

At the business sessions of the Fisheries Society, Fred J. Foster, regional director of Pacific coast and Rocky Mountain fish cultural stations, was elected president, and Deputy Commissioner Jackson was elected chairman of the committee on foreign relations. Other officers are: T. H. Langlois, first vice-president; James Brown, second vice-president; Seth Gordon, secretary-treasurer, and Kenneth E. Cobb, librarian. Division vice-presidents for the coming year are: Dr. H. H. Mackay, fish culture; Lauren R. Donaldson, aquatic biology and physics; Dr. H. J. Deason, commercial fishing; William C. Adams, protection and legislation; and C. R. Guterman, angling. Walter H. Chute was named chairman of the committee on common and scientific names of fishes.

#### IN HONOR OF GEORGE W. STEWART

A PORTRAIT of Dr. George W. Stewart, who will begin this autumn his thirtieth year of service as head of the department of physics at the State University of Iowa, was formally presented to the university at a banquet given in his honor on June 19.

The portrait, which was painted by William McCloy, of Drake University, was given by colleagues and former students. The presentation was made by Dr. Homer L. Dodge, dean of the Graduate College of the University of Oklahoma, one of fifty-two students who have received the degree of doctor of philosophy under Dr. Stewart. Professor Stewart spoke on "The Human Values of Physics."

Dr. Carl E. Seashore, research professor of psychology and dean emeritus of the Graduate College of

the State University of Iowa, in accepting the portrait for the university, paid the following tribute to Dr. Stewart:

... eminent physicist through your significant contributions to basic problems in physical science, both pure and applied;

... recognized educator through your wise counsel and active leadership in graduate and undergraduate education, locally and nationally;

... great teacher by virtue of your sympathetic personal influence and comradeship with students and the fostering of progressive educational procedures;

... citizen of the world through your extensive travels and intimate associations with scholars at home and abroad and your ideals of the brotherhood of mankind;

... beloved citizen at home not only in your own name, but also through the noble civic spirit and service of your helpmate;

... gracious university host for colleagues and students, humble strangers and distinguished guests in your beautiful home;

... comrade with the seekers after truth, humbling yourself before the savants of all ages and projecting yourself into coming generations through your teachings and contributions to science;

... balanced personality in work and in play, in physical health, living in an atmosphere of intellectual, moral, social, artistic and religious pursuits, a whole man.

I bring you these sentiments of appreciation and appraisal in the name of the university.

Let the historian count this citation as a legend for the portrait now unveiled and to be appropriately associated with the projected murals, and thus let it mark a milestone at the present vantage ground in your distinguished career.

## SCIENTIFIC NOTES AND NEWS

DR. FLOYD K. RICHTMYER, professor of physics and dean of the Graduate School of Cornell University, received the honorary degree of doctor of science at the commencement exercises of Lehigh University on June 14.

THE University of Toledo conferred at commencement the degree of doctor of science on Harry B. Meller, managing director of the Air Hygiene Foundation of the Mellon Institute, Pittsburgh, Pa.

C. F. HIRSHFELD, chief of research of the Detroit Edison Company, member and past chairman of the Engineers' Council for Professional Development, recently received the honorary degree of doctor of engineering from the University of Detroit, in recognition of his technical and scientific accomplishments in the field of engineering and in engineering education.

DR. FLORENCE B. SEIBERT, of the Henry Phipps Institute of the University of Pennsylvania, was presented with the Trudeau Medal "for outstanding re-

search in the field of tuberculosis" at the Los Angeles meeting of the National Tuberculosis Association.

PROFESSOR W. H. HOFFMANN, of the Finlay Institute, Havana, has been awarded the Great Iron Medal of the Senckenberg Society of Frankfurt-on-Main in recognition of his research in tropical medicine.

*Nature* states that Professor Max Planck, of Berlin, who is an honorary fellow of the Royal Society of Edinburgh, was the guest at a dinner held in his honor in the rooms of the society on June 23. The president, Sir D'Arcy Wentworth Thompson, was in the chair.

PROFESSOR J. E. LITTLEWOOD, Rouse Ball professor of mathematics in the University of Cambridge, has been awarded the triennial award of the De Morgan Medal for 1938 of the London Mathematical Society.

DR. RUDOLF KREUTZ, of Cologne, has been awarded the Sudhoff Medal by the German Society of the History of Medicine.

THE London *Times* writes: "A tribute is paid in the eighty-ninth annual report of the Fitzwilliam Museum, Cambridge, to the thirty years of Sir Sydney Cockerell's directorship, during which 'benefactors have vied with one another in enriching the Museum.' Reference is also made to the retirement, coincident with that of Sir Sydney Cockerell, of a still older servant of the Fitzwilliam, W. E. Rider, who was appointed to the museum in 1884 and became principal assistant in 1910. A warm welcome is extended to the new director, L. C. G. Clarke."

