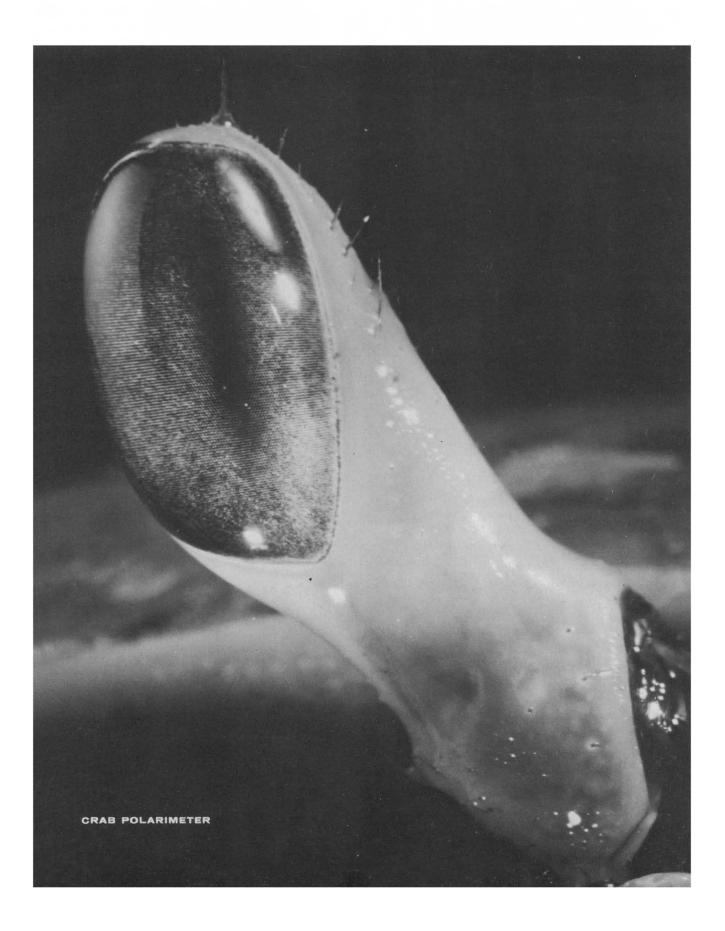
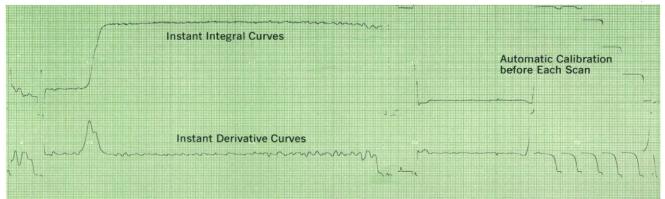
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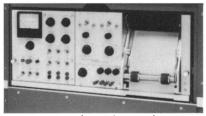




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1. Auler, H., Banzer, G., Krebsfrosch, Z. F., 53, 65 (1942) • 2. Figge, F. H. J., Diehl, W. K., Peck, G. C., Mack, H. P., Cancer Res. 2, 105 (1956) • 3. Lipson, R. L., Baldes, E. J., Olsen, A. M., J. Natl. Cancer Inst. 26, 1 (1961) • The literature references should not be interpreted as either an endorsement or disapproval of the biochemical by the cited investigation.

