Recent AAAS Symposium Volumes

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—Bulletin of the Entomological Society of America, September 1961
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Edited by: R. F. Sognnaes.
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Edited by: L. P. Reitz.
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—Journal of Economic Entomology, December 1960
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#55. Photoperiodism and Related Phenomena in Plants and Animals.

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"... contains very many excellent papers. There are few biologists who will not peruse it with pleasure and profit."—Science Progress, July 1960
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9 FEBRUARY 1962
Instruments and Applications

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The M12 Metallurgical Microscope is carefully designed for full convertibility to allow use in the wide range of optical techniques usually associated with a "Universal" microscope.

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Leighton treats the elementary nature of photochemical reactions. This is followed by a chapter on the nature of sunlight and its intensity over the whole spectrum, but especially the intensity in the high-frequency range active in causing reaction. Next, an effort is made to apportion responsibility for the important reactants among the known absorbers of radiation. These primary reactions lead to a variety of secondary reactions, which are examined and their relative importance assessed. Out of this scientifically interesting complexity the practical problem still remains—the problem of deciding just what it is that causes the changes observed in the atmosphere. It eventually emerges “that all of the major photochemical products, all of the photochemically produced eye irritants and phytotoxins which have thus far been identified, and probably a major share of the photochemically originated organic particulates in photochemical smog are due to the nitrogen dioxide-olefin photolysis and the reactions which follow.”

The author draws on a wealth of experience with photochemical reactions in simple systems. This information is indispensable, but without the careful appraisal that was made of the peculiar situations existing in the atmosphere itself it would not suffice.

This is a pioneering report, and although many features will undoubtedly be modified and amplified with time, no one interested in atmospheric pollution can afford not to read it. It also provides an interesting account of many important reactions and should be widely read by people with an understanding and appreciation of chemical kinetics.

Henry Eyring
University of Utah

Panorama of Early Man


Beginning in November 1955 and continuing irregularly for a couple of years thereafter, Life magazine presented, in installments, a journalistic version of the story of man's physical and cultural evolution. A feature of this series was the colorful and imaginative artist's reconstructions of man and his ways of life at various times and places in the past. Credit for the ideas behind the text and illustrations in each issue was indicated by listing names of scientists, led by the well-known anthropologist, Carleton Coon of the University of Pennsylvania. The fact that a scientist was consulted does not necessarily mean that his suggestions were followed, and certainly not in full. Therefore, the list, while giving an aura of authenticity, actually bears about the same relation to the series as the names on the program of a scientific meeting do to the news accounts emanating therefrom.

Now, 6 years later, mainly the color sections of the series, reedited, rearranged, and indexed, appear in book form. That this time-lapse was not more fully offset by rewriting is unfortunate, because much has happened in this area of science since 1955 and some of the ideas represented in the paintings or expressed in the text are no longer current. For example, in the book earliest recognized man (Zinjanthropus) is still given an antiquity of only 600,000 years (the new figure is 1,750,000 years), whereas the modern variety of man is said to go back nearly half that far (the evidence is very poor). Also, Neanderthal man, who lived until 45,000 years ago, is pictured as a bull-necked, bent-kneed creature, a concept certainly no longer held by many of the authorities cited. I am less sensitive to the cultural details, although some of the reconstructed scenes startled me, for instance on page 51 where so many beautiful women of northern Europe 7000 years ago are shown in such scanty attire.

In spite of such defects and dubious reconstructions from sparse evidence, the book has much to recommend it, not the least being a lively format that is guaranteed to catch and hold the attention of readers of all levels. Once caught, many readers may even be induced to dip into some of the 80 books, written by scientists, which are listed in the bibliography.

