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Cover

These dunes, sculptured by the wind, are near Sebha, Libya (population 1702), a town in a Saharan oasis. The picture is from Africa, a book of photographs by Emil Schult- hess, published by Simon and Schuster, New York. See review on page 1402.
One Hat That's in the Ring

Although most of the potential candidates for the 1960 Presidential nominations have not yet become actual candidates, one issue coming to the fore, as it did in the 1956 campaign, is that of a moratorium on nuclear testing. In the previous campaign, a proposal by Adlai E. Stevenson to suspend tests was dismissed by Dwight D. Eisenhower as a political gesture. Since then the administration has suspended tests and attempted to negotiate a permanent ban. A sticking point in the negotiations has been the Soviet Union's reluctance to agree to a sufficient number of on-site inspections of unidentified seismic events to make control effective. With the test suspension scheduled to end 31 December, the issue is whether wisdom lies in our continuing the suspension, and if so, for how long, or in testing weapons again.

A recent exchange of opinion in this country on test ban negotiations began 25 October, when in the course of a television question period, New York Governor Nelson A. Rockefeller stated that the United States should resume nuclear tests but restrict them to underground experiments in which radioactivity contamination of the atmosphere is negligible. The Republican Governor was promptly taken to task by a Democratic senator. In a speech delivered 2 November at the University of California at Los Angeles, Senator John F. Kennedy of Massachusetts urged that the suspension of nuclear tests be continued as long as the Soviet Union does not resume them and negotiations for a permanent ban make progress. If negotiations collapse, Kennedy said, the United States should resume testing but only underground or in outer space. The views of the Senator were opposed, in turn, by another Democrat but one who, we can be sure, is not seeking the Presidential nomination. In an article published 8 November in many newspapers, Harry S. Truman found little sense in our abstaining now from underground experiments. Disagreement with the position taken by Rockefeller and Truman was then voiced at a press conference 12 November in Wisconsin Rapids, Wis., by Vice President Richard M. Nixon.

The most detailed plan for action by the United States was offered in a talk delivered 30 October in Pontiac, Mich., by Senator Hubert H. Humphrey. The Democrat from Minnesota distinguished between the problems posed for mobile inspections by explosions with a yield of 5000 tons or more and the problems posed by smaller explosions. According to Humphrey's plan, the present moratorium on all testing should be extended for a period up to one year to allow further work on the problem of larger explosions. This problem is simpler than that of smaller explosions because effective control would require considerably fewer inspection trips. The number needed in the Soviet Union, the Senator said, would be between 25 and 50. If agreement on the first problem were reached, the plan continues, the moratorium on smaller explosions should be extended another two years; during this time the participating nations could study methods for improving the policing of smaller explosions without increasing unreasonably the number of mobile inspections.

This sample of opinion points up some aspects of the test ban issue. The two Republicans and three Democrats are agreed that if tests are resumed they should not take place in the atmosphere. Aside from the amount of detail that these thinkers are willing, or able, to specify, differences on how long to continue negotiations center not on scientific or technical matters but on different estimates of Soviet intentions. If a person believes that Moscow is seeking either a signed or de facto test ban but without controls, then he favors resuming our test program. Or, to reload the question, if a person believes that the evidence so far indicates that Moscow is negotiating in good faith, then he favors continuing the suspension.—J.T.
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Hanson; discussant, Edward L. Hill, (University of Minnesota); quantum physics and relativity theory (Edward L. Hill); discussant, Paul K. Feyerabend.

Symposium: “Methodological Problems of Psychology and the Social Sciences”; cosponsored by the American Philosophical Association and the Philosophy of Science Association; 30 Dec.; arranged by Herbert Feigl; Wilfrid Sellars, presiding. Papers on methodological issues of the social sciences (Paul F. Lazarsfeld, Columbia University); discussant, Roger Buck (Oberlin College); the role of intervening variables in psychological theory (Herbert Hochberg, Northwestern University); discussant, Grover Maxwell; verbal utterances as data (Alex Buchwald, Indiana University); discussant, Roger Buck; formal analysis and the language of behavior theory (William Rozeboom); discussant, Alex Buchwald.


