemic in the Political Arena

Many scientists and officers of science-oriented organizations have been expressing alarm at the growing disenchantment of the public with science and the support of science research with public funds. May much of this be our own fault?

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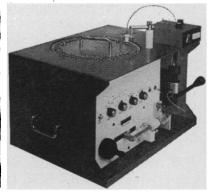
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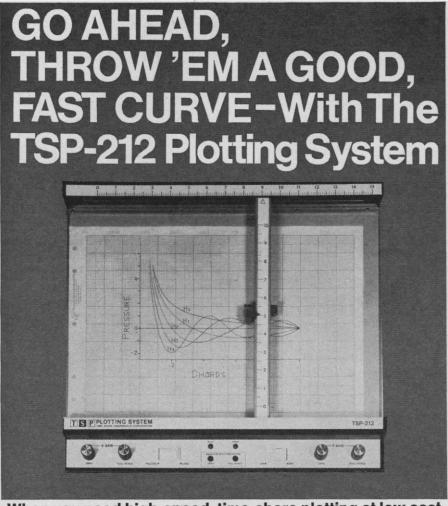
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TIME SHARE PERIPHERALS CORPORATION Miry Brook Road, Danbury, Connecticut 06810 (203) 743-7624 person such as George Wald can fill a column in Science (Letters, 11 Dec.) with a polemic on a political subject and close it with the statement "This is what President Nixon plans to hire 1000 new FBI agents to enforce," one is entitled to question whether such a scientist and science publication are entitled to much public respect. If Wald wishes to write like a ward heeler in a political fight, he is entitled to the deference and respect given to such persons, and if Science wishes to open its columns to such petulant and unscientific statements, it does no service to science or to scientists. F. N. PETERS

. . . When a relatively well-known

400 Golden Gate Point, Sarasota, Florida 33577

I am sure George Wald would resent any attempt by an attorney to interpret his laboratory research for him. He might then leave the art of interpreting or construing statutes to those who are expert in *that* field.

A major problem with statutes is that they may be too narrowly drawn, so that if the legislator blunders, the crook goes free. The accepted solution is to follow the example of the U.S. Constitution and draw the statute in broad and ambiguous terms. What is genuinely a crime does not then escape punishment because it was not so specified in meticulous detail—an impossibility if the statute books are to be kept to reasonable size.

Obviously, the broadly-drawn statute must then be construed appropriately. The FBI agents to whom Wald refers are themselves attorneys, for the most part, as are all federal prosecutors. We might assume they have at least a modicum of common sense. . . definitive construction of statutes is done by the courts. One element which the courts require in a criminal prosecution is mens rea, or criminal intent. . . . I would anticipate that any court would be willing to take judicial notice of the fact, for instance, that to do chemical research requires possessing chemicals.

Far from being a positive contribution, Wald's letter attacking certain provisions of the Organized Crime Control Bill may be regarded as typifying the single most dominant problem occurring at the Science-Society interface, namely, scientific arrogance. And, unfortunately, the bigger the "name" that suffers from presumptive omniscience,

the greater the damage that is done. Is it any wonder, then, that the policymakers seek to send the scientists en masse back to their test tubes with an air of don't-call-us-we'll-call-you? [A case in point, from the letter (11 Dec.) of Robert S. Morison: "the difficulties such scientists will encounter if the political leadership of the country persists in basing its recommendations on conventional wisdom rather than on scientific evidence." If the political leadership wished to conclude that scientific objectivity is not all that it's cracked up to be, I, for one, would not blame them one bit. . . .

WILLIAM S. LOVELL Oregon College of Education, Monmouth, Oregon 97361

Women, Please Apply

The role of women in society is being reexamined. The participation of women in many fields of endeavor is often restricted by their sex even when their qualifications are not in question. In "Women in Academe" (25 Sept., p. 1284), Patricia Graham argues that this is the case in the academic community and discusses a number of factors reinforcing the situation. Among these are subtle discrimination against women; adverse social consequences of women's success; reduced internal aspirations and expectations; ambivalences about combining career and family on the part of women; and other cultural factors. The article also suggests corrective measures, the most significant being an increase in the number of women faculty.

It has been argued that women scientists tend not to seek faculty positions in departments such as ours because of the very factors discussed by Graham. We recognize the existing obstacles. If women are to participate in science, we must actively support qualified women who aspire to do so. As a first step, we are making the effort to locate qualified women for faculty positions in our department in the areas of neurobiology and development. We would be pleased to learn of suitable candidates. We hope that other faculties will take similar action.