T. D. Stewart
Department of Anthropology, United States National Museum

New Books

Biological and Medical Sciences


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A slide projector like a merry-go-round

This is the Kodak Carousel projector. It projects slides. Carousels symbolize carefree abandon. Care lest slides jam can be abandoned. Gravity feeds them. Gentle gravity. Slides are automatically lifted back to 80-slide storage tray. Pushbuttons at end of long cord advance slides, reverse, even refocus. (Latter is largely for kicks. Actually, slides get prewarmed not to pop out of focus. See Kodak dealer for exact price. You will find it is less than $150. Lucky you happen to be in the market at this particular time.

Second-best acetonitrile

Demand has waxed for *Spectro Grade Acetonitrile* (Eastman S488) despite a price of $7.10 for 250 ml, which suggests widespread concurrence with our belief that nobody else offers acetonitrile as pure as our acetonitrile. Pain at having to charge such a price is eased a little by reflecting that the achievement of this purity calls forth more dogged determination than any other item in the house.

Despite all the noble effort, altogether too many lots of acetonitrile fail to make the grade as Eastman S488 because of trifling hydrocarbon impurities. Recently we succeeded in palming off some of this rejected acetonitrile on our own chemical researchers. They wanted it not as a spectro solvent but for some syntheses involving acid chlorides, where water or alcohols are bugaboos—or, as one educated young man put it, no electron donors allowed.

That sophisticated remark, the garriness with which a genuine customer from the outside later lapped up similar batches of our acetonitrile for non-spectro purposes, and a price of only $5.05 for 500 grams of this *Anhydrous Acetonitrile* (Eastman plain 488) conspire to remind us of the Lewis acid-base definition, the earlier Brønsted acid-base concept, and the non-aqueous titrimetry technique which has arisen from the Brønsted concept and which now permits so many unlikely compounds to be regarded and measured as acids or bases in suitable non-aqueous solvents.

Eastman plain 488 makes such an eminently suitable and inert solvent for this purpose! For instance, a great variety of amines can be dissolved in it and titrated with perchloric-acid-in-glacial-acetic acid, viz.,

\[
\text{HClO}_4 + \text{HOAc} \rightarrow \text{H}_2\text{OAc} + \text{ClO}_4^- \\
\text{H}_2\text{OAc} + R'R''R'''\text{N} \rightarrow R'R''R'''\text{NH}^+ + \text{HOAc}
\]

Write down in your little black book:

"Non-aqueous titrimetry."

And while you have your pen out, you might jot down that some 3900 Eastman Organic Chemicals can be ordered from Distillation Products Industries, Rochester 3, N. Y. (Division of Eastman Kodak Company).

Roentgen movies

Miss Lina-Lou Kellogg, working anonymously as "X-ray Sales Division, Eastman Kodak Company, Rochester 4, N. Y.," has issued another edition of her bibliography of X-ray cinematography. Eighteen months since the previous edition have added some 175 references, bringing us to some 750. It's a live subject, all right. "Kelly" has the impression that interest is shifting from technique to medical interpretation. She also has the feeling that she is barely scratching the surface. She knows and regrets that her Russian coverage is weak. Still, about 25 people a week ask and receive. So don't be bashful.

Prices subject to change without notice.

This is another advertisement where Eastman Kodak Company probes at random for mutual interests and occasionally a little revenue from those whose work has something to do with science

9 FEBRUARY 1962
as the ATP turnover time and the phosphate potential (ATP/ADP-Pi) were determined and related to electron transfer in various metabolic states of ascites tumor cells. The relationship between energy-linked cytochrome oxidation and light-induced electron transfer was also examined.

The full proceedings of the symposium on respiration and fermentation will be published by the Ronald Press. The abstracts of the symposium papers and the shorter contributed papers are scheduled to appear in the January issue of the Journal of General Physiology, currently the official publication organ of the Society of General Physiologists.

Newly elected officers are Albert Tyler, president; Teru Hayashi, vice-president; David Bishop, secretary; and Barry Commoner and Andrew Szent-Györgyi, councilors. Thirty-eight new members were voted into the society.

