dent on its flat side than when they are incident on its edge. The maximum sound-wave pressure found by Altberg, for very intense stationary waves, was about .26 dyne. Since the pressure of a gas is proportional to the absolute temperature, $dT/T = dP/P$. From this it may be calculated that the increase of temperature indicated by a thin bolometer strip on which the waves exert a pressure of .26 dyne would be about .000075° at atmospheric pressure and a temperature of 17° C. or 290° absolute.

E. P. Lewis

University of California

RUDIMENTARY MAMMÆ IN SWINE A SEX-LIMITED CHARACTER[1]

The inheritance of the rudimentary mammæ found on the lower part of the scrotum of the boar and on the inside of the thighs to the rear of the inguinal pair in the sow, was reported as typically sex-limited by the writer in 1912 and 1913. Later, in 1914, due to the failure to discover a boar homozygous for the character, an attempt was made to classify the inheritance as sex-linked in nature. Certain more recent discoveries, due largely to a few selected matings, have cleared up the difficulties which in 1914 were believed to exist, and make the earlier interpretation more probable.

The case in point is as follows: A Duroc Jersey boar possessing the rudimentaries was mated to a grade black sow lacking them. A litter of nine pigs was farrowed, four of the boars having rudimentaries, and one lacking them, while three of the sows lacked rudimentaries and the fourth possessed them. Coupled with the evidence on the inheritance of this character published previously, this breeding performance indicates that both the Duroc Jersey boar and the grade black sow were heterozygous for this character.

One of the boars possessing rudimentaries from this litter was mated to the four sows of the litter with the following results:

[1] Paper No. 2 from the Laboratory of Animal Technology, Kansas Agricultural Experiment Station.

Record Number	Apparent Hereditary Constitution	Males		Females	
		With Rudimentaries	Without Rudimentaries	With Rudimentaries	Without Rudimentaries
Sow 26.....	RR	4	0	3	0
Sow 27.....	Rr	4	0	3	2
Sow 28.....	rr	3	0	0	2
Sow 29	rr	4	0	0	4

This breeding performance very definitely indicates that the boar was homozygous for the rudimentary mammæ. All of the boar pigs that he sired possessed the character, even though two of the sows were of a type not to transmit it at all. If he were heterozygous for the character, then at least part of the seven male pigs from sows 28 and 29 should have lacked the rudimentaries; the chances of their all having them being one out of 128. The discovery of a boar homozygous for the rudimentaries removes the principal stumbling block to the simple sex-limited theory.

Davenport and Arkell have developed a scheme which bridges the discrepancies between sex-limited and sex-linked inheritance, even when apparently homozygous animals exist. Since, however, the sex-limited explanation advanced by Wood seems to cover all the facts that are involved in this case, and since it is much simpler, the writer prefers thus to interpret these results.

Edward N. Wentworth

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Inheritance of Rudimentary Mammæ in Swine. *Proc. Iowa Acad. Sci.*, 1914, Vol. 21, pp. 265–268.

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THE NATIONAL ACADEMY OF SCIENCES

The sessions of the annual meeting of the National Academy of Sciences were held in the United States National Museum, Washington,

