Capital Gain

Last month President Eisenhower approved a report setting forth a comprehensive plan for greatly increasing the federal investment in high-energy nuclear research. The report recommends that government funds for the construction and operation of accelerators be increased from $59 million for fiscal year 1959 to $135 million for fiscal year 1963, with the Atomic Energy Commission, the Department of Defense, and the National Science Foundation as the principal agencies involved. The report was prepared by a special panel appointed by the President's Science Advisory Committee and the General Advisory Committee to the Atomic Energy Commission. Increased investment in nuclear research is most welcome, and our only regret is that approval for such a plan did not come earlier.

If this country is to continue to advance in nuclear research, considerable federal support is necessary, for the cost of modern equipment is too great to be borne by universities or businesses. Indeed, the cost is so great that decisions in the Government concerning its support must be made at the White House level. The report, itself an example of planning at this level, calls for the establishment of an interdepartmental council on high-energy accelerators to continue the panel's work. The council will include policy-level representatives from the Atomic Energy Commission, the Defense Department, and the National Science Foundation. These agencies will continue to be individually responsible for the different research projects, but the council will coordinate their efforts and review new research proposals, including proposals for new accelerators.

Besides coordinating the activities of the agencies doing accelerator physics, the interdepartmental council will be a friend at court helping justify the costs. Until recently the only unit in the administration for reviewing the country's science effort as a whole was one located some distance from this effort: the Bureau of the Budget. Early this year the Federal Council for Science and Technology was established to coordinate the scientific activities of government agencies, and the new council on accelerators presumably will function as a kind of subcommittee of the Federal Council. Advice to budget makers about nuclear research is necessary because in the press of meeting more immediate and obvious demands it is easy to forget that investment in basic research offers a large return to the country, even if that return is on a long-term basis and even if its specific form is unpredictable.

With several federal agencies interested in nuclear research, questions will arise about which agencies should finance which facilities. The report recommends the construction of a linear accelerator at Stanford University, to cost well over $100 million and to operate eventually at 45 billion electron volts, and it hints that the Defense Department is the appropriate agency in this case. However, as matters now stand, and as stated by President Eisenhower at the recent symposium on basic research at the Rockefeller Institute, the Atomic Energy Commission will be the agency to ask Congress for authorization to finance the accelerator. Any agency doing applied research can benefit from basic research projects, but from the viewpoint of the country as a whole the special security requirements of the Defense Department do not make it the best place for such projects. We take the new assignment of responsibility for the Stanford accelerator as a good sign that the Defense Department's share in nuclear research will be a modest one.—J.T.
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Erythrophagocyte, seen in an uncommon blood condition, where white cells swallow red cells. Here is one that has eaten three.

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Meetings

Science Congress at Singapore

The University of Malaya, at Singapore, was host to an international biological congress held at the university on 2–9 Dec. 1958. The congress was in celebration of the centenary of the formulation of the theory of evolution by Charles Darwin and Alfred Russel Wallace, and the bicentenary of the publication of the tenth edition of the Systema Naturae of Linnaeus. Singapore was a particularly appropriate site for such a meeting, since this city served Wallace as a base of operations during his 6-year sojourn in Malaya, when he formulated his concept of the mechanism of evolution.

Guests from 12 countries, representing four of the five continents, participated in the program, which lasted a full week. Sunday was taken up with conducted field trips to places on Singapore Island of special interest to biologists. The official guests were J. B. S. Haldane (Indian Statistical Institute, Calcutta), G. S. Carter (University of Cambridge), and H. G. Andrewartha (University of Adelaide). The Royal Society of London was represented by E. J. H. Corner, the British Association for the Advancement of Science by H. Munro Fox, the Zoological Society of London by R. D. Purchon, and the Institute of Biology by J. R. Andy. Purchon was chairman of the organizing committee, and Roland Sharma was general secretary.