BARBARA WRIGHT
Huntington Laboratories, Massachusetts General Hospital, Boston

DAVID W. BISHOP
Department of Embryology, Carnegie Institution of Washington, Baltimore, Maryland

Forthcoming Events

February

26-2, Current Trends in Nuclear Power, symp., Tucson, Ariz. (L. Weaver, Nuclear Engineering Dept., Univ. of Arizona, Tucson)


March

1-3, Florida Acad. of Sciences, Gainesville, J. B. Lackey, Dept. of Civil Engineering, Phelps Laboratory, Univ. of Florida, Gainesville)

1-3, Fundamental Cancer Research, Conceptual Advances in Immunology and Oncology, symp., annual, Houston, Tex. (Univ. of Texas, Anderson Hospital and Tumor Inst., Houston 25)


2-4, National Wildlife Federation, Denver, Colo. (T. L. Kimball, 1412 16 St., NW, Washington 6)

4-7, Association for Higher Learning, Chicago, Ill. (Chief of Information, Dept. of the Army, Washington 25)

4-8, Association for Supervision and Curriculum Development, Las Vegas, Nev. (Chief of Information, Dept. of the Army, Washington 25)

4-8, Conference on Gas Turbine Power-


5-10, United Nations Economic and Social Council, Committee for Industrial Development, New York, N.Y. (U.N., New York)

8, Problems Relating to Food and Feed Additives, Assoc. of Vitamin Chemists, Chicago, Ill. (H. S. Perdue, Abbott Laboratories, N. Chicago)

9-14, National Science Teachers Assoc., annual, San Francisco, Calif. (M. T. Boulou, Ball State Teachers College, Muncie, Ind.)


11-17, American Congr. on Surveying and Mapping—Amer. Soc. of Photogrammetry, annual, Washington, D.C. (G. K. Emminizer, Jr., 106 Valley Rd., Ellicott City, Md.)

12, Wildlife Soc., Denver, Colo. (C. Gordon Fredine, 5921 Anniston Rd., Bethesda 14, Md.)

12-14, North American Wildlife and
New Products

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither Science nor the writer assumes responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to the manufacturer. Include the department number in your inquiry.

Integrator (model No. J101B) is an analog accumulator that can be used with instruments that supply full-scale output signals of 1 ma at voltages between 10 and 100 v. The integrator is provided with an input adjustment that accommodates to the input signal source voltage. The results of integration are indicated by a six-digit counter and a 2½-in. meter to interpolate between successive values of the least significant figure of the counter. Accuracy is said to be ±1 percent and drift less than 0.01 percent per hour. A mechanically preset counter terminates integration and controls auxiliary equipment when the preset value is reached. Integration at full-scale rate may continue for as long as 280 hours for one complete counter cycle, or indefinitely if the counter cycling is recorded. (Elcor Inc., Dept. Sci566, 1225 W. Broad St., Falls Church, Va.)

Surface temperature transducer is a platinum-resistance type measuring 1-9/16 by 9/16 by 0.041 in. thick. A high-temperature cement provided for installation is said to maintain its bond strength beyond 2000°F, the upper limit of the range specified for the transducer. Installation by welding is also possible. Resistance is 100 ohms ±1 percent at 77°F. A response time of milliseconds is said to be achievable. (Winsco Instruments & Controls Co., Dept. Sci547, 11789 W. Pico Blvd., Los Angeles 64, Calif.)

Electrostatic generators provide essentially pure d-c outputs continuously variable to 600 kv at currents up to 4 ma. Model AK600-4 can be switched to provide either medium or high-stability output. Ripple is 0.01 percent; full-load voltage drop never exceeds 500 v; regulation is better than 0.1 percent for 5 percent change in line voltage; output capacitance is 1500 pf. Model AK600-4 holds ripple to ±1 percent; full-load voltage drop is less than 10 kv; regulation is less than 0.5 percent for 5 percent line change; and output capacitance is 500 pf. Electrical requirement for both models is 220/380 volts, 60 cy/sec, three phase. (Sames, Dept. Sci565, 30 Broad St., New York 4)