BORIS MAGASANIK Cambridge 02139

Department of Biology, Massachusetts Institute of Technology, 77 Massachusetts Avenue.

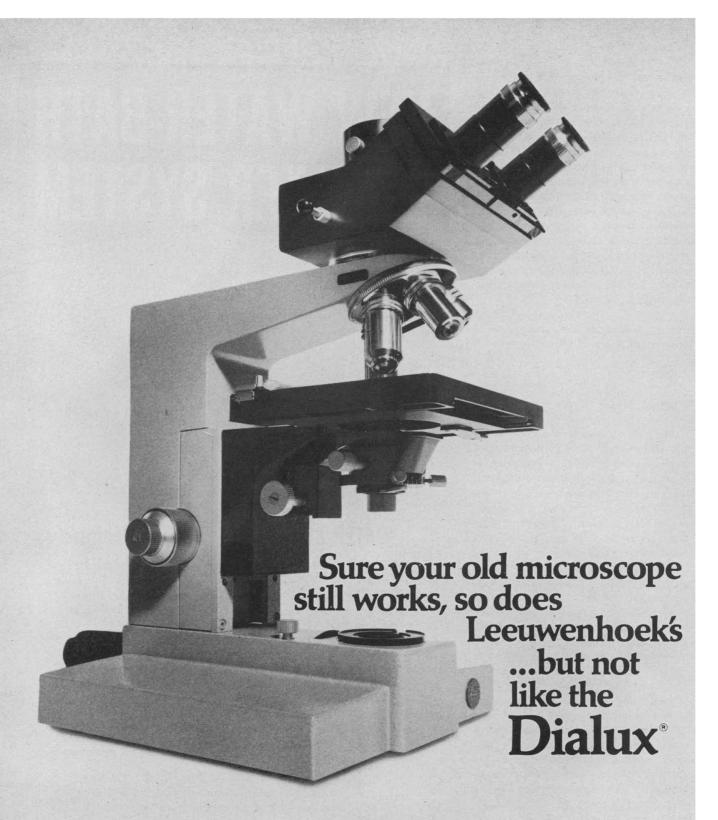


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What Is a Fair Price for Oil?

The current militancy of the Organization of Petroleum Exporting Countries is of special concern to western Europe and Japan. A key ingredient in their prosperity has been the availability of large quantities of cheap energy, mainly in the form of petroleum and its products. Western Europe and Japan have inferior supplies of coal, and nuclear energy accounts for only a tiny fraction of their needs. Sharply increased costs for oil or a scarcity of it will be a burden to them.

Petroleum has been found in all the continents and in most of the continental slopes. Recent discoveries of oil on the north slope of Alaska, in the North Sea, off western Africa, and off southern Australia have drawn press attention. These pools, though useful, are dwarfed by those in the Persian Gulf. There an ideal combination of geological events has led to the accumulation of enormous quantities of readily accessible petroleum. With less than 2,500 wells, the Persian Gulf states in 1969 produced more oil (nearly 4,600 million barrels) than did the United States with about 538,000 wells. Oil reserves in the Middle East amount to around 300,000 million barrels (46,000 million cubic meters), about ten times those of the United States exclusive of Alaska.

The oil of the Persian Gulf states accumulated as a result of events that took place over a time span of more than 100 million years. It represents a major source of income for the oil exporting countries, and its exhaustion in the future would probably return many of them to primitive poverty. Under such circumstances, what is a fair price for oil?

In real life, such matters are decided not on the basis of abstract considerations but on an interplay of technology, economics, and politics. Most of the world's petroleum was discovered and is being produced by American companies, with the British and Dutch also important participants.

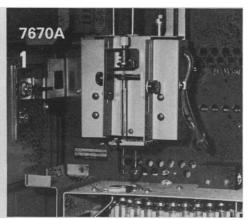
In the Persian Gulf, the bare cost of production is tiny—about 10 cents per barrel (42 U.S. gallons per barrel). Profits are large, and most of them go to the producing countries. The producing countries naturally seek to expand their take by increased taxes and prices, and they are tempted to expropriate the oil concessions.