D. C., on April 17, 18, 19, 1916. Seventy-two members were present as follows:

Charles Greeley Abbot, J. Asaph Allen, J. S. Ames, George F. Becker, B. B. Boltwood, Nathaniel Lord Britton, Henry Andrews Bumstead, D. H. Campbell, Walter Bradford Cannon, J. McKeen Cattell, W. B. Clark, F. W. Clarke, J. M. Clarke, George C. Comstock, E. G. Conklin, J. M. Coulter, Whitman Cross, William H. Dall, C. B. Davenport, W. M. Davis, Arthur L. Day, H. H. Donaldson, Jesse Walter Fewkes, Simon Flexner, Arnold Hague, George E. Hale, E. H. Hall, R. A. Harper, John F. Hayford, W. F. Hillebrand, W. H. Holmes, W. H. Howell, Joseph Iddings, Herbert Spencer Jennings, Armin Otto Leuschner, F. R. Lillie, Jacques Loeb, Graham Lusk, F. P. Mall, S. J. Meltzer, Lafayette B. Mendel, C. Hart Merriam, Ernest Merritt, Robert A. Millikan, E. H. Moore, Edward W. Morley, H. N. Morse, F. R. Moulton, E. L. Nichols, A. A. Noyes, George H. Parker, Edward C. Pickering, M. I. Pupin, F. L. Ransome, H. Fielding Reid, Ira Remsen, Edward B. Rosa, Charles Schuchert, William B. Scott, E. F. Smith, William E. Story, C. R. Van Hise, E. B. Van Vleck, Charles D. Walcott, Arthur G. Webster, William H. Welch, William M. Wheeler, David White, H. S. White, Edmund B. Wilson, R. W. Wood, R. S. Woodward.

The following scientific program was carried out in full:

MONDAY, APRIL 17

Morning Session

"On Permeability of *Endothelia*," by S. J. Meltzer.

"The Influence of Morphin upon the Elimination of Intravenously Injected Dextrose," by I. S. Kleiner and S. J. Meltzer.

"The Sex of a Parthenogenetic Frog," by Jacques Loeb.

"The Distribution of the Chondrosomes to the Spermatozoa in Scorpions," by Edmund B. Wilson.

Symposium on the Exploration of the Pacific

Arranged by W. M. Davis (by invitation of the Program Committee)

"On Exploration of the Pacific," by W. M. Davis.

"The Importance of Gravity Observations at Sea in the Pacific," by J. F. Hayford.

"A New Method of Determining Gravity at Sea," by L. J. Briggs, president of the Philosophical Society of Washington.

"The Problem of Continental Fracturing and Diastrophism in Oceanica," by C. Schuchert.

"Petrological Problems in the Pacific," by J. P. Iddings.

Afternoon Session

"A New Form of Metamorphism," by Arthur Keith (introduced by George F. Becker).

"Contributions to the Petrology of Japan, Philippine Islands and the Dutch Indies," by J. P. Iddings and E. W. Morley.

Symposium on the Exploration of the Pacific (Continued from the Morning Session)

"The Extent of Knowledge of the Oceanography of the Pacific," by G. W. Littlehales, Hydrographic Engineer, United States Hydrographic Office.

"Marine Meteorology and the General Circulation of the Atmosphere," by C. F. Marvin, Chief of the United States Weather Bureau.

"On the Distribution of Pacific Invertebrates," by Wm. H. Dall.

"Land Mollusca of the Pacific," by H. A. Pilsbry, Academy of Natural Sciences of Philadelphia.

"Marine Algæ of the Pacific," by W. G. Farlow.

"Problems of the Pacific Floras," by D. H. Campbell.

"The Pacific as a Field for Anthropological Investigation," by J. W. Fewkes.

Papers of the Regular Program

"Hereditary Transmission of Defects resulting from Alcoholism," by Charles R. Stockard. (By invitation of the Program Committee.)

"Recent Observations on the Activity of some Glands of Internal Secretion," by W. B. Cannon.

"Studies in the Water Content of the Nervous System," by H. H. Donaldson.

First William Ellery Hale Lecture, by Henry Fairfield Osborn, President of the American Museum of Natural History. Subject: "The Origin and Evolution of Life on the Earth." (Illustrated.)

The lecture was followed by a conversazione in the art gallery of the museum.

TUESDAY, APRIL 18

Morning Session

"Some Recent Results of Solar Research," by George E. Hale.

"An Investigation of the Suggested Mutual Repulsion of Fraunhofer Lines," by Charles E. St. John (introduced by G. E. Hale).

"Anomalous Dispersion Phenomena in Electric Furnace Spectra," by Arthur S. King (introduced by G. E. Hale).

"Illustrations of the New Spectroscopic Method of Measuring Stellar Distances," by Walter S. Adams (introduced by G. E. Hale).

