The figures given under Th D are based upon the amount of radiothorium which accumulates in mesothorium, and it is this product which also measures the alpha-ray activity of mesothorium. It is evident from the figures given under Th D that the alpha-ray activity of pure mesothorium reaches a maximum between the fourth and fifth year after its preparation and, further, that it is less than 50 per cent. "aged" one year after preparation. In spite of the fact that commercial mesothorium owes a proportion—probably 20 per cent.—of its activity to the presence of radium, it follows that it would be uneconomical to use mesothorium in luminous compound until it had aged for a year or two. It seems evident that the small supply available, the varying activity and the necessity for prolonged aging of mesothorium are some of the reasons that make this material less desirable than radium, both for medical purposes and in luminous compound, especially with an assured supply of radium wholly adequate for both requirements.

Charles H. Viol

Pittsburgh, Pa.

STATISTICAL STUDY OF THE INFLUENZA EPIDEMIC

The American Public Health Association, Vital Statistics Section, appointed a Committee on Statistical Study of the Influenza Epidemic on November 20, 1918. Under the auspices of this committee, a meeting of the state and municipal registrars in the eastern states was held at the University of Pennsylvania, Hygiene Laboratory, Philadelphia, Pa., on November 29 and 30, 1918. There were present, also, at this initial conference, several private statisticians interested in the public health statistics of the epidemic and the results to be derived from study of such data. A series of suggestions was made up, mimeographed and sent to statistical and public health workers for criticism. At the meeting of the Vital Statistics Section in Chicago on December 11, the committee submitted a report on its activities and asked for authority to continue further inquiry into a program of statistical study of the epidemic. The section authorized the continuance of the committee and provided that representatives of the United States Bureau of the Census, of the United States Army and Navy, of the United States Public Health Service, of the state and municipal health boards, and the various statistical, sociological, actuarial and economic associations be represented thereon. The committee was specifically authorized to act in an advisory capacity first, to outline the various sources of data, the minimum standards of tabular and registration practises to be observed by the several organizations providing data, and second, to bring in recommendations on the pathometric or mathematical analysis of published epidemic data. The committee was divided into four subcommittees as follows:

Subcommittee A: *Registration and Tabulation Practise of the Federal Departments.* (Wm. H. Davis, M.D., chief statistician, Division of Vital Statistics, Bureau of the Census, *Chairman;* Richard C. Lappin, *Recorder.*)

Subcommittee B: *Registration and Tabulation Practise of the State Departments and Commissions.* (Otto R. Eichel, M.D., director, Division of Vital Statistics, New York State Department of Health, Albany, *Chairman;* Edwin W. Kopf, *Recorder.*)

Subcommittee C: *Registration and Tabulation Practise of Municipal Boards of Health and of Private Public Health Agencies.* Chas. Scott Miller, M.D., Philadelphia Department of Health, Philadelphia, Pa., *Chairman.*)

Subcommittee D: *Pathometry* (mathematical analysis and interpretation) *of the Epidemic.* (Charles C. Grove, Ph.D., Columbia University, *Chairman;* Arne Fisher, F.S.S., *Recorder.*)

Mr. E. W. Kopf was delegated to act as chairman of the General Committee and to coordinate the work of the several subcommittees. The General Committee of the Vital Statistics Section was authorized to cooperate in statistical matters with the Influenza Reference Committee of the entire association.[1]

[1] See "Influenza Bulletin." *American Public Health Association,* Boston, December 13, 1918.

Federal Statistics of the Epidemic.—At the Washington meeting of Subcommittee A, the following subjects were taken up:

Estimates of population.

Obtaining estimates of Army and Navy populations by five-year age periods, through random sampling if necessary, but by direct tabulation of army and navy enlistment records if possible.

Causes of death reported during the epidemic were to be classified in accordance with the Manual of the International List of Causes of Death and the Index of Joint Causes as published by the Bureau of the Census.

Infant mortality was to be studied in such manner as to show what part of this mortality was probably due to birth mortality arising out of influenzal illness of the mother and to the factor of neglect.

Norms of mortality during September, October and November were also considered.

It was also indicated that it was unwise to draw any conclusions from statistics of variations in bacterial flora at various stages in the epidemic or in different localities unless it was shown that all laboratory conditions had been properly controlled. The Army was requested to supply statistics as to influenzal sickness classified by five-year age periods, by date of onset, by duration of illness in days, by principal complications, showing fatality or lethal rates per one hundred completed cases.

State Statistics of the Epidemic.—Subcommittee B considered the more intimate statistics of the epidemic in the states. The subcommittee pointed out that in certain cities and for certain states valuable data were available in the back files which would lead to the determination of the norm of mortality during the fall and winter months of the year. The social statistics of the epidemic were emphasized. It was urged that statistics of the effect of the epidemic upon the family should be collected. State and municipal governments were urged to make preparations necessary for the proper statistical study of the epidemic data.