Society for General Systems Research. Business meeting and symposium: “The Synthesis of Organization”; 29 Dec.; arranged by Richard L. Meier, University of Michigan, with Anatol Rapoport, University of Michigan, presiding. Papers will be presented on self-organizing phenomena and the first life (Sidney W. Fox, Florida State University); the theory of plans and human behavior (Eugene Galanter, University of Pennsylvania); self-organizing systems (Heinz Von Foerster, University of Illinois).

There will be a session for contributed papers; 30 Dec.; Charles A. McClelland, San Francisco State College, chairman.

Society for the History of Technology. There will be two sessions of invited papers, cosponsored by AAAS Section L; 29 Dec.; arranged by Robert P. Multhauf, Smithsonian Institution. Session I; Carl W. Condit, Northwestern University, presiding. Papers on the social consequences of occupational specialization (Raymond Mack, Northwestern University); individualism and technological change (Homer Barnett, Oregon State College); commentator, Otis D. Duncan (University of Chicago). Session II; Robert Carlson, University of Pittsburgh, presiding. Papers on the Niagara power project (Harold Sharlin, Brooklyn Polytechnic Institute); medieval technology as reflected in the Treatise on Divers Arts of Theophilus (Cyril Stanley Smith, University of Chicago); the legend of Eli Whitney and interchangeable parts (Robert S. Woodbury, Massachusetts Institute of Technology).

Forthcoming Events

December

16-18. American Soc. of Agricultural Engineers, Chicago, Ill. (J. L. Butt, P.O. Box 229, St. Joseph, Mich.)


27-30. American Folklore Soc., Mexico City. (Mae E. Leach, 110 Bennett Hall, Univ. of Pennsylvania, Philadelphia 4.)


27-30. Institute of Mathematical Statistics (weather control), Washington, D.C. (J. Neyman, Statistical Lab., Univ. of California, Berkeley 4.)

28-29. American Chemical Soc. (Div. of Industrial and Engineering Chemistry),
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.

- **Slide Rule**, for teaching, is 8 feet long and is mounted on trundles that permit complete 360-deg turning without lifting. Scale arrangement and slide movement are the same as those of the manufacturer's standard 10-in. Log Log Duplex Decitrig slide rule. (Keuffel & Esser, Dept. Sci210, Adams and Third Sts., Hoboken, N.J.)

- **Laboratory Hydraulic Press** of 50-ton capacity has electrically heated platens measuring 12 by 15 in. Temperature of either platen can be read independently, measured by thermocouples and pyrometer. Controls are located at eye level. (Wabash Metal Products Co., Dept. Sci223, 1576 Morris St., Wabash, Ind.)

- **Pulse Generator** produces current pulses with output rise time variable to 35 mµsec and peak amplitudes 50 ma to 2.5 amp. Variable width, amplitude, and rise times are produced from external triggers at rates to 3 Mcy/sec. The device may also be operated as an amplifier with output widths controlled by input signal durations. (Electro-Pulse Inc., Dept. Sci224, 11861 Teale St., Culver City, Calif.)

- **Controlled-Temperature Bath** for 12 standard cells maintains 35°C within ±0.01°C corresponding to cell-output variation of 0.5 µv. Connection of positive sides of cells to individual binding posts permits each cell to be checked by changing one external connection. All wire and binding posts are made of copper to avoid thermal voltages. Approximately 4 gal of oil are required. (Daystrom, Inc., Dept. Sci226, 614 Frelinghuysen Ave., Newark 12, N.J.)

- **High-Voltage Probe** for oscilloscope is rated at 12 kv d-c or r.m.s., 25 kv peak. Attenuation ratio is 1000/1. Rise time is 12 mµsec and frequency response is d-c to 30 Mcy/sec. Input impedance is 2.5 pf paralleled by 100 megohm. A compensating network permits adjustment to oscilloscope input capacitances from 20 to 47 pf. (Tektronix, Inc., Dept. Sci227, P.O. Box 831, Portland 7, Ore.)