During the past decade, however, the bargaining position of the exporting countries was poor. They did not cooperate effectively. They did not have sufficient technical and financial resources to operate the oil fields efficiently, nor did they have tanker fleets, refineries, and distributing networks. Mainly through American initiative, additional oil fields were discovered and developed in Libya and West Africa. This new oil on the market exerted a depressing force on prices. During the decade of the sixties, the cost of oil remained stationary and, in constant dollars, declined. Attracted to this cheap energy source, western Europe and Japan adapted their industries to its use, and their oil consumption and dependency increased rapidly. The bargaining position has recently changed drastically, largely as a result of tough actions by Libya. The other producing countries, seeing that they can win, are cooperating as never before; they can demand sharply higher prices for their oil and get them. They can engage in oil diplomacy. In the long run, excessive pressure would be unwise. But, since most people are interested mainly in the here and now, we can expect a continuing series of crises and confrontations and much higher prices for oil, both here and elsewhere, which will result in crash programs to develop alternative energy sources.—PHILIP H. ABELSON

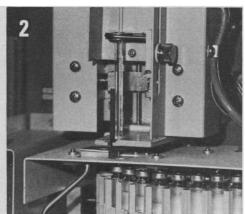
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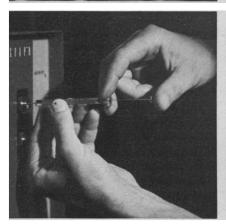
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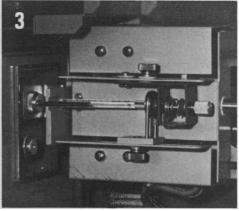




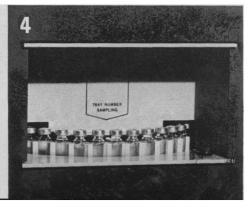












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ANALYTICAL INSTRUMENTS

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All recordings are available as 5-inch open reels (playable at 3¾ inches per second on any standard playback machine) or as cassettes. The cost of the tapes is: single session symposium, \$15.00 per session; multi-session, \$15.00 for the first session and \$12.00 for each additional session ordered of the same symposium. Each session lasts about 3 hours.

Each symposium is identified by a number (56/70, 57/70, and so on) while the sessions of each symposium are designated by Roman numerals.

56/70-Numberless Scientific Applications of Computers (One Session)

The variety of ways in which the computer figures in scientific applications, and the implications of this for science education. Robert L. Ashenhurst (University of Chicago), Melvin H. Mueller (Argonne National Laboratory), Richard H. Miller, Peter H. Greene (University of Chicago), Frederick W. Lancaster (University of Illinois), and Peter G. Lykos (Illinois Institute of Technology).

57/70—Problems in the Meaning of Death (Sessions I-II)

Different ideas about life and death and how these ideas affect and are affected by medical and scientific practice.

Leon R. Kass (National Research Council), Daniel Callahan (Institute of Society, Ethics, and the Life Sciences), William F. May (Indiana University), Elisabeth Kübler-Ross (Flossmoor, Ill.), Robert S. Morison (Cornell University), Martin P. Golding (City University of New York), Paul Ramsey (Princeton University), and others.

58/70—Are We Winning the War Against Urban Fires? (One Session)

Several important directions where new scientific and technological insights are beginning to have an effect to assure greater safety.

Carl W. Walter (National Academy of Sciences), William J. Christian (Underwriters' Laboratories, Inc.), James W. Kerr (Office of Civil Defense), Curtis Volkamer (Chief Fire Marshal, Chicago), Edward H. Blum (New York City Rand Institute), and others.

59/70—Automobile Pollution (One Session)

The optimum short- and long-term solutions to the problems of automobile pollution.

Victor Wouk (Victor Wouk Associates), Bernard Weinstock (Ford Motor Co.), John D. Caplan (General Motors Corp.), Russell C. Mallatt (Standard Oil Co. of Indiana), and William P. Lear (Lear Motor Corp.).

60/70-International Science Education (One Session)

Different views on international education, including an interesting description of innovation in higher education that is being conducted in England.

Phillip R. Fordyce (Florida State University), David Lockard (University of Maryland), Harold Foecke (UNESCO, Paris), K. N. Rao (Ford Foundation), David Hawkridge (The Open University, England), and Garland E. Allen (Washington University).

61/70-Advances in Human Genetics and Their Impact on Society (Sessions I-II)

Recent advances in human genetics provide information and procedures which have far-reaching implications and consequences for society.

Digamber S. Borgaonkar (Johns Hopkins University School of Medicine), Saleem A. Shah (National Institute of Mental Health), Clair E. Terrill (American Genetics Association), Kurt Hirschhorn (Mount Sinai School of Medicine), and others.

62/70—University Open Admissions (Sessions I-II)

Information relevant to university admission policies for the "disadvantaged."

Lloyd G. Humphreys (National Science Foundation), Alexander W. Astin (American Council on Education), Charles L. Thomas (Columbia University), John Bowers (University of Illinois), William L. Tetlow, Jr. (University of British Columbia), and Benjamin Rosner (City University of New York).

