

# Meetings

## Seaweed Symposium

The third international seaweed symposium was held in Galway, Eire, on 13 to 19 Aug. 1958. It differed from its predecessors in that four formal lectures were delivered by invited speakers and in that an exhibition of commercial seaweed products was organized. Previous symposia were held in Edinburgh (in 1952) and in Trondheim (in 1955).

The participants, who came from 22

countries, numbered 207. The symposium was opened officially by Sean Lemass, Minister for Industry and Commerce. All scientific sessions were held at University College, Galway. In addition there were excursions into the surrounding country, either to collect algae or to visit the seaweed factories at Kilkeerin and Ballyconneely.

The symposium was organized under the auspices of a small international advisory committee through the Irish National Committee, but most of the work was done by a local committee in Galway with T. Dillon as chairman and C.

O'hEocha as secretary. The program was divided into three sections: botany, chemistry, and applied industry, with a special session on intertidal ecology. Special lectures were given by R. D. Preston (England), on "Biochemical and biophysical aspects of some seaweeds"; by E. L. Hirst (Scotland), on "Seaweed mucilages"; and by H. M. Ulrich (Austria), on "Alginate esters and altered alginate fibers." A. Walford (United States) delivered a public lecture on "The sea as a potential source of food."

Some 20 communications of original work were made to the chemistry section. Wickberg (Sweden) reported the isolation of O- $\alpha$ -D-galactopyranosyl-glyceritol, O- $\alpha$ -D-galactopyranosyl-(1-6)-O- $\beta$ -D-galactopyranosyl(1-1)-D-glyceritol, mytilitol, and 2-L-amino-3-hydroxy-1-propanesulfonic acid and an N-substituted taurine from various red seaweeds. The presence of unidentified phenolic compounds in *Ascophyllum nodosum* has been detected by Haug and Larsen (Norway). These workers also determined that the seasonal variation of nicotinamide in some of the Fucaceae is between 15 and 35 micrograms per gram of dry matter, in autumn and spring, respectively. Turvey and Rees (Wales) described the major water-soluble polysaccharides of *Porphyra* as floridean starch and a galactan sulfate, containing galactose, methyl galactose, and anhydrogalactose. O'Donnell and Percival (Scotland) reviewed the polysaccharides in green seaweeds and described especially a heteroglycan sulfate from *Spongamorphia* which contained glucose, xylose, rhamnose, and glucuronic acid. The hydrolysis of the sulfate ester linkage in fucoidin, chondroitin sulfate, and keratosulfate by an esterase in *Patella vulgata* was reported by Lloyd and Lloyd (Wales). A preliminary description of the polysaccharide sulfate from *Furcellaria* was given by Clancy, Walsh, O'Colla and Dillon (Eire). Young and Smith (Nova Scotia) reported analyses of the free amino acids, peptides, and proteins of *Chondrus* in which some peptides contained citrulline and ornithine and in which about 50 percent of the protein was present in an insoluble form, the distribution of amino acids being very similar to that of other algal proteins.

About ten papers on the utilization of marine algae were read. A critical appraisal of laminarin sulfate as a blood anticoagulant was given by Burt (Scotland); she stressed the fact that this ester is of lower potency and of much greater toxicity than heparin, on prolonged administration to rabbits and dogs. Seaweed meal can be fed to chickens, hens, and sheep without detrimental effects, according to Jensen (Norway), and with beneficial effects when it constitutes 5 to 7 percent of the basal ration, according to Höie and Sannan (Norway).

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## The Beginnings of Embryonic Development

AAAS Symposium Volume No. 48

Published July 1957

Edited by Albert Tyler, California Institute of Technology  
R. C. von Borstel, Oak Ridge National Laboratory  
Charles B. Metz, The Florida State University

6 x 9 inches, 408 pages, 132 illustrations, references,  
subject and author index, clothbound

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A symposium on "Formation and Early Development of the Embryo", held 27 December, 1955, at the Second Atlanta Meeting of the AAAS, served as the basis for this volume. Emphasis was placed on the problems of early development and of the initiation of development. The investigations presented in the various communications cover both descriptive and experimental work on the biological and chemical levels. Apart from their intrinsic interest and the measure of progress that they provide, the specific discoveries and analyses presented serve to exemplify various approaches toward the understanding of the manner in which sperm and egg contrive to produce a new individual.

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About 27 papers were read in the botany section. From experimental work Jacobs (United States) reported that the controlling factors in wall formation and regeneration in *Caulerpa prolifera* must be in the cytoplasm close to the cell wall, rather than in the streaming cytoplasm. Segi (Japan) discussed the commercial cultivation of *Monostroma* in Japan.