"Some Results with the New 10-inch Photographic Telescope," by Harlow Shapley (introduced by G. E. Hale).

"The Pyranometer, an Instrument for the Measurement of Sky Radiation," by C. G. Abbot and L. B. Aldrich.

"Invisible Companions of Binary Stars," by G. C. Comstock.

"Theory of Electric Conduction in Metals," by Edwin H. Hall.

"The Evolution of the Stars," by F. R. Moulton.

"The Minor Planets discovered by James C. Watson," by A. O. Leuschner.

Afternoon Session

"Biography of Professor Theodore Nicholas Gill," by Wm. H. Dall. (By title.)

"Biography of Professor Edward Singleton Holden," by W. W. Campbell. (By title.)

"Biography of Professor Simon Newcomb," by W. W. Campbell. (By title.)

"Biography of John Shaw Billings," by Fielding H. Garrison. (By title.)

"Report of the Work of the Committee upon the Panama Canal Slides," by Charles R. Van Hise, chairman.

"The Mechanics of the Panama Slides," by H. Fielding Reid.

"The Present State of Knowledge of the Extreme Ultra-violet," by Theodore Lyman, Director Jefferson Physical Laboratory, Harvard University. (By invitation of the Program Committee.)

"A Redetermination of e and N," by Robert A. Millikan.

"The Relation of Investigational Work to the Enforcement of the Food and Drugs Act," by Carl L. Alsberg. (By invitation of the Program Committee.)

"Recent Exploration on the Mesa Verde National Park," by J. Walter Fewkes.

"Further Evidence on the Nature of Crown Gall and Cancer and that Cancer in plants offers strong presumptive evidence both of the parasitic origin and of the essential unity of the various forms of Cancer in man and animals," by Erwin F. Smith.

WEDNESDAY, APRIL 19

Second William Ellery Hale Lecture, by Henry Fairfield Osborn, President of the American Museum of Natural History. Subject: "The Origin and Evolution of Life on the Earth." (Illustrated.)

PRESENTATION OF MEDALS

At the annual dinner of the academy held at the Hotel Raleigh on April 18, 1916, the medals for eminence in the application of science to the public welfare were awarded to Cleveland Abbe and to Gifford Pinchot, and the James Craig Watson medal was awarded to Armin Otto Leuschner.

The president announced the following deaths since the last annual meeting of the academy:

John Ulric Nef, died on August 13, 1915, elected in 1904.

Frederic Ward Putnam, died on August 18, 1915, elected in 1885.

Arthur W. Wright, died on December 19, 1915, elected in 1881.

Eugene W. Hilgard, died on January 8, 1916, elected in 1872.

The reports of the president and treasurer for the year 1915 were presented to the academy in printed form as transmitted to the Senate of the United States by the president of the academy.

REPORT OF THE HOME SECRETARY

THE PRESIDENT OF THE NATIONAL ACADEMY OF SCIENCES.

Sir: I have the honor to present the following report on the publications and membership of the National Academy of Sciences for the year ending April 19, 1916.

The *Memoirs of the National Academy of Sciences,* Volume 12, part 2, entitled "Variations and Ecological Distribution of the Snails of the Genus *Io*," by Charles C. Adams, has been published and distributed, as has also the memoir forming Volume 12, being "A Catalogue of the Meteorites of North America," by Oliver C. Farrington. Volume 14, memoir 1, entitled "Report on Researches on the Chemical and Mineralogical Composition of Meteorites, with Especial Reference to their Minor Constituents," by George Perkins Merrill, is going through the press and the final proof has been passed. It awaits casting and printing before it is published.

The biographical memoirs of John W. Powell, Miers Fisher Longstreth, Charles Anthony Schott, Peter Lesley, Henry Morton and Alfred Marshall Mayer have been published, and that of George William Hill, by Ernest W. Brown, has also been published but not distributed.

Three members have died since the last annual meeting: John Ulric Nef, on August 13, 1915, elected in 1904; Frederic W. Putnam, on August

18, 1915, elected in 1885; and Eugene W. Hilgard, on January 8, 1916, elected in 1872.

