THE TECHNOLOGY RELATING TO THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY



FEBRUARY

PUBLISHED BY THE ALUMNI ASSOCIATION



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H. E. LOBDELL, '17. Editor E. F. HODGINS, '22. . . Managing Editor R. E. ROGERS . . . Contributing Editor J. E. BURCHARD, 2D, '23 . Assistant Editor R. W. KENISON, '24 . . Advertising Manager

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Thomas B. Booth, '95, President Orville B. Denison, '11, Secretary-Treasurer

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TECHNOLOGY REVIEW

RELATING TO THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Vol. XXVII

FEBRUARY, 1925

No. 4

NE of the most signif-

icant organizations

in modern American Edu-

cation is undoubtedly the

American Association for

the Advancement of Science.

The purposes of this asso-

ciation are many, but the

one with which educators

are immediately concerned.

is that of making scientific

knowledge and scientific

methods increasingly avail-

able to the public at large.

The most recent Annual

Meeting of the Association

was conspicuous for its many

and valuable contributions

The meeting this year

was the seventy-ninth of the

Association. It was held

in Washington, from De-

cember 29 to January 3,

being the fifth one in that

city. It consisted of ses-

sions of various committees

and parts of the Association

as well as meetings of the

whole, of dinners and ban-

quets, in short of almost

every conceivable form of

colloquium or gathering.

The meetings began as

to this end.

The Past Month

JANUARY 3 brought some five hundred men and women of Technology to the Main Hall of Walker Memorial for the Annual Dinner of the Alumni Association. By comparison with the affair of a year ago, the evening was short, yet at the same time well filled with matters of Institute interest. The principal

speaker of the evening was Samuel M. Vauclain, President of the Baldwin Locomotive Works, who chose for what he called "the imposition of the evening", the title of "Optimism." Upon another page of this issue, The Review reprints, slightly shortened, Mr. Vauclain's remarks.

Dr. Stratton, kept from the dinner by the necessity for complete recovery from the illness and operation which had held him in Washington since mid-November, was represented by a message read to the Alumni by Dean H. P. Talbot, '85, Acting President in Dr. Stratton's illness. Dean Talbot proceeded from this message to a few words spoken in his own right, for the principal purpose of reference to the Eastman gift of last December.

The last spoken words of the evening came from Davis Rich Dewey, Head of the Department of Economics and Statistics, and, so time flies, now Senior Professor of the Institute. Mr. Edward F. Payne, Cartoonist, of the Boston Globe, co-starring. Thomas B. Booth, '95, President of the Alumni Association, was toastmaster, and dispatched his affairs neatly, achieving also the considerable feat of ending the dinner a few minutes before scheduled time. Here is a mark for future generations to shoot at.



JAMES FLACK NORRIS Professor of Organic Chemistry who has just been honored by election to the presidency of the American Chemical Society

Professor Dewey's speech, likewise, is recorded for the benefit of the Alumni at large, upon another page of this issue.

As customary, the evening was punctuated by interludes of musical and humorous entertainment, with Frank D. Gage, '22, he of the performing piano, and early as nine—and at least one did not begin until as late as midnight. The first meeting of the Association as a whole was addressed by Secretary of State Charles Evans Hughes. A comprehensive general exhibition of apparatus, materials, products and publications was an important feature of the gathering. A 250-page program of the meeting has come to The Review desk. Almost all of its content is an enumeration of papers given. Cursory glances through its pages, its long lists of scientists who gave papers of ten minutes or longer seems much like glancing through a Register of Former Students of the Institute. There are not many pages on which there are no familiar names. To speak in detail of all the Institute contributions to the assembly is manifestly impossible in the narrow space of these columns. One can but list the names of the contributors and the titles of their papers and let the cold facts speak their glowing story of Technology's contribution to the advancement of science.

Officers and Members of committees with Institute affiliation were:

C. G. Abbot, '94; E. W. Washburn, '05; A. A. Noyes, '86; A. E. Kennelly, Professor of Electrical Communications at the Institute; Waldemar Lindgren, Head of the Department of Mining, Metallurgy, and Geology at the Institute; A. B. McDaniel, '01; John B. Taylor, '97; Albert Sauveur, '89; William H. Bixby, '70; and H. W. Tyler, '84, Head of the Institute's Department of Mathematics.

Authors of addresses and papers were:

George K. Burgess, '96, Director of the Bureau of Standards; F. E. Matthes, '95, U. S. Coast and Geodetic Survey; Allan W. Rowe, '01; E. W. Washburn, '05, National Research Council; A. E. Kennelly;



WILLIAM H. BASSETT, '91 Most recent winner of the James Douglas Medal for distinguished achievement in non-ferrous Metallurgy

Norbert Wiener, Assistant Professor of Mathematics at the Institute; S. D. Zeldin, Instructor in Mathematics; Philip Franklin, likewise Instructor in Mathematics; Paul Heymans, Assistant Professor of Theoretical Physics, and Nathaniel H. Frank, '23, Research Associate; G. L. Clark, Research Associate in Chemical Engineering.