Boalch (England) described changes in the proportions of prostrate and erect systems in pure cultures of *Ectocarpus confervoides*, and changes in shape and size of cell, which resulted from changes in salinity, illumination, and temperature. The study throws some doubt on the reliability of current taxonomic criteria. Dixon (England) discussed confusion in the taxonomy of *Pterocladia pinnata* caused by morphological variation as a result of differing ecological factors. Müller-Stoll (Germany) reported on the ecology, internal anatomy, and biochemistry of *Fucus vesiculosus* in the western Baltic. In deeper waters this species grows to a length of 7 meters and lives 7 years or more. Powell (Scotland) discussed his proposal to reduce the 15 or more species of *Fucus* now listed to about five.

Baardseth (Norway) described a method of physode estimation and reported that the percentage of physode volume varied with the species and, in *Ascomyllum*, was related to salinity.

Haxo and Neushal (United States) have studied the growth and differentiation of young specimens of *Macrocystis pyrifera* and described an ingenious apparatus for growing and observing these plants at depths of 30 to 100 feet. This technique permits analysis of the effects of various environmental factors. Fogg (England) reviewed the technology of mass culture of microscopic marine algae but concluded that harvesting difficulties make such culture commercially uneconomic at present. Von Stosch (Germany) compared the leucosin of diatoms and chrysomonads with laminarin and adduced evidence for their close relationship.

Kanwisher (United States) described a new method of determining the photosynthetic and respiratory capacity of several intertidal algae. He reported that freezing and drying on the shore have similar effects in depressing respiration. Provasoli (United States) has observed the response of *Ulva lactuca* to various hormones added to bacteria-free cultures. His study suggests strongly that the level of auxin and gibberellin controls speed of growth and size of crop in the coastal zone.

Allen (United States) has induced several fresh-water, nitrogen-fixing species of blue-green algae to become adapted to marine conditions. Growth was somewhat retarded, but their ca-

capacity to fix nitrogen under these conditions was studied.

Grenager (Norway) described a method of predicting the distribution of *Laminaria digitata* and *Ascophyllum nodosum* in unknown areas by study of charts only. A forecast was checked later by a field survey and found to deviate by only a few percent for each species.

The abstracts of most communications and of two of the formal lectures have been printed in a small volume of 92 pages, which may be purchased from Dr. C. O'hEocha, University College, Galway, Eire. No further printing of the proceedings is anticipated. The next symposium will be held in Paris in 1961, under the chairmanship of A. D. de Virville.

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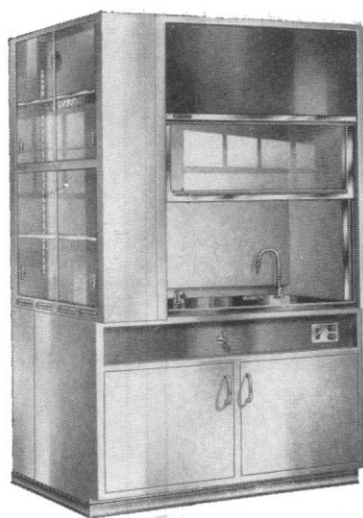
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### Youth Conference on the Atom

A national Youth Conference on the Atom, the first meeting of high-school science students and teachers for discussion of the peaceful uses of nuclear energy, will be held at the Claridge Hotel in Atlantic City, N.J., 30 April-1 May. The attendance of approximately 500 junior and senior high-school science students and teachers at the conference will be sponsored by 60 or more electric utility companies throughout the country. Organizations cooperating in the conference include the AAAS, Atomic Industrial Forum, Future Scientists of America Foundation, National Science Foundation, National Science Teachers Association, and Science Clubs of America.

John A. McCone, chairman of the Atomic Energy Commission, will deliver an address on 30 April. Other speakers will be Norman C. Hilberry, director of the Argonne National Laboratory; Charles E. Robbins, executive manager of the Atomic Industrial Forum, who will tell the young scientists about industrial uses of the atom; Cyril Comar, director of the Laboratory of Radiation Biology at Cornell University, who will describe the use of the atom in agriculture; and John Laughlin, chief of the division of physics at the Sloan-Kettering Institute for Cancer Research, who will speak on the uses of the atom in medicine.

Forecasts of the atom and the world of tomorrow will be presented by Francis K. McCune, vice president of the General Electric Company, and Charles H. Weaver, vice president of the Westinghouse Electric Corporation, who are in charge of atomic activities at their respective companies. Ben D. Wood, director of the Bureau of Collegiate Educa-



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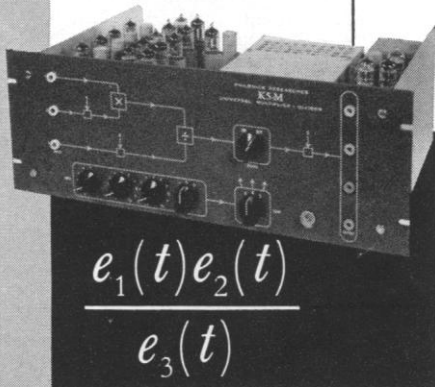
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tional Research at Columbia University, is serving as educational consultant to the conference.