One foreign associate, Paul Ehrlich, died on August 20, 1915, elected in 1904.

There are 139 active members on the membership list, 1 honorary member, and 39 foreign associates.

ARTHUR L. DAY,
Home Secretary

REPORT OF THE FOREIGN SECRETARY

I have the honor to report on the work of the foreign secretary for the year ending April 19, 1916.

An attempt has been made, through correspondence with various academies and societies belonging to the International Association of Academies, to secure a partial continuance of some portions of the association's work through the period of the war. Although international meetings are obviously not feasible, it was hoped that a temporary transfer of the functions of leading academy from Berlin to Amsterdam, as suggested by the former body, might serve a useful purpose. Unfortunately, however, certain difficulties of an insuperable nature prevented the proposed transfer, and no further steps can be taken at present.

It was suggested to the Amsterdam Academy by the foreign secretary, also acting in the capacity of secretary of a joint committee of the National Academy and the American Association, that the Accademia dei Lincei be requested to use its good offices to secure the continuation of the work of the Zoological Station at Naples. A favorable reply was received from the president of the Lincei, but the participation of Italy in the war has prevented Dr. Dohrn from retaining the direction of the station, which is now under an Italian administration.

At the request of the president of the Amsterdam Academy, who is also permanent secretary of the International Geodetic Association, the Secretary of State was asked by the academy to use his influence to secure the continued participation of the United States in the work of the association, and the maintenance of the international latitude station at Ukiah, California. Through the action of the Secretary of State, and the interest of members of Congress, the necessary appropriations have been provided.

GEORGE E. HALE,
Foreign Secretary

The following reports from the directors of the trust funds of the academy were presented and the recommendations contained therein adopted.

REPORT OF THE DIRECTORS OF THE BACHE FUND

Mr. Ira Remsen resigned as director of the fund at the annual meeting, 1915. The two remaining members of the committee chose Mr. Arthur G. Webster as the third member, and later the undersigned was elected chairman. Since the annual meeting the following appropriations have been made:

No. 187 to H. H. Lane, State University of Oklahoma, $500, for the purchase of apparatus to be used in a comparative study of the embryos and young of various mammals in order to determine, by physiological experimentation and morphological observations, the correlation between structure and function in the development of the special senses.

No. 188 to H. W. Norris, Grinnell College, $100, for assistance in the analysis of the cranial nerves of Cœcilians (*Herpele* and *Dermophis*).

No. 189 to E. J. Werber, Woods Hole, $230, for assistance in experimental studies aiming at the control of defective and monstrous development: (1) the effect of toxic products of metabolism on the developing teleost egg; (2) the effect of experimentally produced diseases of parental metabolism on the offspring of mammals.

No. 190 to H. S. Jennings, Johns Hopkins University, $200, for assistance in the study of evolution in a unicellular animal multiplying by fission: heredity, variation, racial differentiation in *Difflugia*.

No. 191 to P. W. Bridgman, Harvard University, $500, for mechanical assistance in an investigation of various effects of high hydrostatic pressure, in particular the effect of pressure on electrical resistance of metals (continuation).

No. 192 to J. P. Iddings, Washington, D. C., $1,000, for apparatus and assistance in the microscopical and chemical investigation of igneous rocks for the purpose of extending knowledge regarding petrographical provinces and their bearings on the problem of isostasy.

No. 193 to C. A. Kofoid, University of California, $500, for assistance in securing animals in the Indian jungle and in their preparation for study in research on the intestinal protozoa.

No. 194 to R. A. Daly, Harvard University, $1,000, for the purchase of a thermograph of new design for determining temperatures in the deep sea.

No. 195 to R. W. Hegner, University of Michigan, $160, for assistance in the study of the history of the germ-cells, especially in hermaphrodite animals in order to determine the visible changes that take place in their differentiation and the causes of these changes (continuation).

The following information has been received concerning earlier grants:

No. 183. A report has been received from C. G. Abbot, describing the successful operation of the apparatus constructed with this grant. This closes the record of this award.