Haldane served as president of the congress, and his presidential address, "The Theory of Natural Selection Today," provided the keynote of the program. After affirming that, after a hundred years, the concept of natural selection as an agent in evolution is more firmly established than ever, Haldane suggested that "the next great step in biology, comparable to those we are celebrating today, may be made—or may already have been made—in a tropical country." He further suggested that "the lack of complicated apparatus may even stimulate us to look at what is before our eyes." A total of 68 papers was presented, under the general categories of evolution, parasitology and entomology, zoogeography, terrestrial ecology, fresh-water ecology, genetics, anthropology, systematic, and botany. Emphasis throughout was on evolution (especially on those aspects of evolution that can best be studied in the tropics) and on tropical ecology, especially as it affects human welfare and well-being. The necessity for understanding the ecology of the tropics—so different in many ways and so much more complex than the ecology of temperate zones—if man is to avoid disaster in his attempts to manage...
tropical nature was repeatedly stressed by speakers and discussants. The University of Malaya proposes to issue a volume containing the papers read at the congress. Abstracts of the papers have already been published by the university.

Participants were given a choice of three tours to various parts of Malaya, each under the leadership of a staff member of the zoology department of the university; these enabled foreign visitors to see something of tropical biology firsthand. One tour, to the King George V National Park in north-central Malaya, was conducted by J. R. Hendrickson. The park contains 1700 square miles of virgin tropical rain forest, in which the visitors lived and worked for a week; emphasis was on tropical terrestrial ecology. A second tour, along the west coast of Malaya as far north as Penang, which was led by D. S. Johnson, explored the various types of fresh waters in Malaya and studied tropical fresh-water ecology. A third tour, to Raffles Light in the Straits of Singapore, led by R. E. Sharma, studied tropical marine ecology.

It was generally agreed that the congress was an outstanding success. It was well organized and efficiently run, and it emphasized problems that are pertinent to the tropics in general and to Southeast Asia in particular. The papers presented were of the highest calibre. In view of the fact that the University of Malaya is only 9 years old, the centenary and bicentenary congress was nothing short of a triumph.

D. Dwight Davis
Chicago Natural History Museum,
Chicago, Illinois

American Statistical Association

The 119th annual meeting of the American Statistical Association will be held in Washington, D.C., 27–30 December, with headquarters at the Shoreham Hotel. The 4-day meeting will have more than 50 technical sessions covering the methodology and application of statistics in many different professional fields. The sessions are sponsored and organized by the five sections of the American Statistical Association—Biometrics, business and economic statistics, physical and engineering sciences, social statistics, and training—and by the Institute of Mathematical Statistics. This meeting will be joint with a number of other societies, among them the American Economic Association, the American Finance Association, the Biometric Society (ENAR), and the Institute of Mathematical Statistics.

Further information regarding the preliminary program and other details will be available from the American Statis-

Animal Cell Biology

The fourth annual Conference on Quantitative Study of Animal Cell Biology in vitro will be conducted by the department of biophysics of the University of Colorado, 31 August–3 Septem-

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viruse-host cell interaction, and radiation studies. Possible uses of these methods in clinical medicine will also be considered. Participants should possess acquaintance with the principles of sterile technique and with the philosophy of quantitative microbiology.

Because requests for admission have in the past always exceeded the available facilities, applicants, up to the limit of 50, will be accepted in order of receipt of their completed applications. Inquiries should be addressed to the Department of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver 20, Colo.

Mammalogists to Meet

The American Society of Mammalogists will meet 22–24 June in Washington, D.C. Sessions will be held at the U.S. National Museum Auditorium, and meeting headquarters will be at the Harrington Hotel. The program will include technical papers that cover a diversity of basic mammalogical and ecological studies carried on throughout North America. Special tours are scheduled to the Fish and Wildlife Service's Patuxent Research Refuge in Maryland and the National Zoological Park. A banquet and a program of outstanding documentary films are planned for the evening of 23 June at the Cosmos Club. Further information may be obtained from Viola S. Schantz, General Chairman, United States National Museum, Washington, D.C.

Symposium on Hematin Enzymes

Under the auspices of the International Union of Biochemistry, a symposium on hematin enzymes is to be held in Canberra, Australia, between 31 August and 4 September 1959. The symposium is being arranged by the Australian Academy of Science, and participation is by invitation.