At the San Francisco meeting of the Vascular Section of the American Heart Association, the following officers were elected: *Chairman*, Dr. Irving S. Wright, New York; *Vice-chairman*, Dr. Irvine H. Page, Indianapolis; *Secretary*, Dr. Norman Freeman, Philadelphia.

PROFESSOR RICHARD KUHN, director of the Kaiser Wilhelm Institute for Medical Research at Heidelberg, has been elected president of the German Chemical Society.

PROFESSOR R. ALEXANDRI has been elected president and Professor C. Frugoni vice-president of the Royal Academy of Medicine of Rome.

THE following appointments have been made in anthropology at the University of Minnesota: Dr. Walter B. Cline, assistant-professor; Dr. David G. Mandelbaum, instructor; Dr. Lloyd A. Wilford, junior archeologist. Dr. Cline has been spending the past year in Europe preparing a book on the peoples of Arabia, Egypt and North Africa; Dr. Mandelbaum has been engaged in ethnographical work in India; Dr. Wilford has been exploring the archeology of Minnesota, and is engaged in that field this summer.

At Indiana University, Professor S. C. Davisson has retired after forty-eight years of service in the department of mathematics; Dr. Emil Artin, who went to the University of Notre Dame from the University of Hamburg in the fall of 1937, has been appointed professor of mathematics; Dr. Agnes E. Wells, who has been dean of women in addition to teaching mathematics, has given up the work of dean to give full time to teaching as professor of mathematics; Professor K. P. Williams has been appointed chairman of the department.

THE following changes have been made in the department of physics at the University of Illinois: Professor F. W. Loomis, head of the department, has leave of absence during the first semester of 1938-39. During his absence Associate Professor P. Gerald Kruger will be acting head. Dr. M. Goldhaber, formerly at the Cavendish Laboratory, Cambridge, England, and Dr. J. R. Richardson, formerly national

research fellow at the University of Michigan, have been appointed assistant professors of physics. Dr. L. J. Haworth, formerly Lalor fellow in physical chemistry at the Massachusetts Institute of Technology, and Dr. E. M. Lyman, formerly of the University of California, have been appointed associates, and Dr. D. W. Kerst, formerly with the General Electric X-Ray Corporation, has been appointed instructor.

At the University of Nebraska, Dr. Erwin H. Barbour retired at the end of the academic year after serving for nearly forty-seven years as professor of paleontology and director of the museum. Dr. A. L. Lugn, associate professor, has been promoted to a full professorship of geology, and C. Bertrand Schultz has been made assistant director in charge of the museum. Mr. Schultz and Thompson M. Stout have been named instructors. Mr. Schultz will offer courses in vertebrate paleontology and direct research in that field. Mr. Stout will teach courses in general geology and earth science.

R. W. WARNER, professor of electrical engineering and head of that department at the University of Kansas, has been appointed to the corresponding position at the University of Texas. He will spend the summer in consulting work in industrial engineering at Kansas City.

Dr. J. D. BOYD has been appointed to the university chair of anatomy at the London Hospital medical college. Since 1937 he has been university lecturer in anatomy in the University of Cambridge.

ENGLISH journals report that the Committee of the Privy Council for the Organization and Development of Agricultural Research has appointed the Earl of Radnor, lord warden of the Stanneries, chairman of the Lawes Agricultural Trust and a member of the Council of the Royal Agricultural Society of England, and Sir Joseph Barcroft, emeritus professor of physiology in the University of Cambridge and formerly Fullerian professor of physiology in the Royal Institution, to be members of the Agricultural Research Council in succession to Lord Richard Cavendish and Sir Frederick Gowland Hopkins. Sir Thomas Middleton is succeeding Lord Richard Cavendish as chairman of the council.

Dr. G. ROBERT COATNEY, professor of biology at the State Teachers College at Peru, Nebr., has been appointed protozoologist of the U. S. Public Health Service.

THE American Ceramic Society has appointed Dr. Alexander Silverman, head of the department of chemistry in the University of Pittsburgh, as its representative on the Division of Chemistry and Chemical Technology of the National Research Council. Dr.

R. B. Sosman, of the Research Laboratory of the United States Steel Corporation, Kearny, N. J., has been appointed to the division of geology.

PROFESSOR OSKAR A. JOHANNSSEN, who retired this year as head of the department of entomology at Cornell University, is spending July in England, Ireland and Scandinavia. In August he will attend the International Congress of Entomologists in Berlin.