No. 184. Papers have been published by P. W. Bridgman on work done with the aid of this grant as follows: "Change of Phase under Pressure," *Physical Review*, N. S., VI., July and August, 1915. "Polymorphic Transformation of Solids Under Pressure," *Proceedings of the American Academy of Arts and Sciences*, II., September, 1915. This closes the record of this award.

The treasurer of the academy states, under date of April 7, 1916, that the Bache Fund has on hand a cash income balance of $980.62, together with an invested income of $2,575.

Respectfully submitted,

EDWIN B. FROST,
Chairman

REPORT OF THE COMMITTEE ON THE HENRY DRAPER FUND

Four members of the committee, without consulting the fifth member (Professor Michelson), recommended that the Henry Draper Gold Medal be awarded to Professor A. A. Michelson, of the University of Chicago, for his numerous and important contributions to spectroscopy and astronomical physics.

It is impossible in the brief space of this report even to enumerate Professor Michelson's major services to science. These include the precise determination of the velocity of light; the well-known experiment (with Professor Morley) on ether drift; the measurement of the absolute wavelength of light involved in his determination of the length of the standard meter; the measurement of tides in the body of the earth with new apparatus of extraordinary precision; and the invention of the interferometer, the echelon, and other instruments of prime importance to the student of light. He has also constructed a ruling machine yielding diffraction gratings of the longest size and the highest resolving power yet attained, and carried on a multiplicity of researches of wide range and fundamental significance.

The committee also recommends that a grant of $250 be made to Professor Philip Fox, director of the Dearborn Observatory, of Northwestern University, Evanston, Illinois, to apply toward the cost of a machine for measuring astronomical photographs.

Regarding previous grants from the Draper Fund, the committee begs to report that the grant to Dr. C. G. Abbot has been expended for computer's services in an investigation which has established the variability of distribution of radiation along the sun's diameter. Grants to Messrs. Campbell, Mitchell, Stebbins and Schlesinger, respectively, for the construction of instruments or the prosecution of researches not yet completed.

GEORGE E. HALE,
Chairman

REPORT OF THE TRUSTEES OF THE WATSON FUND

The balance of the income of the Watson Fund, available for appropriation, on April 1, 1916, was $1,070.15. The undersigned accordingly recommend the following votes:

Resolved, That the sum of five hundred dollars from the income of the Watson Fund be appropriated to Professor John A. Miller, director of the Sproul Observatory, for measuring plates already taken for the determination of stellar parallaxes. (Grant No. 10.) This is a continuation of Grant No. 10 awarded last year. A report of the work accomplished is enclosed.

Resolved, That the sum of three hundred dollars from the income of the Watson Fund be appropriated to Professor Herbert C. Wilson, director of the Goodsell Observatory, for measurements of the positions of asteroids on photographs already taken. (Grant No. 12.)

In each of these cases, material has already been collected whose preparation independently would involve a large expenditure. A relatively small sum will thus complete the work and secure the results for which the investigations were undertaken.

EDWARD C. PICKERING,
W. L. ELKIN,
EDWIN B. FROST

REPORT OF THE COMMITTEE ON THE J. LAWRENCE SMITH FUND

The Committee on the J. Lawrence Smith Fund reports as follows:

No. 3. Edmund Otis Hovey, curator in the department of geology and invertebrate paleontology in the American Museum of Natural History, New York, received in 1909 a grant of $400 to aid in the study of certain meteors. He has for some time been with an expedition to the Arctic regions, so that the work is not at the moment making progress.

No. 4. C. C. Trowbridge, professor of physics in Columbia University, New York, received in 1909 a grant of $400 in aid of his studies of the luminous trains which are produced by some meteors. A further grant of $1,000 in four annual installments was voted by the Academy in 1912. Good progress has been made in the tabulation of all existing records of such luminous trains and in the preparation of illustrations of them, as well as in other directions. Owing to conditions in Europe the last installment of $250, available a year ago, has not yet been called for.