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28 October 1966

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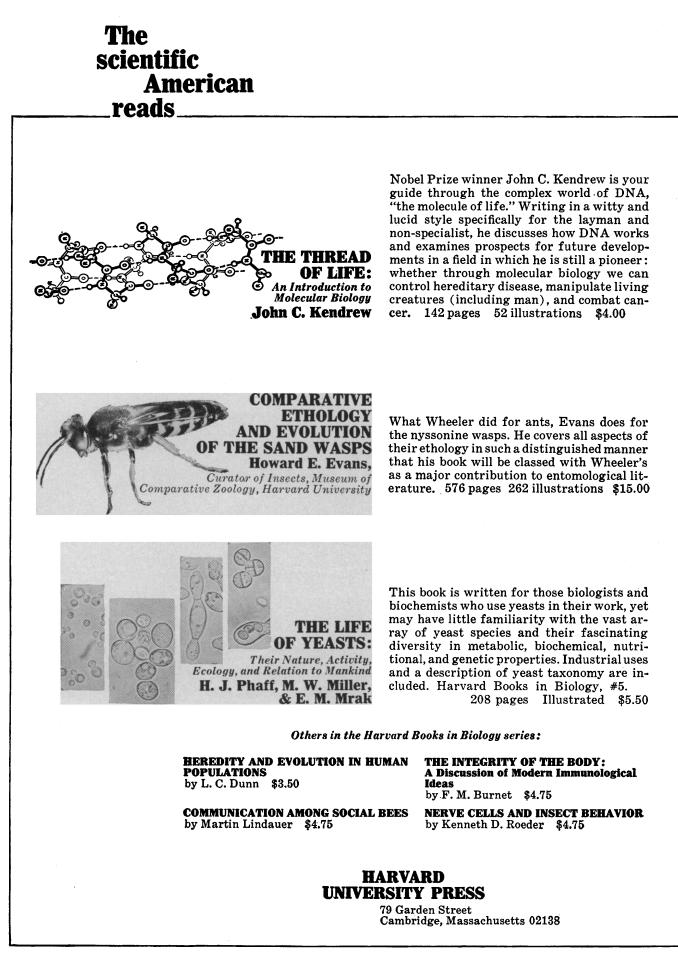
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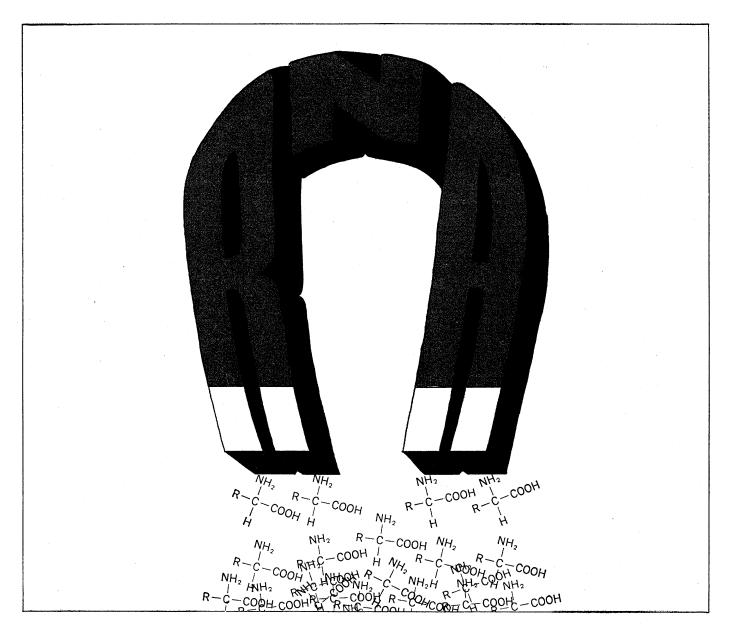
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COVER

Right compound eye of the giant land crab *Cardisoma*, borne distally on the anterolateral surface of a movable eyestalk. Polarized light perception apparently depends on minute twochannel analyzers beneath each of the thousands of facets. In these retinal filters, molecules of visual pigment would serve both as photon absorbers and dichroic analyzers (scale: eyestalk diameter, 4 to 5 millimeters; facet diameter, 20 microns). See page 467. [T. H. Waterman and K. W. Horch, Yale University]





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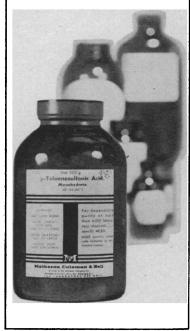
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Geographic Criteria for Grants

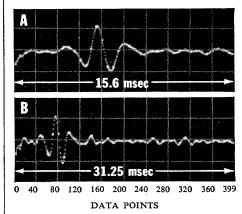
One accomplishment of federal research and development has been the geographic spread of science and the rise of the state universities. Though the growth of the state university system has been sustained by legislative support and prompted by the pressure of student enrollment, excellence in science has been fostered by federal research grants. In the Midwest and Northwest, in Texas, California, and increasingly in the Southeast, federal grants to state universities have achieved some counterbalance to the splendid, but criticized, growth of private universities in the Northeast and California.