Municipal Statistics of the Epidemic.—The subcommittee on municipal statistics discussed chiefly the available data in the files of maternity clinics and visiting nursing associations. It was indicated that thorough study of these records would bring out some of the important facts on the obstetrical data of the epidemic.

Mathematical or Pathometric Study of the Epidemic.—The Subcommittee on Pathometry has outlined for itself the problems of mathematically testing and graduating the crude compiled data for norms of infant and adult mortality. The subcommittee has in mind the frequency curves of mortality from the several important causes of death during the fall and winter months of the year, especially the curves for infant mortality considered as (*a*) "birth mortality" and (*b*) "true infantile mortality." By means of modern analytic methods it was aimed to determine the true "excess mortality" during the epidemic. It was planned also to fit various curves to the observed epidemic data, to compute the equations and the constants of the distributions in the several areas under observation (mean, mode, dispersion, skewness, "excess").

The Subcommittee on Pathometry also anticipated that it could determine by delicate mathematical tests the *probable* date of the beginning, "peak" and ending of the several waves or phases of the epidemic in the various communities, and possibly, the approximate differential equations representing the several recurrences or recrudescences of the epidemic could be established.

International Statistics of the Epidemic.—On January 18, 1918 the Executive Board of the Association directed the chairman of the committee on Influenza Epidemic Statistics to initiate correspondence with sanitary institutes and public health associations abroad, with a view toward drafting a program of international study of the epidemic data. The cooperation of the International Statistical Institute will be solicited.

Methods of Influenza Study Applied in Preventive Medicine Generally.—The methods of higher analysis applied to the influenza epidemic data can be of service to preventive medicine in the study of other diseases. The

profession of statistics is confronted with an opportunity for unparalleled service to the medical sciences, among them preventive medicine.

Edwin W. Kopf,
General Chairman
Committee on Statistical Study of the Influenza Epidemic,
Section on Vital Statistics,
American Public Health Assn.
One Madison Avenue,
N. Y. City

SCIENTIFIC EVENTS

GEORGE FRANCIS ATKINSON

The faculty of Cornell University has passed the following resolutions on the death of Professor Atkinson:

The University Faculty desires to express its profound sorrow and its sense of great loss through the death, on November 14, of George Francis Atkinson.

Since his return to his alma mater in 1892, he has been a member of this faculty. In 1896 he was appointed professor of botany. During this period of more than a quarter of a century, which was devoted unceasingly and enthusiastically to research, he became an active working member of numerous scientific societies, and attained an eminent position among the botanists of the world. In mycology, particularly, he had an international reputation and he was regarded as the foremost authority on the fleshy fungi of this country. In June, 1917, the board of trustees generously relieved him of all further teaching and administrative duties in order that he might devote his time entirely to his researches in this field. His exceptional ability and high place among American men of science was formally recognized by his election to the National Academy of Sciences, in April, 1918. To his services as a teacher in that higher sense of the word which implies ability to impart enthusiasm and love for research, the success of the large number of botanists throughout the country who have been his pupils bears glowing testimony.

His end came suddenly as the result of influenza followed by pneumonia, incurred during a collecting trip on the Pacific coast in pursuance of the great monographic study of fleshy fungi upon which he had been engaged for many years, and which was nearing completion. In the death of Professor Atkinson not this faculty alone but the whole community of working men of science have lost a gifted colleague; a man of genius who contributed much to the world's knowledge of botany. His work lives after him, not only in his writings but in the inspiration imparted to a younger generation of investigators in the field in which he was an honored master.

MEDICAL RESEARCH IN AUSTRALIA

The *Journal of the American Medical Association* states that the Walter and Eliza Hall Institute of Research in Pathology and Medicine has been established in Melbourne in connection with the Melbourne Hospital, through the generosity of the trustees of the Walter and Eliza Hall Fund. The institute is controlled by a board representing the trustees, the University of Melbourne and the Melbourne Hospital. A spacious building, including a basement and three stories, has been erected at a cost of over $60,000 in immediate connection with the pathologic department of the hospital. The hospital itself has recently been entirely rebuilt and now contains 350 beds. Applications for the offices of director and of first assistant of the institute are being invited through the agent-general for Victoria, Melbourne Place, Strand, London, from whom full information may be obtained. The director has the management of the institution; devotes his whole time to this work, is responsible for keeping research as the primary object of the institution, will give all assistance to the medical staff and other officers of the Melbourne Hospital in postmortem work and clinical pathology, will make arrangements for clinical instruction and laboratory instruction to medical students in postgraduate work, and provide or maintain the comforts of patients or others residing in, or who use the hospital. His term of service is five years and he is eligible for reappointment. His salary is $5,000 a year, and in addition, the board will procure an endowment insurance on the director's life, to be payable at the age of sixty or predecease, the annual premium for this insurance being $375. If the director comes from America, $625 will be allowed for travel expenses. Ap-