63/70-U.S. Contribution to the International Biological Program (Sessions I-II)

The integrated research program and its impact on research and teaching.

Charles F. Cooper (National Science Foundation), Stanley I. Auerbach (Oak Ridge National Laboratory), Douglas G. Chapman (University of Washington), David E. Reichle (Oak Ridge National Laboratory), Jorge Morello (Instituto Nacional de Technologia Agropecuaria, Argentina), Richard C. Dugdale (University of Washington), and others.

64/70—Human Cell Biology: Scientific and Social Implications (One Session)

Regulation of gene expression; mechanism of protein synthesis; replication, mutation, repair, and recombination of genetic material; the structure and function of membranes and the organization of sub-cellular structures within the cell.

Herman W. Lewis (National Science Foundation), Robert Haselkorn (University of Chicago), Joel Huberman (M.I.T.), Harvey Lodish (M.I.T.), Leroy E. Hood (California Institute of Technology), Max Berger (Princeton University), and others.

65/70—Interstellar Molecules and Chemistry (Sessions I-II)

Origin and behavior of interstellar molecules.

Bertram Donn (NASA), Frank J. Kerr (University of Maryland), Lewis Snyder (University of Virginia), Carl Heiles (University of California, Berkeley), Louis J. Stieff (NASA), Donald R. Johnson (National Bureau of Standards), Gerhard Herzberg (Canadian National Research Council), Philip M. Solomon (Columbia University), Simon H. Bauer (Cornell University), and others.

66/70—Elementary Particles and Symmetry (Sessions I-II)

Particle interactions and the nature of symmetries.

Albert M. Stone (Johns Hopkins Applied Physics Laboratory), Robert G. Sachs (University of Chicago), Edwin L. Goldwasser (National Accelerator Laboratory), Victor F. Weisskopf (M.I.T.), Lee G. Teng (National Accelerator Laboratory), Gerald Holton (Harvard University), and Leon M. Lederman (Columbia University).

67/70—Lake Restoration (Sessions I-II)

Feasibility of restoring a lake which has deteriorated in quality due to excessive fertilization and/or pollution by toxic substances. Robert A. Ragotzkie (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), W. T. Edmondson (University of Wisconsin), A. F. Bartsch (Pacific Northwest Water Laboratory), A. F. Bartsch (Pacific Northwest sity of Washington), Charles Powers (Pacific Northwest Water Laboratory), T. E. Maloney (Pacific Northwest Water Laboratory), G. Fred Lee (University of Wisconsin), Clifford H. Mortimer (University of Wisconsin), Arthur Pinsak (Great Lakes Research Center), David Anderson (University of Toronto), and others.

69/70—Industrial Approaches to Urban Problems (Sessions I-II)

The human and technical problems the city faces in pursuits of improved urban housing, solid waste management, educa-

Jordan D. Lewis (Battelle Development Corp.), Harold B. Finger (Dept. of Housing and Urban Development), Lewis W. Hill (Dept. of Urban Renewal, Chicago), William G. Rosenberg (Michigan State Housing Development Authority), Norman Wakefield (Rouse-Wates, Inc.), William Sidell (United Brotherhood of Carpenters and Joiners), Charles G. Gunnerson (Stanford Research Institute), Myron D. Calkins (Public Works, Kansas City), Frank R. Bowerman (University of Southern California), and others.

70/70—Chemistry of Learning and Memory (Sessions I-II)

New studies in the "memory transfer" field: transfer experiments with new types of learning, further evidence of specificity, and the isolation of biologically active peptide from the brain of trained animals.

William L. Byrne (University of Tennessee), Ejnar Fjerdingstad (University of Tennessee), Stanislav Reinis (York University), Georges Ungar (Baylor University College of Medicine), Orro L. Wolthuis (The Netherlands), Jean M. Daliers (Belgium), Gotz F. Domack (Belgium), John H. Levan (Edward Hines Jr. Hospital), and James A. Dyal and Arnold M. Golub (University of

71/70—Science Education in the Seventies (One Session)

Needs and problems of the coming decade will effect major changes in the pattern of education in the seventies.

Robert B. Livingston (University of California, San Diego), Fred S. Keller (Western Michigan University), John A. Moore (University of California, Riverside), Clifford Swartz (State University of New York, Stony Brook), and John R. Mayor and Arthur Livermore (AAAS).

72/70—Urbanization in the Arid Lands (Sessions I-III)

Carle O. Hodge and Carl N. Hodges (University of Arizona), William E. Benson (National Science Foundation), Marion Clawson (Resources for the Future, Inc.), E. Y. Kedar (State University of New York, Binghamton), Sol D. Resnick and Kenneth J. DeCook (University of Arizona), J. C. Lance (U.S. Water Conservation Laboratory), George B. Maxey and Gilbert F. Cochran (University of Nevada), Heinz H. Lettau (University of Wisconsin).

