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Max M. Marsh, head of Eli Lilly and Company's analytical research department since 1956, has been named a control associate. Marsh has established several methods for automatic analysis of amino acids, cholesterol, and other materials and was instrumental in developing a method for determining diethylstilbestrol in pharmaceuticals.

Richard S. Morse, former director of Army Research and Development, has been appointed Assistant Secretary of the Army (Research and Development). The newly created position includes responsibility for Research and Development Tests and Evaluations procurement and budget monitoring. Herefore these responsibilities have been divided among several agencies, each responsible to the Secretary of the Army.

Before he joined the Department of the Army, in June 1959, Morse was president of the National Research Corporation, Cambridge, Mass., which he organized in 1940.

The Bureau of Commercial Fisheries, Fish and Wildlife Service, has presented two fishery biologists with citations for meritorious publications.

Winner of the top award was Elbert H. Ahlstrom, director of the Bureau's Biological Laboratory at La Jolla, Calif., for his work on the vertical distribution of fish eggs and larvae in the California current system.

The second award went to Fred Berry, who was staff biologist at the Bureau's Biological Laboratory at Brunswick, Ga., when selected. He is now with the La Jolla Laboratory. Berry's work was an extensive study of the jack family, an important group of forage and predatory fishes.

Robert B. Howell, Lockheed Missiles and Space Division engineer, was honored at the Institute of Aerospace Sciences' annual meeting in New York for "outstanding scientific contributions in the art of advanced theoretical guidance and control, and development of digital trajectory programs." He received the Lawrence Sperry Award and was cited for his work on the Polaris missile, for which Lockheed is prime contractor.

Jay L. Lush, professor in the department of animal husbandry at Iowa State University, received the Hermann von Nathusius Medal from the Deutsche Gesellschaft für Züchtungs- skunde last fall in Hannover, Germany.

John Buck of the National Institutes of Health is the new president of the Society of General Physiologists.

Sheldon Cholst, practicing psychiatrist formerly associated with New York University's School of Medicine and with the Institute of Physical Medicine and Rehabilitation at the university's medical center, has been chosen as producer, writer, and narrator of International Science and Technology Review, a weekly radio program. The program, which summarizes outstanding scientific events in 12 nations, is distributed by the Broadcasting Foundation of America, the international division of the National Educational Television and Radio Center.

Recent Deaths

Andrew W. Conratto, Brookline, Mass.; 54; associate director and chief of medicine of the Harvard University Health Services and senior associate in medicine at Peter Bent Brigham Hospital, Boston; 21 Feb.

Emile Henriot; professor emeritus of physics at the Université Libre de Bruxelles; prior to his retirement, was director of the physics department of the Faculté des Sciences; known for the creation of the rapidly rotating tops from which the Beams ultracentrifuge was developed; Feb.

Albert G. Hogan, Columbia, Mo.; 76; professor emeritus of animal nutrition at the University of Missouri; held academic posts at Kansas State University and Alabama Medical School; made numerous contributions to the field of nutrition; his studies led to the recognition of folic acid as a vitamin and the development of an assay for it; 25 Jan.

Howard R. Lillie, Brussels, Belgium; 58; president of the International Commission on Glass and staff research manager in the research and development division of Corning Glass Works; recognized for his research on glass viscosity; 15 Feb.

William D. Reeve, New York, N.Y.; 77; retired professor of mathematics and former head of the department of mathematics at Teachers College, Columbia University; author or coauthor of 16 textbooks on mathematics teaching; Feb.

Thomas O. Walton, Bryan, Tex.; 77; president of Texas Agricultural and Mechanical College from 1925 to 1943; 18 Feb.
New Books

Mathematics, Physical Sciences, and Engineering


Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, but to the publisher or agency sponsoring the publication.)


The Ending of Wilhelm Reich’s Researches. Charles R. Kelley. Interscience Research Inst., Stamford, Conn., 1960. 19 pp. $0.50. Kelley examines the Reich orgone energy controversy and recounts his attempts to discuss, with responsible officials, the injunction obtained by the Food and Drug Administration to ban Reich’s books and journal publications. Kelley says that he was unable to obtain an appointment with Mrs. Hobby who was responsible for the Federal Bureau of Health, Education, and Welfare at the time.