No. 5. George P. Merrill, head curator in the department of geology in the United States National Museum, has received grants in 1910, 1911 and 1913, amounting to $800, to aid in verifying the occurrence in some meteors of certain rare elements. This work has been very successfully completed, abstracts of results obtained have been presented to the academy, and the final report forms pages 1–26 of the *Memoirs* of the academy, Vol. 14, just issuing from the press, and closing the record of this grant.

No. 6. S. A. Mitchell, professor in the University of Virginia, University, Va., received in 1915 a grant of $500 to aid in securing observations of paths and of radiants of meteors and in computing orbits where observations are sufficient. Maps in aid of such observations have been placed at the service of volunteer observers, and nearly 5,000 observations of meteor paths have been secured. These observations, as well as a good number otherwise secured, have been discussed and have yielded some parabolic orbits.

The committee is unanimous in recommending that a further grant of $300 be made to carry on this valuable work.

The Lawrence Smith Fund now has a cash balance of income of $834.77 of which $250 is already appropriated, though not yet paid over. The cash income balance available is therefore $784.77. There is also an invested income balance of $1,532.50.

For the Committee,
EDWARD W. MORLEY,
Chairman

REPORT OF THE COMMITTEE ON THE COMSTOCK FUND

The committee on the Comstock Fund begs to report that, according to the statement of the treasurer of the National Academy of Sciences, the total income from the fund now available is $1,661.32.

The next award will be made at the end of the five-year period specified in the bequest, *i. e.*, at the annual meeting in April, 1918.

EDW. L. NICHOLS,
Chairman

April 18, 1916

REPORT OF THE DIRECTORS OF THE WOLCOTT GIBBS FUND

The directors of the Wolcott Gibbs Fund for Chemical Research respectfully submit the following report for the year 1915 to 1916 to the National Academy of Sciences.

On April 29, 1915, President Ira Remsen resigned from the board, to the great regret of his colleagues.

On May 18 Professor T. W. Richards was elected to fill the vacancy caused by President Remsen's withdrawal.

Only one appropriation has been made from the income of the fund this year—a grant (No. 6) to Professor Gregory P. Baxter, of Cambridge, of $300 to provide apparatus especially of platinum and quartz and materials for his researches on atomic weights and changes of volume during solution.

The unexpended income of the fund is $90.77.

Satisfactory reports have been received from holders of previous grants.

Grants 2 and 5. Professor Mary E. Holmes has a paper in press on "The Electro-Deposition of Copper from the Ammoniacal Cyanide Electrotype." Progress has also been made in the study of the deposition of cadmium and its separation from other elements.

Grant 3. Professor W. J. Hale has finished his work on the cyclopentadiopyridazine except for a few less important details. He hopes in June to have the paper ready for publication.

Grant 4. Professor W. D. Harkins has determined the freezing-point lowerings for thirteen salts in aqueous solutions, nine of which are cobaltammines; and has begun the study of mixtures of salts.

(Signed) C. L. JACKSON,
EDGAR F. SMITH,
T. W. RICHARDS,
Directors

April 6, 1916

REPORT OF THE COMMITTEE ON THE MURRAY FUND

SECRETARY, NATIONAL ACADEMY OF SCIENCES.

Sir: The Committee on the Sir John Murray Fund has to report that the unusual expenses due to the designing and striking off of the Agassiz medal, as called for by the terms of the gift, has required all the early income. The Committee deemed best not to touch the original fund, and the income from the fund was not sufficient to meet these expenses. All these expenses have now been met, but there is no cash balance and no invested income. This income has been applied to the payment of the amount advanced from the General Fund, but from now on the interest from the fund will be applied as originally intended, for the striking off of the Agassiz medal and contributions to oceanography.

ARNOLD HAGUE,
Chairman

REPORT OF THE COMMITTEE ON THE BILL, H. R. 528, TO DISCONTINUE THE USE OF THE FAHRENHEIT THERMOMETER SCALE IN GOVERNMENT PUBLICATIONS

Your committee for the consideration of Bill H. R. 528, consisting of Messrs. C. G. Abbot, S. W.