In view of this geographic spread, it is unfitting and illadvised for scientists and administrators to lobby against the regional concentration of research funds or to urge their congressional representatives to insure a wider geographic distribution. Planned geographic distribution inevitably leads to political allocation in which merit and potential become secondary considerations. The aspiring university which pressures Washington for regional development overlooks the aspirations of its weaker neighbors who will inevitably demand their full share. Congressional pressure for geographic distribution of federal research funds in Congress is directly attributable to the demands of university administrators and scientists whose greed has overcome their judgment.

Institutional development programs are being considered by several federal agencies, and a science development program has already been inaugurated by the National Science Foundation. If selection is made by merit and potential, these programs will encourage the rise of new "centers of excellence," which should be concerned with the needs of growing populations and regional development and located only where initiative and quality already exist. Wider eligibility, not geographic distribution, should be the major goal, and university administrators must subordinate their individual interests and unite to protect federal programs from political intrusion. Guidelines can also be set for broader programs of federal support of universities in nonscience fields.

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SCIENCE, VOL. 154

Job Hunting by Chain Letter

During my brief career as a biochemist I have noticed that information concerning available job opportunities is not efficiently circulated to those who need it. I would like to try an experiment to bring about effective distribution of job information in the sciences. Basically, my proposal is an attempt to update the familiar "grapevine" to serve the needs of an enormously expanded scientific community.

For the time being I have a job, and I am also in the unusual position of having a list of about 15 available positions in biochemistry. I will give this list to anyone who writes to me and includes a stamped, self-addressed envelope. The only other requirement is that each correspondent include a descriptive list of available positions he knows about but does not want. The number of positions does not matter, but each correspondent should try to include all the information he would like to know if he were seeking a position. I will add the positions I receive to my own list and send the expanded list back to each correspondent.

I am confident that each person who contributes can receive perhaps dozens of positions in return for the few he sends in, thus increasing his probability of making a rational choice. All participants should, of course, feel honorbound to pass their list along to others when they are finished with it.

Those who are not biochemists can also participate, although, at the moment, I have no list of my own to offer them. They can write to me on the chance that others in their field may have sent in lists. Try again later, if only your own list is returned to you.

Employers may also find this service useful. They may submit advertisements. These will be intermingled with all the listed positions. Blind ads will not be accepted.

Perhaps by establishing this "job intelligence network" on a permanent basis, we can discourage the unfortunate practices of advertising-betweenfriends and non-advertising, a practice which served earlier generations well but is now obsolete and frequently unfair.

PETER L. PETRAKIS Department of Biochemistry, University of California, Berkeley

28 OCTOBER 1966



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Birthday Plans

November 4 is the 20th birthday of UNESCO—the agency that Nehru called "the conscience of the world community." Both the General Conference of UNESCO, meeting in Paris, and the U.S. National Commission for UNESCO, which met in New Orleans in September, are using the birthday primarily as an opportunity for appraisal and planning rather than as an occasion for celebration.

SCIENCE

Past achievements must seem disappointing when measured against the stirring expression of hope in the preamble to UNESCO's constitution: "Since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed." But never since UNESCO was founded has the world been at peace, and the million dollars a year it can spend on direct efforts to build peace is no match for the estimated \$140 billion a year the world spends on armaments.

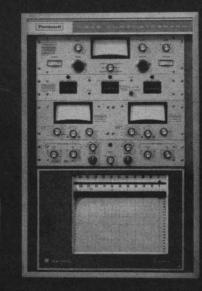
Past achievements seem more impressive when measured in terms of the intent "to contribute to peace and security by promoting collaboration among the nations through education, science and culture."

Science has always been prominent in UNESCO's name, but in the early years was given little programmatic emphasis; major attention then was on education and the use of mass media to promote human rights and to foster international understanding. As time has gone on, the role of science has increased, and accomplishments have become significant. The UNESCO Source Book on Science Teaching has been printed in 18 languages and will soon be available in 14 more. Other scientific activities have included the arid zone research program; close collaboration with the International Council of Scientific Unions, the International Geophysical Year, and the International Hydrological Decade; establishment of the European Nuclear Research Organization (CERN) and the International Brain Research Organization; and a 6-year study of the Indian Ocean, which involved 25 nations. In 1964 UNESCO gave the scientific part of its program higher priority by recognizing science as one of the major factors necessary to achieve economic and social development.