About 40 scientists are expected to attend. Papers will be concerned with aspects of the following topics: the biogenesis and metabolism of heme compounds; the chemistry of hemoproteins, regarded as iron complexes, and as proteins; cytochromes and cytochrome oxidase; catalases and peroxidases; the respiratory chain and cellular organization; and problems of classification and nomenclature of cytochromes. The proceedings of the symposium are to be published by Pergamon Press in a special volume.

The costs of this meeting are being borne by the Australian Academy of Science, the International Union of Biochemistry, and the Wellcome Trust. Travel of some overseas participants is being supported by the appropriate organizations in their respective countries.

A meeting of the Cytochrome Subcommittee of the I.U.B. Commission on Enzymes is to be held in the week following the symposium.

Professor R. K. Morton, Department of Agricultural Chemistry, University of Adelaide, South Australia, is convener of the organizing committee of the symposium.

Infrared Symposium

Some 300 scientists are expected to gather on 30 June at the University of Michigan, Ann Arbor, for the 44th Infrared Information Symposium. Representing industry, government, and academic institutions, they will hear presentations concerning infrared reconnaissance equipment, interpretation methods, and new concepts. The meeting will deal mainly with reconnaissance.

Attendance is by invitation; only those persons with a security clearance and a "need to know" will be admitted. The symposium is one of a continuing series of classified meetings on military appli-
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cations of infrared techniques. It is sponsored by the Office of Naval Research and is conducted under joint direction of the military services.

Thomas B. Dowd of the Office of Naval Research, Boston (405 Summer St.), is in charge of invitations. Program chairman is William L. Wolfe, head of the Infrared Information and Analysis Center at the University of Michigan's Willow Run Laboratories.

Biology Teaching

The College Entrance Examination Board Conference on Advanced Placement in Biology will take place 25-27 June at Chatham College, Pittsburgh, Pa. Collegiate and secondary-school administrators and faculty will participate in workshop sessions on the instruction of able students especially interested in biology, and will hear talks on biology curricula and teaching. In addition to a representative from the College Entrance Examination Board program in advanced placement, speakers will include Oswald Tippo, Eaton professor of biology and director of the Marsh Botanical Garden, Yale University.

The conference is open to all interested educators. Information and application blanks may be obtained by writing to the conference chairman, Dr. Phyllis C. Martin, Chairman of the Department of Biological Sciences, Chatham College, Woodland Road, Pittsburgh 32, Pa.

Forthcoming Events

July

13-17. National Assoc. of Power Engineers, natl. conv., Boston, Mass. (A. F. Thompson, Secretary, NAPE, 176 W. Adams St., Chicago, Ill.)
13-17. Standardization, intern. (council meeting), Geneva, Switzerland. (ISO, 1-3, rue Varembé, Geneva.)
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Volume 128 of SCIENCE, July–December 1958, is now available on Microcards at $10.00. For the first time, the cards are printed front and back — and even less storage space is needed. Most back sets, starting with Vol. 117, January 1953, have had to be reprinted — an indication of the growing need for this economic way of magazine storage.

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The information reported here is obtained from manufacturers and from other sources considered to be reliable, and it reflects the claims of the manufacturer or other source. Neither Science nor the writer assumes responsibility for the accuracy of the information. A coupon for use in making inquiries concerning the items listed appears on page 1630.

**CORE TESTER** for automatic grading of ferrite memory cores 0.080 in. in diameter operates at a maximum rate of 3600 cores per hour. The tester provides for separation of the tested cores into five grades. The core to be tested is automatically positioned to be carried into two sets of contacts. Programmed pulses are applied to the core by one set of contacts, while the second set picks up induced voltage output. The response can be examined by the operator or by an automatic decision-making circuit. (Rese Engineering Inc., Dept. 854)

**TRITIUM SURVEY METER** continuously monitors atmospheric and surface radioactive contamination from tritium, carbon-14 and other low-energy beta emitters. The instrument uses a flow-through ionization chamber, a continuous air-intake system, and an electrometer amplifier. A “sniffer” hose permits spot-check monitoring. The instrument’s front panel meter is calibrated to read directly in microcuries of tritium per cubic meter of air. A warning-alarm and connections for operation of a 100-mv recorder are included. (Atomic Accessories Inc., Dept. 862)

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