Stratton and C. F. Marvin, unanimously reports the following resolution, and moves its adoption.

The National Academy of Sciences shares the desire of scientific men in general for international and world-wide uniformity in units of measurement of all kinds, and with this object in view it favors the introduction of the Centigrade scale of temperature, and units of the metric system generally, as standards in the publications of the United States government.

It must be recognized that considerable initial expense must be incurred by the U. S. Weather Bureau in changing its apparatus to conform to the proposed act. Furthermore, on account of the more open scale of the Centigrade system that Bureau will be subject to a continued cost of publication, owing to the necessity of printing the first decimal place in order to maintain the present accuracy. The use of negative temperatures and minus signs entails greater liability to errors, and more clerical labor would be required in checking the accuracy of the reports of cooperative observers of the Weather Bureau, and in computing monthly and other mean temperatures.

Notwithstanding the foregoing, the Academy is in favor of legislation to make the Centigrade scale of temperatures the standard in publications of the United States government, and funds should be made available by Congress to accomplish the desired result.

The Academy favors Bill H. R. 528, "To discontinue the use of the Fahrenheit thermometer scale in government publications," but recommends that it be amended by the addition of the following:

Sec. 4. When in the publication of tables containing several meteorological and climatic elements, the use of data in Centigrade temperatures leads to manifest incongruities, the chief of the Weather Bureau is directed to publish related data in such units as are necessary to make the tables homogeneous and to secure international uniformity as far as practicable.

Sec. 5. Nothing in this act shall prevent the use of the absolute Centigrade scale of temperature in publications of the government.

Upon recommendation of the Council the following minute was adopted:

That in accordance with the request of the chairman of the Committee on Foreign Affairs of the House of Representatives a committee of the Academy be appointed to prepare a report upon the joint resolution (H. J. Res. 99), "That the President be, and he is hereby, requested to ascertain the views of foreign governments regarding the proposition to appoint an international commission to prepare a universal alphabet," and that the report be submitted to the president of the academy, who in turn will transmit it to the chairman of the Committee on Foreign Affairs of the House of Representatives, reporting his action in the matter at the next annual meeting of the Academy.

Messrs. Cattell, Bell, Boas, Dewey and Lindgren were appointed members of this committee.

The council also recommended to the academy the appointment of a committee to discuss possible plans of cooperation with a committee of engineers. The following committee was appointed: George E. Hale, chairman, J. S. Ames, John F. Hayford, E. L. Nichols, M. I. Pupin, E. B. Rosa, Elihu Thomson, C. R. Van Hise, C. D. Walcott, R. S. Woodward.

The president announced that an invitation had been received from the members of the Academy living in Boston that the Academy hold its autumn meeting in the year 1916 in that city. The following members were appointed to serve as a local committee of this meeting: William M. Davis, chairman, W. T. Councilman, Arthur A. Noyes, George H. Parker, E. C. Pickering.

Mr. George E. Hale was reelected foreign secretary of the academy for a term of six years.

Mr. R. H. Chittenden and Mr. M. I. Pupin were elected members of the council for a term of three years.

New members of the academy were elected as follows:

Gilbert Ames Bliss, University of Chicago, Chicago, Illinois.

Frank Schlesinger, University of Pittsburgh, Pittsburgh, Pa.

Gregory Paul Baxter, Harvard University, Cambridge, Mass.

Marston Taylor Bogert, Columbia University, New York City.

Leland Ossian Howard, U. S. Department of Agriculture, Washington, D. C.

Alfred Goldsborough Mayer, Carnegie Institution, Tortugas, Florida.

Raymond Pearl, Maine Agricultural Experiment Station, Orono, Maine.

Phoebus Aaron Theodor Levene, Rockefeller Institute for Medical Research, New York City.

Otto Folin, Harvard Medical School, Boston, Mass.

Arthur L. Day,
Home Secretary