PROFESSOR JAMES E. RICE, professor of poultry husbandry emeritus at the New York State Agricultural College at Cornell University, returned to Ithaca on July 6 from a tour of South and Central America in the interests of the seventh World Poultry Congress, to be held in Cleveland, Ohio, from July 28 to August 7, 1939. Professor Rice is chairman of the executive board. He plans to make a speaking tour on the West Coast, returning in September.

THE second Lerner Expedition of the American Museum of Natural History will leave for the swordfish grounds off Louisburg, Cape Breton Island, on August 6, to continue their study of the swordfish begun there in 1936. The members of the expedition will be: Michael Lerner, field associate; Miss Francesca La Monte, associate curator of ichthyology; G. Miles Conrad, assistant curator of comparative anatomy, and Ludwig Ferraglio, artist and preparator.

DR. A. C. SMITH returned to the New York Botanical Garden early in June after nine months of exploration in South America, during which he gathered specimens in the interior of British Guiana.

THE American Mathematical Society will meet in New York City from September 6 to 9. This is the semi-centennial celebration of the founding of the society. There will be addresses by Professor Ray C. Archibald on the history of the society, by Dean George David Birkhoff on a general review of mathematics during the fifty years and by Professors E. T. Bell, Griffith C. Evans, E. J. McShane, J. F. Ritt, J. L. Synge, T. Y. Thomas, Norbert Wiener and R. L. Wilder on work in their own fields. Excursions and other social events are planned.

THE Genetics Society of America will hold a summer meeting at Woods Hole on September 2 and 3. On Thursday evening, September 1, there will be given in the auditorium of the Marine Biological Laboratory a lecture by Dr. H. J. Muller. On Friday and Saturday mornings will be held formal sessions for the reading of papers. There will be demonstrations and exhibits on Friday afternoon and on Friday evening the usual boat trip and clam-bake.

THE Pennsylvania Academy of Science will hold its regular summer meeting at West Chester on August 12 and 13. Field trips have been arranged, particu-

larly in botany and geology. Further information may be obtained from the secretary, Dr. V. Earl Light, Lebanon Valley College at Annville.

THE 1939 meeting of the Cotton States Branch, American Association of Economic Entomologists, will be held at Tampa, Florida, during the early spring. The dates and convention headquarters in Tampa will be selected at an early date. The Newell Entomological Society of the University of Florida is to serve as official host. Co-sponsors are the Florida Entomological Society, the Florida Institute of Agricultural Research, the Florida Horticultural Society, the Florida College of Agriculture, the Florida Experimental Station, the Florida State Plant Board and the Tampa Chamber of Commerce.

A GATHERING in celebration of the fiftieth anniversary of the foundation of the Educational Museum, Haslemere, England, and of the Haslemere Natural History Society, was held in the grounds of the museum on June 29. The speakers included Lord Winterton and Dr. John Ramsbottom, president of the Linnean Society and keeper of botany at the British Museum (Natural History). W. E. Muir, who presided, announced that an attempt was to be made this year to increase the endowment fund, which now stood at £5,600, by a further £5,000, which, with the amount raised from annual subscribers, would enable the museum to carry on its work.

THE German Surgical Society, to which most of the Austrian members of the International Society of Surgery belong, is reported by *The Lancet* to be at present in collaboration with the Viennese committee, making arrangements for the congress, which is to take place in Vienna from September 19 to 22. The following subjects will be discussed: Surgical treatment of hypertension, bone-grafts and surgical treatment of pulmonary cysts and tumors. Nearly 200 speakers have promised to take part. On the occasion of this congress the Messageries Maritimes are organizing a cruise, which will leave Marseilles on September 4 and will give surgeons the opportunity to attend operative demonstrations at Naples, Athens, Istanbul, Odessa, Bucharest and Budapest.

It is reported that the Turkish Government will establish a School of Medicine at the University of Angora. The plans provide for an expenditure of \$6,800,000.

THE second trailer expedition of the department of mammals of the American Museum of Natural History left on July 8 for New Mexico, to collect large and small mammals such as weasels, squirrels, marmots, deer and bears. Collecting will be done on the 300,000-acre Philmont Ranch owned by Waite Phil-

lips, near Cimarron, N. M., and in the northeastern section, where the foothills of the Rockies rise from 6,000 to 12,000 feet. The expedition includes: Dr. John E. Hill, associate curator, and William Buchanan,

assistant in mammalogy. They will be joined later by Robert E. McConnell, a trustee of the museum, and Harold B. Clark, who last summer led an Alaskan expedition for the museum.