- **Microwave Stability Tester** measures long-term drift and short-term deviation from 1100 to 10,000 Mcy/sec. Short-term accuracy is said to be 1/10° and long-term accuracy 1/10°. Short-

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letters

support of science by college student body

associated student bodies of american colleges and universities have yearly budgets for student activities which may include hundreds of thousands of dollars. monies generally come from the sale of student-body tickets, from admissions, and from publications. expenditures include the support of athletics, music and arts, publications, publicity, administrative salaries, and general activities. in so far as is known by us, no student body has budgeted funds for the support of scientific research.

the associated student body of long beach state college established a research board composed of students and faculty to further basic research on the campus. the purposes are (i) to provide increased opportunity for students to engage in scientific research; (ii) to increase scientific knowledge; (iii) to provide an activity which is a source of interest, pride, and prestige for the student body as a whole, and for the college; and (iv) to emphasize the need for acquainting the public with the goals and values of basic research.

the primary function of the research board, consisting of four students and three faculty members from the various areas of science, is to approve deserving research proposals submitted by student-faculty teams. funds may be used for equipment, supplies, or salaries. projects will be supported for a 1-year period; however, additional funds may be requested.

while the amount budgeted the first year is small ($1000, representing about 0.6 percent of the total student-body budget), it demonstrates that the undergraduate student realizes the value and the importance of supporting basic research.

Donald J. Reish
Richard B. Loomis
department of biological sciences,
long beach state college,
long beach, california

high-altitude observation

I have recently read with great interest the article by R. C. Staley "High-altitude observation techniques" [Science 130, 845 (2 Oct. 1959)]. I would like to make the following comments relative to some recent developments.

1) The altitude limit of the rocket-grenade experiment for temperature


3) In 1958 I proposed to the Air Force Cambridge Research Center an experiment involving a falling sphere with a stable platform and XYZ accelerometers. The experiment is now under study at the University of Michigan Willow Run Laboratories, under contract AF19(604)-5205. It appears that good density determination can be expected at altitudes up to 150 km and horizontal wind determination, at altitudes up to 120 km. Vertical winds can be estimated.

JOSEPH OTTERMAN
Willow Run Laboratories,
University of Michigan, Ann Arbor

I would like to express my appreciation to Joseph Otterman for his interest in my article and for his amendments to it. It is regrettable that these recent references, although available to me, escaped my attention. The purpose of my article was to call attention to material scattered through the literature. I hope other workers in atmospheric physics will share their discoveries through the pages of Science as well as through their own specialized periodicals.

RAYMOND C. STALEY
Department of Meteorology and Climatology,
University of Washington, Seattle

On Selecting “Immortals”

As a teacher of the history of science, I should like to be instructed by some of your readers. In a recent issue of Science [130, 150 (17 July 1959)], a news item lists the 25 “Immortals of Science” whose names will be carved in the walls of the new science building at the University of Bridgeport. I am not interested in the game of fighting for favorite names, but I should like to ask whether anyone can explain how the electors managed to include the name of Leonardo da Vinci—to be judged a genius, yes, but hardly a scientist, especially on the basis of the criteria set up by the university. In spite of the airplanes and studies of fluid flow, Leonardo did not (i) make “a fundamental discovery regarding the laws of nature,” nor was he (ii) “responsible for an invention not based on a previously known fundamental law of nature.” Is this an example of the blind following of tradition? In case there are those who require annotations, let me refer to the works of Leonardo himself, and to comments by Randall, Duhem, and Sarton.

I. WEBB SURRETT
Institute of Technology, Air University,
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Tax Deduction

In a recent issue [Science 130, 86 (1959)], in discussion of a congressional bill to stimulate private philanthropy, mention is made of an 80-cent dollar for a person with a taxable income of $5000. This is only the case, though, if the itemized income-tax form is used. For those of us who take a straight 10-percent deduction, a dollar given away consists of 100 cents, with no tax rebate of 20 cents or even 9 cents.

WILLIAM I. MARTIN
Pittsburgh, Pennsylvania

Science Writing

The editors of Science and J. Allen Hynek are to be congratulated for the report “Occultation of the Bright Star Regulus by Venus” [Science 130, 707 (18 Sept. 1959)]. To paraphrase Hynek’s dramatic opening paragraph: In this age it is no longer often that we are given the opportunity to read so beautifully written and so personalized an account of a scientific observation.

As recently as 25 years ago it was not uncommon for an article in a scientific journal to reflect its author’s individuality. Hynek’s refreshing style may remind us that the literature antedating our present age of self-imposed and editor-imposed conformity is rich with like examples. Perhaps stylistic excellence might some day be revived if we directed our students more insistently to the finest examples in the “classic” literature of our respective fields.

AVRAM GOLDSTEIN
Department of Pharmacology,
Stanford University

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