73/70—Is Population Growth Responsible for the Environmental Crisis in the United States? (One Session)

Varied views on the need to take immediate steps to halt the growth of the U.S. population.

Michael W. Corr (Washington University), George Wald (Harvard University), Ansley Coale (Princeton University), Barry Commoner (Washington University), Paul Ehrlich (Stanford University), Garrett Hardin (University of California, Santa Barbara).

74/70—Reducing the Environment Impact of a Growing Population (Sessions I-V)

Sessions: "Turning Pollution into a Resource," "Redirecting Society's Growth Patterns," "Technology and Design for New Cities

and New Towns," "Human Design and Social Innovations," and "Providing the Economic Base."

S. Fred Singer (U.S. Dept. of the Interior), J. Ernest Dunwoody (University of Illinios), Carl L. Klein (U.S. Dept. of the Interior), Robert B. Dean (Federal Water Quality Administration), Vinton W. Bacon (University of Wisconsin), Sam E. Beall, Ir. (Oak Ridge National Laboratory), Robert N. Rickles (Dept. of Air Resources, New York City), Richard D. Vaughan (Dept. of Health, Education and Welfare), Harry Perry (Library of Congress), and many others.

75/70—Is There a Generation Gap in Science? (One Session)

The accountability of the scientist, the imposition of political and social controls on scientific research and teaching, and the participation of the consumer in setting scientific policy.

Aristide H. Esser, Virginia R. Hannon (Rockland State Hospital), Margaret Mead (American Museum of Natural History), Albert Szent-Gyorgi (Marine Biological Labs., Woods Hole, Mass.), Edward Teller (Lawrence Radiation Laboratory), Richard Novick (Public Health Research Institute City of New York, Inc.), Frederic Commoner (Harvard University), Nancy Hicks (New York Times).

76/70-Mood, Behavior, and Drugs (Sessions I-IV)

Biochemical, pharmacological, psychological, and social factors relating to drug abuse.

Chauncey D. Leake (San Francisco Medical Center), H. W. Elliott (University of California, Irvine), Harold Himwich (State Hospital, Galesburg, Ill.), Daniel Efron (National Institute of Mental Health), and many others.

77/70—Science and the Federal Government (Sessions I-VI)

"Science Museums and Libraries," "Academic Science," "Science Laboratories," "Worldwide Scien-Sessions: "In Retrospect," tific Activities," "Outlooks."

Raymond J. Seeger (AAAS), Cyril S. Smith (M.I.T.), George E. Lindsay (California Academy of Sciences), Mina Rees (City

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University of New York), Alvin M. Weinberg (Oak Ridge National Laboratory), Gerard Piel (Scientific American), and many others. Note: There will be a delay in mailing of Session VI.

79/70—Chemistry Instruction and Social Concern (Sessions I-II)

William B. Cook (Colorado State University), Robert West (University of Wisconsin), M. Kent Wilson (National Science Foundation), Norman Hackerman (Rice University), J. A. Campbell (Harvard University), and others.

80/70—The Teaching of Science (Sessions I-II)

Arnold W. Ravin (University of Chicago), Jay Lemke (University of Chicago), Garland E. Allen (Washington University), Frederick Reif (University of California, Berkeley), Milton Hildebrand (University of California, Davis), Benson R. Snyder (M.I.T.), David Hawkridge (The Open University, Great Britain), Herman T. Epstein (Brandeis University).

81/70-Scientific Organizations, War-Peace Issues, and the Public Policy Process (Sessions I-II)

Reaction to proposed guidelines for an appropriate engagement of scientific organizations in the public policy process and in work to control the threat of war.

Robert Pickus (World Without War Council), Dael Wolfle (University of Washington), Henry Eyring (University of Utah), Brian B. Schwartz (M.I.T.), Jacob Bronowski (Salk Institute), and others.

82/70—Public Policy for the Environment (One Session)

Environmental problems from their basic causes to their consequences, the various techniques of public control which might be employed to maintain environmental quality, and the priorities to be given solutions to environmental problems relative to other major national problems.

Harold P. Green (George Washington University), Walter G. Berl (AAAS), Milton Kaplan (State University of New York at Buffalo), Pierre Dansereau (University of Montreal), Barry Commoner (Washington University), and others.