NE of the highest honors which may be accorded an American chemist was recently bestowed on James F. Norris, Professor of Organic Chemistry at the Institute, when he was elected President of the American Chemical Society for the coming year. Professor Norris received the degree of Doctor of Philosophy from Johns Hopkins University in 1895 and came directly to Technology where he has remained save for the period of years from 1904 to 1916 when he was Professor of Chemistry, first at Simmons College and later at Vanderbilt University. During the war he had charge of chemical research in war gas investigation carried on by the Bureau of Mines at Technology. He was also an associate member of the Naval Consulting Board. He is not the only representative of the Institute faculty holding office in the society: Dean Henry P. Talbot, '85, is a director. The American Chemical Society is the largest and most representative professional organization in the field of chemistry, having a membership of more than 15,000.

AFTER an absence of some eight weeks, conditioned by his stay in a Washington hospital, Dr. Stratton returns to his desk at the Institute. His present stay will not, however, be long, in that doctor's orders will soon send him off to the West Indies for further recuperation. It is probable that he will not resume continuous residence until, perhaps, the beginning of the last third term.

WILLIAM H. BASSETT, '91, technical superintendent and metallurgist for the American Brass Company of Waterbury, Conn., has been signally honored in receiving the award of the James Douglas Medal for distinguished achievement in the field of non-ferrous metallurgy. The medal is bestowed annually as a memorial to Dr. James Douglas, formerly president of the American Institute of Mining and Metallurgical Engineers.

Mining and Metallurgy, the official publication of the latter organization, says of Mr. Bassett, "He was the pioneer metallurgist of the brass industry . . . He is largely responsible for the present high quality of refined copper . . . He was the first to apply the spectroscope to routine work in the non-ferrous metal industry and to apply the microscope to the metallography of non-ferrous metals. He developed methods for the microscopic examination of copper and copper alloys and the relations between the crystal size, heat treatment and physical properties and the application of metallography to manufacturing control . . . Although his greatest work has been accomplished in copper and brass, in regard to which he is an international authority, he has done hardly less notable work in other non-ferrous metals and alloys."

A PORTION of the 250,000 shares of Eastman Kodak Company stock, which Mr. Eastman gave to Technology and three other institutions, found its way, according to the *New York Times*, to the investment market several days before Christmas. The stock was sold by the Institute and the University of Rochester. Conditions were attached to the gifts to Tuskegee and Hampton Institutes which necessitated a different course of action.

The total involved was 187,500 shares and they were quickly snapped up by investors at \$110 a share, bringing to the selling institutions a total before commissions of \$20,570,000. At the same price per share, the value of the entire amount of Kodak stock given by Mr. Eastman would be \$27,500,000. The probability is that the balance amounting to 62,500 shares will be retained as a permanent investment.

Mr. Eastman said in his offer that the benefactors were not obliged to retain ownership of the stock and that they might sell whenever they chose. This caught the attention of several underwriters, who promptly notified the college authorities that they were ready at any time to undertake the work of selling the stock holdings to the investment market. The results described above confirm their confidence in their ability successfully to complete such an undertaking.

THE Past Month has again witnessed Technology Alumni and professors addressing societies in various portions of the United States. Dr. Charles Greeley Abbot, '94, assistant secretary of the Smithsonian Institution, told the American Astronomical Society at its recent meeting that after a loaf of nearly two years the sun is back on the job and is radiating energy at its normal rate so that now there is nothing further to worry about. Dr. Abbot's original worry was recorded in The Review one year ago.

In reading the title of the recent talk by George B. Haven, '94, Professor of Machine Design at Technology, one would leap to the conclusion that he, too, was dealing with the firmament. Professor Haven addressed the Southbridge Manufacturers Association at its December meeting on the subject, "The Wings of Heaven." The wings, however, turned out to be those neither of angels nor of comets but of airplanes and the talk concerned the manufacture of fabric used in the wings.

The third address to be recorded was, on the other hand, of the earth earthy; a talk on "Metallography and Its Use to the Engineer." This was given to the Providence Section of the American Society of Civil Engineers. The speaker was Dr. Robert S. Williams, '02, Professor of Analytical Chemistry and Metallography at Technology.

AN informal conference between some leading professors of organic chemistry and the technical representatives of organic chemical industries was a new feature of the annual meeting of the Synthetic Organic Chemical Manufacturers Association of the United States held recently in New York City. The Institute had representatives on both sides, Professor James F. Norris being one of the chemical authorities invited to take part in the discussion and Frank Cheney, Jr.,'82, and Franklin W. Hobbs, '89, being among the manufacturers who accepted invitations to be present.