The program for the Youth Conference is being arranged by the Electric Companies Public Information Program. For information, write to Bozell and Jacobs, Inc., 2 W. 45 St., New York 36, N.Y.

### Operational Research

The second International Conference on Operational Research, organized by the International Federation of Operational Research Societies, will be held in Aix-en-Provence, France, 5-10 September 1960. The program committee would welcome suggestions for papers (or groups of papers) to be presented at the conference. Suggestions should be sent to the Secretary of IFORS, 11 Park Lane, London W.1, England, *before 1 May 1959*, with a copy to the secretary of the Operational Research Society of the country of origin. Manuscripts will be required by *1 December 1959* in order that preprints can be made available before the conference.

The International Federation came into existence in January this year, having as its objects "the development of operational research as a unified science and its advancement in all nations of the world." The first international conference on the subject was held at Oxford in 1957.

### Prague Antibiotics Conference

A symposium on antibiotics with international participation will take place in Prague, Czechoslovakia, 17-23 May. The proceedings will be divided into three sections: (i) problems of the biosynthesis of antibiotics, (ii) the scientific pathophysiological basis of antibiotic therapy, and (iii) the problems of fermentation technology and nonmedical use of antibiotics.

Further information will be furnished upon request by the secretary of the symposium, Dr. M. Heřmanský, Antibiotics Research Institute, Roztoky near Prague, Czechoslovakia.

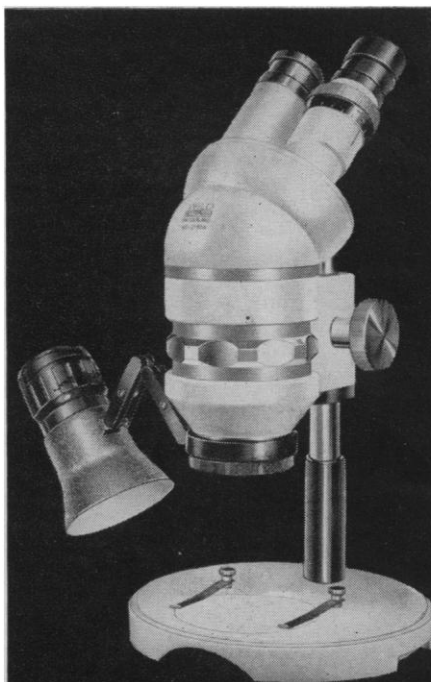
### Forthcoming Events

#### May

10-15. Society of American Bacteriologists, St. Louis, Mo. (E. M. Foster, Univ. of Wisconsin, Madison 6.)

10-14. American Soc. of Maxillofacial Surgeons, Chicago, Ill. (O. H. Stuteville, 700 N. Michigan, Chicago 11.)

11-12. Practical Problems of Coordinating and Integrating All Services Related to the Treatment, Training and Management of the Mentally Retarded,



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conf., Vineland, N.J. (J. D. Eadline, Training School, Vineland, N.J.)

11-13. Instrumentation and Computation in Process Development and Plant Design, symp., London, England. (Institute of Chemical Engineers, 16, Belgrave Sq., London, S.W.1.)

11-13. Microwave Theory and Techniques, natl. symp., Boston, Mass. (H. Pratt, Inst. of Radio Engineers, 1 E. 79 St., New York 21.)

11-13. Power Instrumentation, natl. symp., Kansas City, Mo. (H. H. Johnson, Consolidated Edison Co. of New York, Room 1515-S, 4 Irving Pl., New York 3.)

13. New Orleans Acad. of Sciences, an-

nual, New Orleans, La. (J. J. Creely, U.S. Dept. of Agriculture, 1100 Robert E. Lee Blvd., New Orleans, La.)

13-16. Human Biochemical Genetics, Ciba Foundation symp., London England. (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1.)

14-15. Operations Research Soc. of America, Washington, D.C. (H. J. Miser, Rt. 2, Box 211, Vienna, Va.)

14-16. Acoustical Soc. of America, Ottawa, Canada. (W. Waterfall, 335 E. 45 St., New York 17.)

14-17. American Acad. of Dental Medicine, 13th annual, Atlantic City, N.J. (H. A. Lentz, 619 Main Ave., Passaic, N.J.)

14-16. American Assoc. of Physical Anthropologists, Madison, Wis. (E. E. Hunt, Jr., Peabody Museum, Harvard Univ., Cambridge 38, Mass.)

17-20. American Inst. of Chemical Engineers, 40th natl., Kansas City, Mo. (F. J. Van Antwerpen, AICE, 25 W. 45 St., New York 36.)