83/70—Latest Results of the Deep Sea Drilling Project (One Session)

Comparison of the history of the restricted Mediterranean Basin with the developing Atlantic Basin.

William E. Benson (National Science Foundation), Ellis Yochelson (U.S. Geological Survey), Charles T. Hollister (Woods Hole Oceanographic Institution), William A. Berggren (Woods Hole Oceanographic Institution), W. B. F. Ryan (Lamont-Doherty Geological Observatory).

84/70—Separation and Depression: Clinical and Research Aspects (Sessions I-III)

Sessions: "Separation and Its Effects in Animal Groups," "Biology of Depressive States," "Separation in Human Clinical Practice." Edward C. Senay (University of Chicago), John Paul Scott (Bowling Green University), I. Charles Kaufman (University of Colorado Medical Center), William T. McKinney, Stephen J. Suomi, and Harry F. Harlow (University of Wisconsin), R. Charles Boelkins and Paxton Cady (Stanford University), and others.

85/70—Economics of Pollution (One Session)

Techniques of measuring the costs of pollution, the social mechanisms by which pollution could be controlled, and the desirability of instituting such control.

Joseph Pechman (Brookings Institution), Ronald H. Coase (University of Chicago), Robert M. Solow (M.I.T.), Edwin S. Mills (Princeton University), George S. Tolley (University of Chicago), Roger Noll (Brookings Institution).

86/70—Effects of the Large-Scale Use of Herbicides and Defoliants (Sessions I-II)

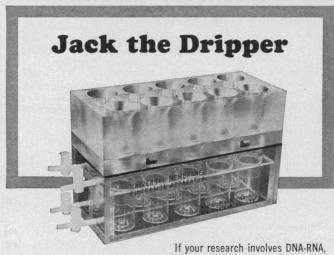
Summary and discussion of the AAAS Council Report on the large-scale use of herbicides and defoliants in Vietnam.

Kenneth V. Thimann (University of California at Santa Cruz), H. Bentley Glass (AAAS), Matthew S. Meselson (Harvard University), A. H. Westing (Windham College), J. D. Constable (Massachusetts General Hospital, Boston), Herbert Scoville, Jr. (Carnegie Endowment for International Peace), Walter G. Berl (AAAS), and many other discussants.

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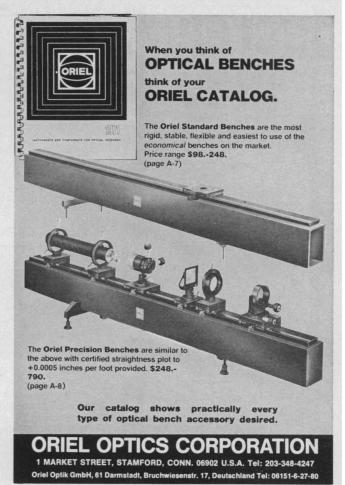


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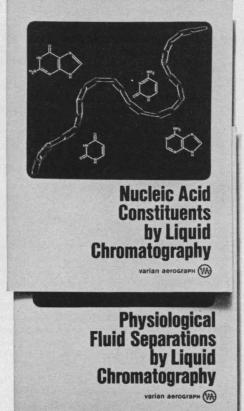
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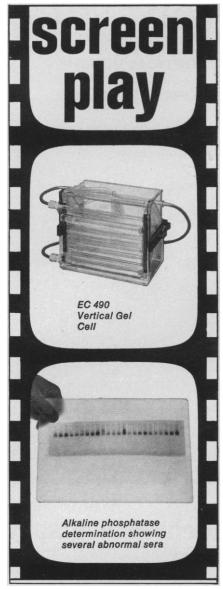
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BOOKS RECEIVED

(Continued from page 668)

The Armed Services and Society. Alienation, Management, and Integration. A conference, Edinburgh, Scotland, May 1969. J. N. Wolfe and John Erickson, Eds. Edinburgh University Press, Edinburgh; Aldine, Chicago, 1970. viii, 170 pp., illus. \$8.95. University of Edinburgh Faculty of Social Sciences Seminar.

Articulation Therapy and Consonant Drill Book. Sidney Goda. Grune and Stratton, New York, 1970. xii, 162 pp., illus. \$6.75.

An Artist in Africa. David Shepherd. Scribner's, New York, 1970. Unpaged. \$15.

Aspects of Scientific Explanation and Other Essays in the Philosophy of Science. Carl G. Hempel. Free Press, New York; Collier-Macmillan, London, 1970. viii, 504 pp. Paper, \$4.95. Reprint of the 1965 edition.