Large Radiation Sources in Industry. vol. 2. International Atomic Energy Agency, Vienna 1, Austria, 1960 (order from UNESCO Publications Center, New York 22). 447 pp. Illus. Paper, $4.50. This is the second volume of the proceedings of the conference. Preparation of large radiation sources in industry and especially to chemical processes, which was organized by the Agency at Warsaw on 8–12 September 1959. Four major topics are covered: radiation and chemical reaction, special applications of radiation, radiation and food preservation, and economics of radiation processing.


In writing this textbook the authors had to cope with the difficult problem of presenting a vast amount of biochemical knowledge, in its many ramifications, to students of agriculture with limited preparation in modern physics, chemistry, and biology. Their solution is the best testimony of their broad scientific approach to complex subject matter and of their educational skill.

I was surprised and impressed to find such advanced topics as the function of deoxyribonucleic acid and ribonucleic acid, nicotinamide adenine dinucleotide, adenosine triphosphate, biotin, gibberellic acid, auxins, and antiauxins discussed on an elementary level.

In the excellent chapter on mineral metabolism, radiation and radioisotopes are mentioned; in the very good chapter on feedstuffs, the use of antibiotics in livestock feeding has been given proper attention. Although written primarily to serve as a biochemical foundation for those studying the agricultural sciences, the book can also be recommended to all who wish to obtain a condensed review of the present status of biochemical knowledge.

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3 MARCH 1961
Meetings

Bioclimatology

The second scientific congress of the International Society of Bioclimatology and Biometeorology was held in the chambers of the Royal Society of Medicine, in London, from 5 to 10 September 1960. There were 172 members attending, from 26 countries. The program represented an important departure from that of the first congress held in Vienna in 1957, and perhaps from programs of most other national and international societies.

Productive exchange of viewpoints within an interdisciplinary field such as bioclimatology is not greatly encouraged by marathons of brief technical communications. Rather, lively discussion of basic concepts, problems, and methodology leads to important cross-fertilization and growth of ideas. To this end, the executive board designed a program aimed at stimulating discussion both on broad problems and on technical matters. On each of four mornings a basic theme was discussed by three speakers, each representing a different background. The speakers were instructed to concentrate on major unsettled issues and their possible resolution. One or several moderators then initiated discussion of the themes and suggestions raised by the main speakers.

The subjects of these four sessions and the speakers were as follows:

1) “High-altitude Bioclimatology”: R. Margaria (University of Milan), W. H. Weihe (University of Bern), and R. Schindler (Bernhard-Nocht-Institut, Hamburg).

2) “Tropical Bioclimatology”: A. B. Hertzmann (St. Louis University School of Medicine), J. C. D. Hutchinson (Ian Clunies Ross Animal Research Laboratory, Parramatta, Australia), P. W. Richards (University College of North Wales), and C. P. Luck (Kampala, Uganda).

3) “Bioclimatological Classifications”: H. Boyko (Negev Institute for Arid Zone Research, Beersheva, Israel), K. J. K. Buettner (University of Washington, Seattle), and H. Jusatz (Heidelberger Akademie der Wissenschaften).

4) “Meteorological Forecasts and Bioclimatology” Received reports, and discussions of the day’s sessions were avoided, the discussion was lively and productive. Provision had been made for simultaneous translation, and this gave a considerable measure of freedom in discussion. Most of the attending members considered the program a great success, and it was voted that the discussions planned for the 1963 congress should be held in a similar manner.

During the afternoons, participants joined specialized working groups on restricted technical subjects. These groups were led by the moderators, and few formal communications were presented. The members of the groups discussed their own work and attempted to define both the problems and the general implications of current advances in their special areas. In this way they discussed thermoregulation; atmospheric pollution and aerobiology; agrometeorology; the effects of weather and climate on cattle; urban and architectural climatology; the importance of physical environment in conditioning the organism; microclimatic problems; allergic diseases, with special emphasis on the influence of climate on bronchial asthma; ecological climatology; the biological effects of ionization of the air; chemical tests used in bioclimatological research; tropical bioclimatology; and solar radiation in relation to bioclimatology. These discussions were highly successful and will be continued during future meetings.

The scientific caliber of the formal presentations and the discussions was refreshingly high, and there was a distinctly experimental note. The membership seemed ready to come to grips with mesological mechanisms rather than indulge in speculations arising from chance bioclimatological relationships. In particular, the discussion of human bioclimatology was stimulating and sound.