The next 20 years will surely have their difficulties, as have the first 20. Budgets are limited; many more nations than existed 20 years ago call for a greater variety of assistance. In efforts to aid developing countries, UNESCO has been far from alone. Other multinational efforts and many binational assistance programs have funds that, in total, far exceed UNESCO's budget, which even now, for all UNESCO's activities throughout the world, is no greater than that of a single fair-sized university. Bilateral and regional agreements and programs will and should continue. But UNESCO wants a larger part in the total effort. Although separate and individually planned efforts to help a country may all be desirable, they may also get in each other's way or may compete for the same limited talents and local resources. Without inhibiting other efforts, UNESCO could have a more influential role in establishing plans and guiding principles within which national, bilateral, and multinational efforts could work together more effectively. If it is to serve this larger purpose, UNESCO needs greater support from all of its 120 member countries.

There will surely continue to be difficulties in trying to build peace in an unpeaceful world. But UNESCO now has the surer touch that comes from experience, and early efforts that were sometimes marked more by enthusiasm than by reality have given way to more careful planning and more hard-headed weighing of priorities. "The conscience of the world community" merits financial and moral support as it plans for the years ahead.—DAEL WOLFLE

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JOURNAL OF CELL SCIENCE

Editors: H. G. CALLAN, St Andrews A. V. GRIMSTONE, Cambridge

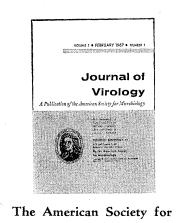
The Journal of Cell Science is a continuation, in new form, of the Quarterly Journal of Microscopical Science. The first issue was published in March 1966.

The new journal, also a quarterly, is devoted to all aspects of the study of cells. It will cover the entire range of investigation of cell organization, including advances in the relevant techniques.

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Within its scope also are aspects of morphogenesis at the cellular and subcellular levels, and studies of microorganisms and viruses where they relate to understanding of cell \$27.50 per year organization.

Cambridge University Press 32 East 57th Street New York, N.Y. 10022 28 OCTOBER 1966



Microbiology Announces Publication of

JOURNAL OF VIROLOGY

Journal of Virology, a new official publication of the American Society for Microbiology, will be "devoted to the advancement and dissemination of fundamental knowledge concerning viruses of bacteria, plants, and animals." Journal content will be drawn from original laboratory research in all areas of basic virology-biochemistry, biophysics, genetics, immunology, morphology, and physiology.

The Journal is indeed fortunate in having three distinguished virologists as its editors. Robert R. Wagner, M.D., Professor of Microbiology at the Johns Hopkins Medical School, is the Editorin-Chief. Dr. Wagner is ably assisted by Norman P. Salzman, Pb.D., Chief of the Cell Biology Section of the National Institute of Allergy and Infectious Diseases, and Lloyd M. Kozloff, Ph.D., Professor of Microbiology at the University of Colorado Medical Center in Denver,

Journal of Virology will be published bimonthly, one volume a year, beginning in February, 1967. Subscription cost per year is \$20.00 in the United States and overseas. There is no postage charge for subscriptions outside the U.S.A.

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Invertebrate Zoology

By PAUL A. MEGLITSCH, Drake University This introduction to invertebrate zoology describes the basic processes of the invertebrates, with considerable attention to comparative physiology, and provides classification and coverage of invertebrate life from the Protozoans through Insects and Myriapods. Flexibly organized, the work may be used in either the one-semester or full-year course. An abundant selection of meaningful illustrations enhances the book. Glossary, references, and an index are included.

January 1967 990 pp. illus. prob. \$11.00

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Applied Climatology: An Introduction

By JOHN F. GRIFFITHS, Texas A. & M. University

A two part study, this book first discusses applied climatology, introducing the con-cept of the standard continent and outlining the climate of representative stations of the world in the framework of Köppen's classification. Part Two considers the application of climatology in various environmental studies and includes the planning work which is now an important feature of civil engineering and building. 1966 128 pp. illus. \$6:00

Oxford University Press

200 Madison Avenue New York, New York 10016 547 the physio-pathology of intersex dealing with cytodifferentiation of fetal gonads, polyploidy and sex phenotype, sex-chromosome mosaicism, and placental enzymes using modern techniques of electron microscopy, tissue culture, and karyotype analysis.