Astronomy. The Friday Evening Discourses in Physical Sciences held at the Royal Institution, 1851–1939. Bernard Lovell, Ed. Elsevier, New York, 1970. Vol. 1, xvi, 416 pp., illus.; vol. 2, x, 398 pp., illus. \$27.50. The Royal Institution Library of Science.

Atlas des structures cranio-faciales sagittales d'une population mélanésienne en orientation vestibulaire. Pellerin Claude. Laboratoire de Craniologie Comparée, Lille, France, 1970. Unpaged. Paper.

Atti della L Riunione. Proceedings of two conferences, Pescara and Chieti, Italy, September-October 1969. Società Italiana per il Progresso delle Scienze, Rome, 1970. 660 pp., illus. Paper, £6.5.

Rome, 1970. 660 pp., illus. Paper, £6.5.

The Auk, the Dodo, and the Oryx.

Vanished and Vanishing Creatures. Robert
Silverberg. Illustrated by Jacques Hnizdovsky. Crowell, New York, 1970. viii, 248
pp. Paper, \$1.65. Apollo Editions. Reprint of the 1967 edition.

Australian Academy of Science Year Book. Australian Academy of Science, Capperra, 1970, 124 pp. illus

Canberra, 1970. 124 pp., illus.

Avoidance of Failure. A series of lectures, October 1968. Published for the Metals and Metallurgy Trust by Elsevier, New York, 1970. viii, 152 pp., illus. \$8.

Bancrofts's Introduction to Biostatistics. Johannes Ipsen and Polly Feigl. Harper and Row, New York, ed. 2, 1970. xii, 224 pp., illus. \$9.50.

Behavior Ecology. Peter H. Klopfer. Dickenson, Belmont, Calif., 1970. x, 230 pp., illus. \$6.60. Contemporary Thought in Ecological Science Series.

Bibliography on Smoking and Health. With English Language Abstracts of Foreign Items. 1969 Cumulation, Part 2. Public Health Service, National Clearinghouse for Smoking and Health, Rockville, Md., 1970 (available from the Superintendent of Documents, Washington, D.C.). vi, 362 pp. Paper, \$3.25.

The Biochemical Basis of Neuropharm-acology. Jack R. Cooper, Floyd E. Bloom, and Robert H. Roth. Oxford University Press, New York, 1970. viii, 220 pp., illus. Cloth, \$6.95; paper, \$4.50.

Biochemistry. James M. Orten and Otto W. Neuhaus. Mosby, St. Louis, Mo., ed. 8, 1970. xiv, 926 pp., illus. \$15.75.

Biogenic Amines as Physiological Regulators. A symposium, Woods-Hole, Mass., August-September 1969. J. J. Blum, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1970. viii, 360 pp., illus. \$8.95. Society of General Physiologists' Symposia.

Biologic Relativity. E. R. N. Grigg. Amaranth, Chicago, 1967. xviii, 258 pp., illus. \$9.50.

Biology of the Immune Response. Peter Abramoff and Mariano F. La Via. McGraw-Hill, New York, 1970. xviii, 492 pp., illus. \$12.95.

Biomedical Engineering. J. H. U. Brown, John E. Jacobs, and Lawrence Stark. Davis, Philadelphia, 1971. xvi, 436 pp., illus. \$15.

Botany. Taylor R. Alexander, R. Will Burnett, and Herbert S. Zim. Illustrated by Jean Zallinger. Golden Press, New York, 1970. 160 pp. Paper, \$1.25. Golden Science Guide.

Boundaries. Psychological Man in Revolution. Robert Jay Lifton. Random House, New York, 1970. xiv, 114 pp. \$5.95.

The Boys and Girls Book about Divorce. With an Introduction for Parents. Richard A. Gardner. Science House, New York, 1970. 160 pp., illus. \$7.95.

Brighter than a Thousand Suns. A Personal History of the Atomic Scientists. Robert Jungk. Translated from the German edition (Bern, Switzerland, 1956) by James Cleugh. Harcourt Brace Jovanovich, New York, 1970. xiv, 368 pp. Paper, \$2.85. Reprint of the 1958 edition.

Bryozoans. J. S. Ryland. Hutchinson University Library, London, 1970. 176 pp., illus. Cloth, 33s; paper, 14s. Biological Sciences.

Calculus Supplement. An Outline with Solved Problems. Robert Kurtz. Benjamin, New York, 1970. x, 274 pp. Paper, \$3.95.

Cardiac Engineering. Yukihiko Nose, Ed. Interscience (Wiley), New York, 1970. xii, 384 pp., illus. \$19.95. Advances in Biomedical Engineering and Medical Physics, vol. 3.