At the business meeting the following executive board was elected: president, F. Sargent, II (United States); vice presidents, M. P. A. Bourke (Ireland), H. Boyke (Israel), and M. Fontaine (France); advisory members, J. L. Clodseay-Thompson (Sudan) and W. G. Wellington (Canada); and secretary-treasurer, S. W. Tromp (Netherlands).

At the business meeting it was also decided that in future the Journal of Bioclimatology will be devoted to reviews. There is a great need for critical appraisals of many aspects of bioclimatology, and no current periodical deals extensively with this important field. It was further decided that a publications committee should explore ways of working with abstracting services and in other ways attempt to provide greater access to the diverse literature of the field.

The proceedings of the congress will
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U. S. NAVY ELECTRONICS LABORATORY at San Diego: One of the Navy's largest organizations engaged in the research and development of radar, sonar, radio, and acoustics.

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9–13. American Assoc. of Cereal Chemists, annual, Dallas, Tex. (J. W. Pence, Western Utilization Research & Development Division, 800 Buchanan St., Albany 10, Calif.)
11–13. Institute of Environmental Sciences, annual, Chicago, Ill. (H. Sanders, Box 191, Mt. Prospect, Ill.)
12–13. Information and Decision Processes, 3rd symp., Lafayette, Ind. (R. E. Machol, School of Electrical Engineering, Purdue Univ., Lafayette)
17–24. International Congress of Nurses, 12th quadrennial cong., Melbourne, Australia. (Miss D. C. Bridges, Secretary, 1 Dean Trench Street, London, S.W.1, England)
19–21. Southwestern Inst. of Radio Engineers Conf. and Electronics Show, Dallas, Tex. (SWIRECO 61, P.O. Box 7443, Dallas 9)
23–27. American Ceramic Soc., 63rd annual, Toronto, Canada. (C. S. Pearce, 4055 N. High St., Columbus 14, Ohio)
23–27. Society of Bacteriologists, Chicago, Ill. (E. M. Foster, 311 Bacteriology, Univ. of Wisconsin, Madison)

(See issue of 17 February for comprehensive list)

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Letters

Fell Swoop

With Tom Brown safely underground for some 250-odd years, perhaps one may be allowed to adapt his famous lines, and to “thank Honor B. Fell for her delightful “Fashion in cell biology” [Science 132, 1625 (1960)] as follows:

Well do I like thee, Dr. Fell,
The reason why I fain would tell;
Since fads in cells thou dost dispel,
Well do I like thee, Dr. Fell.

F. B. Hutt
Department of Poultry Husbandry, Cornell University, Ithaca, New York

Statistics and Legalized Gambling

Your 23 December issue [Science 132, 1859 (1960)] contained an excellent editorial on the value of properly weighted and applied statistical evidence. Thornton Page had an article, “Recent statistical studies in astronomy” [132, 1870 (1960)] which illustrated fine use of the method.

Unfortunately, there appeared in the same issue [132, 1879 (1960)] a prime example of the ignorant and careless use of statistics, a news note entitled, “. . . More is spent on [legalized] gambling than education,” which included a statement by the “Council for Financial Aid to Education” to the effect that Americans spend $20 billion a year for legalized gambling while only $4.5 billion goes for higher education, the $4.5 representing only half the actual cost, the other half being found in various ways by the institutions.

Neither your editor nor the council, in their zeal for drama, caught the fallacy of the figures and their statistical misuse.

1) At least 90 percent of legalized gambling is on horse racing, on which there was a turnover of $1 billion in New York and no more than a total of $2.5 billion for the whole country.

2) This money is not all “spent”; 85 percent goes back to the bettors. Even if $4 billion were bet, all but $600 million is retained by the public. Of the $600 million, about $350 million goes for state taxes, some of which is used for higher education. The remaining $250 million goes for upkeep of the tracks and for salaries and purses, and much of it is subject to federal income tax, a fraction of which is included in university grants.

Racing is conducted on a nonprofit basis at all New York tracks—Delaware, Aksarben, Fairgrounds, and Keeneland. The profits are donated for higher education, research, and civic causes. Many more millions are donated each year for the same purposes by the profit-making tracks. Racing and breeding provide employment for thousands who pay taxes to keep the wheels turning.

What did the council mean by “spent” money? Did they mean wasted money? Does anyone really know about “money”? On any basis, higher education does not suffer because of legalized gambling. If all money were put into education and the mere raising of potatoes (production of essentials), we would have the Puritan New England of 1750 (and about 60 percent of our people would be out of work).