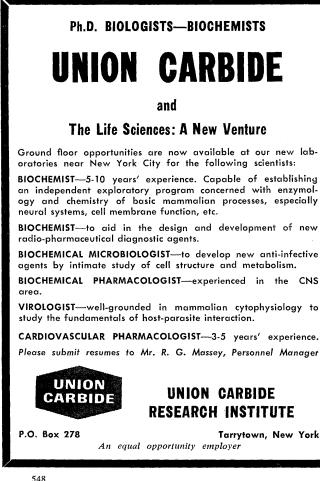
Sophisticated instrumentation and new experimental approaches are now available such as experimental hybridization, inter-species egg transfer, injection with virus or bacteria, interference with the function of the gonads or the placenta, microsurgery, cell fusion, fetal surgery, placenta surgery, tissue and organ culture, teratogenic drugs, overcrowding in utero by superovulation or by egg transfer, and immunological and cytogenetic techniques. Therefore, it is hoped that subsequent conferences on reproductive failure will deal with instrumentation and methodology of reproductive biology. Standardized terminology to be used for reproductive physiology, biochemistry, and immunology would also be highly desirable in order to facilitate interdisciplinary communication.

The second symposium, to be held 31 July to 4 August 1967 at Washington State University, will be limited to a specific topic, "The mammalian oviduct." There have been numerous conferences on the ovary, the uterus, the placenta, and so forth, but there has yet been little emphasis on the biology and method of studying the mammalian oviduct. Sufficient work has now been done and there is enough interest that an excellent symposium could be developed. The program chairmen are E. S. E. Hafez of Pullman and R. J. Blandau of Seattle.

The proceedings of the conference, edited by Kurt Benirschke, are being published by Springer, New York. The proceedings include: Overall Problem in Man (A. T. Hertig); Overall Problem in Domestic Animals (E. S. E. Hafez); Cytogenetics of Abortions (D. H. Carr); Enzyme Defects (D. Y. Y. Hsia); Chemomechanics of Implantation (B. G. Böving); Steroid Hormones (K. J. Ryan); Protein Hormones (J. B. Josimovich); Prolonged Gestation (P. B. Kennedy); Ovulation and Egg Transport (R. J. Blandau); Experimental Hybridization (M. C. Chang and J. L. Hancock); Hybrid Sterility and Fertility (K. Benirschke); Zebroids (J. M. King); Human Malformations (J. Warkany); Experimental Teratology (V. H. Ferm); Malformations Due to Genetic Mechanisms (F. B. Hutt); Bacterial Infections (A. B. Hoerlein); Fetal Infections in Man (S. G. Driscoll); Toxoplasmosis (J. K. Frenkel); Fungus Infections (C. G. Bridges); Virus Infections (D. N. Medearis); Ontogeny of Immune Response (A. M. Silverstein); Immunologic Interactions between Mother and Fetus (M. Galton); Reproduction and Failure at High Altitude (J. Metcalfe); Sterility and Social Interactions in Mammals (R. L. Snyder); Immobiliation of Large Animals (T. H. King); and a Placental Pathology symposium of many contributors.

The conference was generously supported by National Institute of Child Health and Human Development (HD-02035); Population Council (M-66.031); Charles River Breeding Laboratories; Eli Lilly Research Laboratories; Geigy Pharmaceuticals; Lakeview Hamster Colony; Lederle Laboratories; Schering Corporation; Smith, Kline & French Foundation; Syntex Company; and Upjohn Company.

E. S. E. HAFEZ Reproduction Laboratory, Washington State University, Pullman



AAAS Symposium Volume

MAN. CULTURE. AND ANIMALS: THE ROLE OF ANIMALS IN HUMAN ECOLOGICAL ADJUSTMENTS

Editors: Anthony Leeds and Andrew P. Vayda 304 pp., illus., bibliog., indexes, August 1965. Price: \$8.00. AAAS members' cash orders: \$7.00.

The volume is based on a symposium held at the AAAS meeting in Denver, December 1961. It presents case studies of the relationships among human populations, the animals they use for food or foodgetting, the plants significant for maintaining both animals and men, and the socio-cultural usages by which plants, animals, and men are linked in ecosystems.

Anthropologists and geographers discuss animal characteristics, populations dynamics, diets, and other ecosystem variables, including culture. The case material is used for a unique effort to rethink the logic of functional analysis in anthropology in terms of general systems approaches.

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