Categories and Functors. Bodo Pareigis. Academic Press, New York, 1970. viii, 270 pp., illus. \$13. Pure and Applied Mathematics, vol. 39.

The Cellular Defence Reactions of Insects. George Salt. Cambridge University Press, New York, 1970. viii, 118 pp., illus. + plates. \$7.50. Monographs in Experimental Biology, No. 16.

Charles Sprague Sargent and the Arnold Arboretum. S. B. Sutton. Harvard University Press, Cambridge, Mass., 1970. xviii, 382 pp., illus. \$10.

Chemical Analysis. An Intensive Introduction to Modern Analysis. W. E. Harris and B. Kratochvil. Barnes and Noble, New York, 1970. x, 222 pp., illus. Paper, \$4.25. International Textbook Series.

Chemistry and Molecular Biology of the Intercellular Matrix. Vol. 3, Structural Organization and Function of the Matrix. Endre A. Balazs, Ed. Academic Press, New York, 1970. vi pp. + pp. 1231-1874, illus. \$20.

The Chemistry and Uses of Fire Retardants. John W. Lyons. Wiley-Interscience, New York, 1970. xvi, 462 pp., illus. \$22.50.

Chemistry for Medical Technologists. Wilma L. White, Marilyn M. Erickson, Just published . . .

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and Sue C. Stevens. Mosby, St. Louis, ed.

3, 1970. xiv, 710 pp., illus. \$15.

The Chemistry of Indoles. Richard J.
Sundberg. Academic Press, New York,
1970. xiv, 490 pp., illus. \$24.50. Organic Chemistry, No. 18.

The Chemistry of Organotin Compounds. R. C. Poller. Academic Press, New York, 1970. x, 316 pp., illus. \$16.50. Organometallic Chemistry.

China. Yi-Fu Tuan. Aldine, Chicago, 1970. xii, 226 pp., illus. Cloth, \$5.95; paper, \$2.45. The World's Landscapes.

The Coccidian Parasites (Protozoa, Sporozoa) of Ruminants. Norman D. Levine and Virginia Ivens. University of Illinois Press, Urbana, 1970. vi, 280 pp., illus. Paper, \$8.50. Illinois Biological Monographs, No. 44.

Colloque franco-soviétique sur l'utilisation des entomophages. A colloquium, Antibes, France, May 1968. Institut National de la Recherche Agronomique, Paris, 1970. 136 pp., illus. Paper, 35 F. INRA Publication 70-3.

Computation and Theory in Ordinary Differential Equations. James W. Daniel and Ramon E. Moore. Freeman, San Francisco, 1970. xiv, 172 pp., illus. \$7.50. A Series of Books in Mathematics.

Contemporary Readings in Behavior. Cecil E. Johnson. McGraw-Hill, New York, 1970. xii, 292 pp. Paper, \$3.95.

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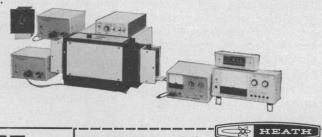
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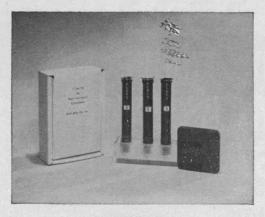
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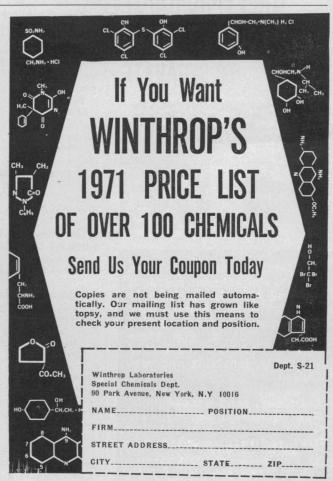
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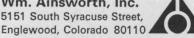


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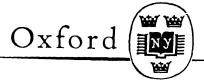
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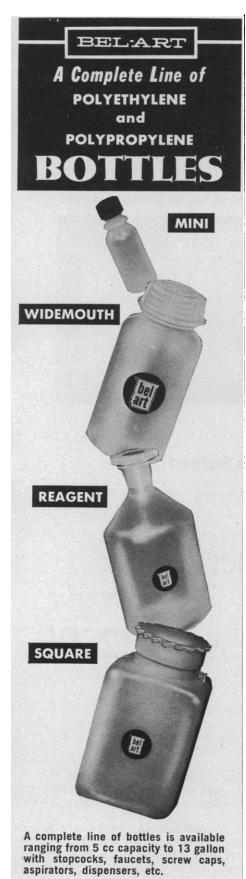
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