RESEARCH in connection with lighter-than-air craft is again receiving aid from the Institute. Readers of The Review will remember the work done at Technology on the structural analysis of the Shenandoah. The latest development is a direct measurement of the strain in the frame of an airship of the semi-rigid type, not yet built, to be accomplished by the use of a water-filled model of the ship. The model is to be about nine feet long and two feet in diameter being at a scale approximately one-thirtieth of that of the proposed ship. It is to be filled with water and suspended upside down. In that position the deformation of a model keel will give a measure of the complicated forces acting in the actual ship, forces which can not be calculated satisfactorily.

The theory of the investigation was worked out by Dr. Tuckerman, of the Bureau of Standards. The Institute's contribution is to be made by Professor William Hovgaard, of the Department of Naval Architecture, who is designing the model keel and under whose direction it will be built in the Institute shops. The rest of the model is to be made at the Akron plant of the Goodyear Company and the tests will be carried out there.

NCE more the Hawaiian Volcano Observatory has had its control transferred without, however, any change in its operation. Dr. Thomas A. Jaggar, Jr., formerly Head of the Department of Geology at Technology, still remains in charge. The observatory stands at the edge of the active crater of Kilauea. It was first planned by Professor Jaggar in 1909 while he was at Technology and regular scientific studies were begun at the crater in 1911. For a time the observatory was operated by the Institute, although much of the support came from local Hawaiians - the town of Hilo, for example, presenting an observatory building in 1912. In 1913 a local committee organized the Hawaiian Volcano Research Association which supported the observatory till 1918, when it was transferred to the Weather Bureau of the United States Government. The most recent change in jurisdiction is from the Weather Bureau to the Geological Survey.



A DISTINGUISHED PHYSICIST AT TECHNOLOGY Prof. P. Debye, noted physical chemist, who is lecturing at the Institute during the second term

RVILLE B. Denison, '11, Secretary-Treasurer of the Alumni Association, went en tour with his familiar specialty act during the second week of January. His trip, beginning on January 7, took him successively to Philadelphia, Washington, Baltimore, and New York, in all of which cities, saving the last, local associations held meetings to provide him with an audience. By contrast with the year previous to this, Mr. Denison has made few trips. and has held close to his Cambridge desk, acting the part of resident rather than of field secretary. Necessity for economy within the Alumni Association this year prevents the extended tours of the previous régime.

THE present term will witness an innovation in surveying instruction at Technology. Gerard H. Matthes, '95, will deliver a series of six lectures upon Aerial Surveying and Mapping under the auspices of the Department of Civil Engineering. Mr. Matthes is at present Consulting Engineer for the Fairchild Aerial Surveys, Inc., of New York City. For the past few years he has given special attention to aerial surveying and was in charge of the survey of the Tennessee River in which this process was used. Aerial surveying is particularly useful in relation to projects for hydro-electric development for by this method it is possible to select approximate transmission line routes

without entering private property. It is also valuable in making traffic maps of cities, the recently prepared map of New York City being a notable example. It is coming into more and more prominence with the passing of each year. Professor Charles M. Spofford, '93, Head of the Department of Civil Engineering, states that in his opinion Technology is doing pioneer work in this form of instruction and that he hopes in another year to have it taught in the regular classes in surveying.

THE Institute is rich in its list of distinguished foreign scientists who have lectured or will lecture here this year. Close on the heels of the lectures by Professors Fabry, Vallée-Poussin, and Oldenberg, came the announcement from the Department of Physics of a series of twenty lectures on "Some Aspects of Modern Physical Chemistry" to be delivered by Prof. P. Debye in the second term on Tuesdays and Fridays. The lectures are now in progress. They are open to the public.

Professor Debve was born in Holland and has been associated with one or another of the German or Swiss Universities since 1906. Receiving his Doctorate at Munich in 1908, he held the chair of Technical Physics in the Universities of Zürich, Utrecht and Göttingen successively. Since 1920 he has been Professor of Physics at the Technische Hochschule at Zürich.

S. FORD, Bursar of the Institute, was recently honored by being reëlected Secretary and Treasurer of the Association of University and College Business Officers at its annual meeting. The meeting this year was held at Brown University and was the largest that has been held since the first one in 1920. More than seventy institutions were represented on the register.

7HEN Donald MacMillan returned from his recent voyage in the frozen North, Technology Alumni played a prominent part in the jubilant reception which he

was accorded in Boston. The culmination of the reception was a dinner given for the explorer at the Boston City Club. The principal speaker at the banquet was Hiram Percy Maxim, '86, inventor and head of the American Radio Relay



DONE!

The Technology Cross Word Puzzle of H. P. T., '85, seems, after all, to have been soluble. Here is the key