17-21. American Ceramic Soc., 61st annual, Chicago, Ill. (C. S. Pearce, ACS, 4055 N. High St., Columbus 14, Ohio.)

17-21. Institute of Food Technologists, 19th annual, Philadelphia, Pa. (C. S. Lawrence, IFT, 176 W. Adams St., Chicago 3, Ill.)

17-23. Antibiotics, intern. symp., Prague, Czechoslovakia. (M. Heřmanský, Antibiotics Research Inst., Roztoky near Prague, Czechoslovakia.)

17-23. Mass Spectrometry, 7th, Los Angeles, Calif. (A. G. Sharkey, Jr., U.S. Bureau of Mines, 4800 Forbes Ave., Pittsburgh 13, Pa.)

18-20. Instrumental Methods of Analysis, 5th natl. symp., Houston, Tex. (H. S. Kindler, Director of Technical and Educational Services, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

19-23. American Assoc. of Mental Deficiency, Milwaukee, Wis. (N. A. Dayton, Mansfield State Training School & Hospital, Mansfield Depot, Conn.)

20-22. Education of the Scientist in a Free Society, conf., Milwaukee, Wis. (A. B. Drought, College of Engineering, Marquette Univ., 1515 W. Wisconsin Ave., Milwaukee 3.)

21-23. American Assoc. for the History of Medicine, 32nd annual, Cleveland, Ohio. (Miss E. H. Thomson, Yale Univ. School of Medicine, New Haven, Conn.)

21-27. Veterinary Cong., 16th intern., Madrid, Spain. (J. Jensen, General Secretary of Permanent Committee, Belstraat 168, Utrecht, Netherlands; or W. A. Hagan, Dean, Cornell Univ., New York State Veterinary College, Ithaca, N.Y.)

24-27. Chemical Inst. of Canada, 42nd annual conf., Halifax, Nova Scotia. (Chemical Inst. of Canada, 18 Rideau St., Ottawa 2, Ontario.)

24-29. American Tuberculosis Assoc., Chicago, Ill. (Mrs. W. B. White, 1790 Broadway, New York 19.)

24-29. Social Welfare, natl. conf. and annual forum, San Francisco, Calif. (National Conference on Social Welfare, 22 W. Gay St., Columbus 15, Ohio.)

25-27. American Gynecological Soc., Hot Springs, Va. (A. A. Marchetti, 3800 Reservoir Rd., NW, Washington 7.)

25-27. American Soc. for Quality Control, Cleveland, Ohio. (L. S. Eichelberger, A. O. Smith Corp., Milwaukee, Wis.)

25-27. Chemical Inst. of Canada, 42nd annual conf., Halifax, Nova Scotia. (Chemical Inst. of Canada, 18 Rideau St., Ottawa, Ontario, Canada.)

25-27. Telemetering, natl. conf., Denver, Colo. (R. Schmidt, AVCO Mfg. Co., 201 Lowell St., Wilmington, Mass.)

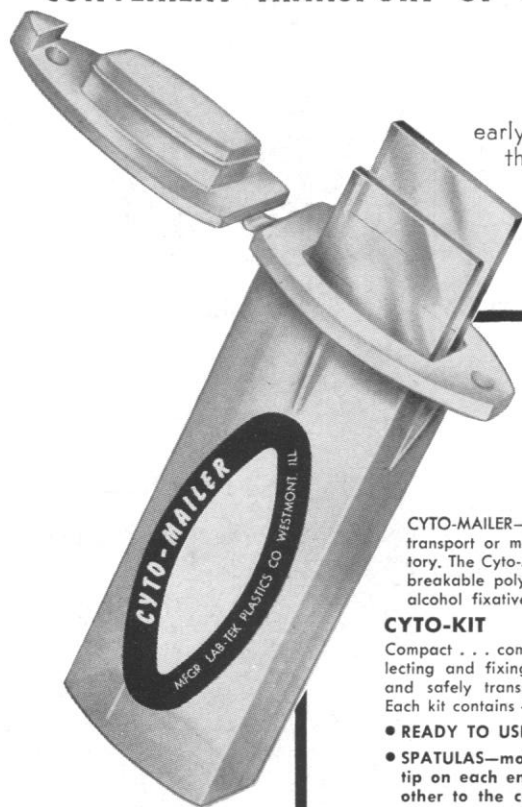
25-28. Smoking and Lung Cancer, and Pulmonary Emphysema, symps., American Trudeau Soc., Chicago, Ill. (H. W. Harris, Medical Sessions Committee, ATS, 1790 Broadway, New York 19.)

26-29. American College of Cardiology, Philadelphia, Pa. (P. Reichert, 480 Park Ave., New York 22.)

(See issue of 20 March for comprehensive list)

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