## DISCUSSION

### OXYGEN-POOR WATERS OF THE CHESAPEAKE BAY

STUDIES on the physical and chemical properties of Chesapeake Bay waters during the summer of 1936 gave evidence of a definite oxygen-poor layer at the bottom in the deeper regions, and data from subsequent series of water samples have proved the existence of that layer and have furnished interesting information concerning its vertical and horizontal extent. Water samples for these studies have been secured at the stations shown by the numbered dots on the accompanying chart (Fig. 1), and sampling is now being

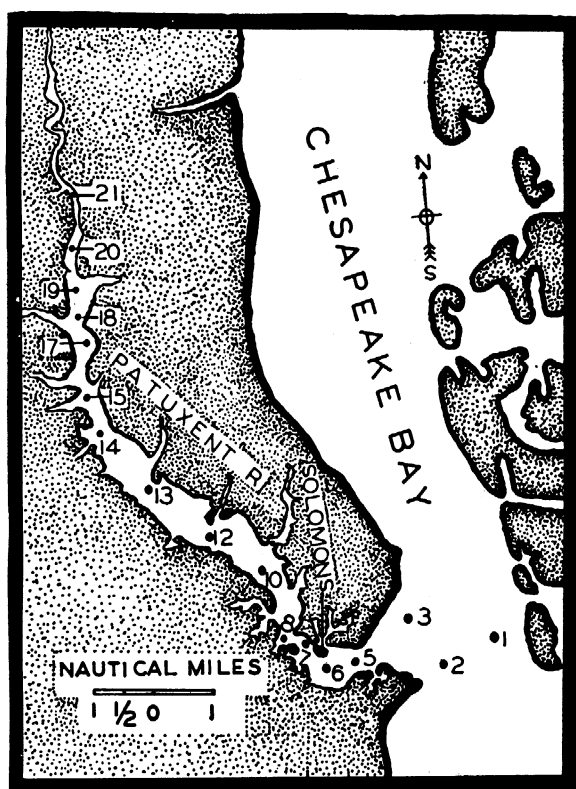


FIG. 1. Locations of principal sampling stations (numbered points) in Chesapeake Bay and the Patuxent River.

continued at those stations, with the aid of a grant from the American Philosophical Society. Three stations are in the bay, opposite the mouth of the Patuxent River (about  $38^{\circ} 18' N.$  lat.,  $76^{\circ} 25' W.$  long.), and others are located at various places in the tide-water reaches of the river.

A clearly defined oxygen stratification appears to prevail in the bay from about June 1 to about October 1, with very low oxygen concentration in the bottom waters. This is accompanied by an equally pronounced salinity stratification of opposite gradient, with high salt concentration at the bottom. The oxygen concentration of the surface waters varies around 6 cc per liter (104 per cent. of total saturation), while at depths of 8 to 10 meters the oxygen content is frequently as low as 2 cc per liter (35 per cent. of total saturation). Below a depth of 12 meters, the concentration is usually under 1 cc per liter (17 per cent. saturated), and deep samples are often found to contain no measurable oxygen. The top of the oxygen-poor layer usually occurs at a depth of about 9 meters.

The summer range of oxygen concentration from the surface water to the oxygen-poor layer below is narrower above the river mouth than in the bay, and it diminishes rapidly in the upstream direction as is shown by the dark area of Fig. 2. Also, the stability

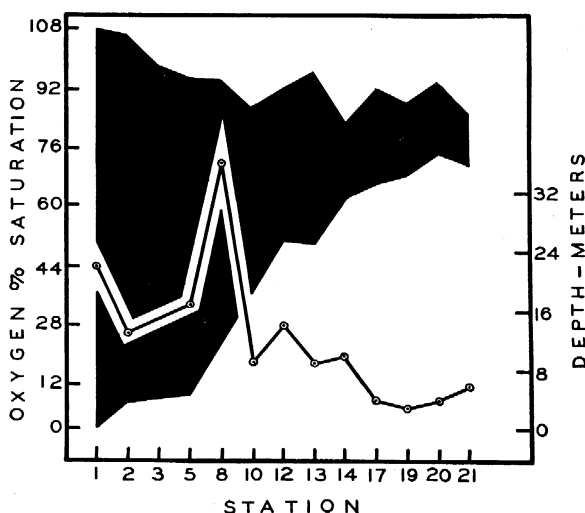


FIG. 2. Ordinates of upper margin of dark area are summer  $O_2$  contents near surface and those of lower margin are corresponding  $O_2$  contents near bottom, at stations numbered as in Fig. 1; ordinates of line graph show depths of water at the several stations.

of the water layers decreases in like manner. Of course, any influences that produce vertical mixing—such as seasonal temperature changes or local tidal