Ordinary gambling needs no justification. Those who live in the world of reality realize that it is an established human urge and that even a small wager provides a bit of romance, however fleeting, in the drab life of millions of people.

The majority of the faculty members of our universities are well informed, but all professors are not necessarily intellectuals, and all scientists are not educated, as was readily admitted in his own defense by J. Robert Oppenheimer.

Fortunately we have only a few who deserve to be called eggheads and who would have made the mistake on gambling statistics. However, when they appear they are as conspicuous as the rare drunken son of a religious leader.

More and more academicians are in the spotlight, and more is expected from them than from any other group. Scientists, previously silent, are now articulate (sometimes vociferous) on public matters, and Kennedy has gone to the universities for many high-ranking appointments (and good ones).

For the sake of the students and of the nation, we hope for our educators and scientists a complete education in the “humanities,” meaning not only the proper university disciplines but also the humanities of the world at large—knowledge of things in general and of the facts of life.

Eslie Asbury
902 Carew Tower, Cincinnati, Ohio

Naming Enzymes

Enzymes are usually named after the substrate used by the investigators who first describe them. The name is not necessarily stable, because further work may show that other substrates are attacked. For instance, tyramine oxidase is now called monoaminooxidase because many amines besides tyramine are oxidatively deaminated by the enzyme. Such a change in name is desirable, as is any change which defines more precisely the activity of the enzyme.
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These considerations are promoted by the following case history. Some years ago my co-workers and I described and partially purified an enzyme found in some plants and animals which hydrolyzes hydantoin to hydantoic acid [J. Biol. Chem. 163, 683 (1946); 181, 449 (1949)]. Since no substituted hydantoins were hydrolyzed, the name hydantoinase seemed appropriate. The enzyme is very active but its function is not clear, since nobody has been able to bring unsubstituted hydantoin into any metabolic scheme. This is always somewhat frustrating.

In 1957, Wallach and Grisolia [J. Biol. Chem. 226, 277 (1957)] further purified the enzyme, which they said we called hydantoin peptidase—a name we had not thought of. This preparation, which was 80-percent pure, hydrolyzed hydropyrimidines as well as hydantoin. They renamed the enzyme hydropyrimidine hydrolase, and Dixon and Webb [Enzymes (Academic Press, New York, 1958)] rapidly made a further contribution by calling it dihydropyrimidinase.

The enzyme now has a respectability it did not have as a simple hydantoinase, since everyone is interested in pyrimidines and nobody in hydantoin. But, as Wallach and Grisolia showed, the turnover number for hydantoin is 27,000; for hydouracil, 4300; and for hydrothymine, 420. The $K_m$ for hydantoin is higher than the $K_m$ for the pyrimidines, but these values have not been used as criteria for naming enzymes.

The question is this: Does one name an enzyme after the substrate most rapidly attacked, or after the substrate of most interest? Apparently the latter. One is reminded that some years ago certain towns in Russia changed names in accordance with the current political status of the leaders. Perhaps enzymes should be named in accordance with the current metabolic status of the substrates.

F. Bernheim
Duke University Medical Center,
Durham, North Carolina

**Advancement of Scientists**

Please accept my resignation from the AAAS in protest of your policy, which, in my opinion, fails to advance science because of your reluctance to aggressively push for the advancement of scientists. I am not denying that you do a good job in disseminating the facts of science, and you may even encourage a certain amount of research. But the fact remains that science will only really be advanced when the scientist himself has gained greater status, more recognition, and more acceptance by the average American as someone to look up to. The American Medical Association has accomplished this for physicians in the United States. What we need is a comparable association that will achieve this for America's Ph.D. scientists.

Whether or not you like this approach, or whether you feel that it goes against the grain of your organization to compromise the scientific ivory-tower tradition, the fact remains that the Ph.D. scientist is not generally compensated in our culture for the sacrifice, effort, and skill that his extensive training entails. I don't like the idea of unions being necessary, but if it takes a "union" (such as the AMA) to get the scientist his due, then any organization dedicated to the advancement of science must transform itself into a union.

My resignation is predicated on the fact that I believe that it is a hopeless task to try to influence the AAAS in regard to its obligation to the scientists. This is not the first correspondence I have had with your office on this subject. Therefore, I feel that I must resign. As a final request I will ask you to print this letter in Science.

- Theodore C. Kahn
United States Air Force Hospital,
Wiesbaden, Germany