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KENNETH FULLER MAXCY

1889—1966

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*A Biographical Memoir by*  
W. BARRY WOOD, JR. AND MARY LEE WOOD

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# KENNETH FULLER MAXCY

*July 27, 1889–December 12, 1966*

BY W. BARRY WOOD, JR. AND  
MARY LEE WOOD

THE PROFESSIONAL LIFE of Kenneth Fuller Maxcy was marked by a singleness of purpose in his chosen field. He was an epidemiologist at heart from the time of his graduation from medical school; and many years before his death (December 12, 1966) he became generally recognized as one of the leading epidemiologists of his time.

He was born in Saco, Maine, on July 27, 1889, to Estelle Abbey Gilpatric and Frederic Edward Maxcy, a physician, who moved his family a year later to Washington, D.C., to establish a general practice.

During his years at Washington's Central High School, Kenneth Maxcy was an ardent athlete and a fine scholar, although he showed no special predilection for scientific studies at that time. He graduated from George Washington University with honors in 1911, having been three times elected president of his class.

While in college he took a premedical course, continued his interest in football and track (he is reported to have once run a dead heat in a mile race), and spent his summers on expeditions to the western part of the country with surveying teams from the Forest and Indian Services. During these months he delighted in mountain climbing, camping, and sur-

veying as an employee of the federal government, and the knowledge he gained of the great variety of terrain and wild life of his own country later proved invaluable to him as an epidemiologist.

As was often the case with doctors those days, Dr. Frederic Maxcy's office was under the same roof as the home; his children were familiar with the comings and goings of patients, and often accompanied him as he drove out to make house calls. Since the age of fifteen or so, Kenneth had helped his father in many ways, and upon finishing college it was a natural decision for him to enter medical school at the Johns Hopkins University in nearby Baltimore, where he received his M.D. degree in 1915.

A year's medical internship and an assistant residency in pediatrics at the Johns Hopkins Hospital were followed by an appointment in medicine at the Henry Ford Hospital in Detroit. During the pediatric residency, he had met Gertrude McClellan, R.N., who had come to Baltimore to teach pediatric nursing at the Harriet Lane Home, the children's service of the Johns Hopkins Hospital. In 1918 they were married.

With the entrance of the United States into World War I, Dr. Maxcy joined the Army Medical Corps and served for two years as a captain. One of his assignments was with a special unit to relieve the medical staff in camps where contagious disease was unusually prevalent. This may have stimulated his interest in epidemiology; or perhaps it was his subsequent assignment to the laboratory service and his encounter with the influenza pandemic. At the war's end he enrolled in the newly established School of Hygiene and Public Health at Johns Hopkins, and received his doctorate of public health in 1921. Before graduation, he was awarded a Rockefeller Foundation fellowship, which enabled him to go to Topeka to organize the Public Health Laboratory for the State of Kansas.

With an excellent background of both medical and public

health training, Dr. Maxcy now entered the U.S. Public Health Service, where he remained for eight years, attaining the rank of Surgeon. He was first sent to the South to study the distribution and public health aspects of malaria. This field study resulted in a series of important scientific papers on the diagnosis and treatment of the disease.

While engaged in the malaria work, Dr. Maxcy first became interested in rickettsial infections. He made a careful clinical, laboratory, and epidemiological investigation of the 197 cases of typhus fever reported over several years in two communities in the southeastern United States, and concluded that a mild form of the disease, indistinguishable from Brill's disease but distinct from classical louse-borne typhus, was endemic in the area. His chief contribution to the discovery of "endemic typhus" was his bold postulation that the natural reservoir of the disease is in wild rodents and that man becomes incidentally infected from their insect parasites. At the time it was assumed that typhus was always transmitted from man to man by body lice, as had been clearly established in the case of European typhus. He was subsequently assigned to the Hygienic Laboratory in Washington (forerunner of the National Institutes of Health) where he initiated laboratory studies in furtherance of this hypothesis. He showed that the reaction of the guinea pig to inoculation of blood from endemic typhus patients was like that to Mexican typhus and different from Old World typhus. His remarkable epidemiological inferences were fully confirmed in 1931 by Dyer, Rumreich, and Badger, who isolated rickettsiae from rat fleas in Baltimore, and by Mooser, Castaneda, and Zinsser, who demonstrated them in the brains of rats trapped in Mexico City.

Many years later (1943) as a member of the United States Army's Typhus Commission in World War II, Dr. Maxcy collaborated in the direction of another rickettsial field study of "scrub typhus" (tsutsugamushi disease) in New Guinea. These

investigations were reported in a monograph which he published with Dr. Francis G. Blake, and which won for them the Typhus Commission Medal in 1945.

In 1929, at the urging of his old friend and former teacher, Dr. Wade Hampton Frost, Dr. Maxcy left the Public Health Service to become Professor of Bacteriology and Preventive Medicine at the University of Virginia, where he stayed for seven years. The investigations of endemic typhus continued, and papers were contributed also on undulant fever and on a serological survey for syphilis. Always, Dr. Maxcy reported promptly and accurately on the results of his studies, and was most generous in the sharing of his time and his ideas with students and colleagues.

In 1936 the University of Minnesota invited Dr. Maxcy to become Professor of Public Health and Preventive Medicine and to organize its new School of Public Health. His work in this position was cut short after one year, however, by his recall to his alma mater, Johns Hopkins, to teach bacteriology. In 1938 he became Professor of Epidemiology, and remained in this post until his retirement in 1954, when he became Professor Emeritus.

At the annual meeting of the American Public Health Association in 1952, the William T. Sedgwick Memorial Medal was awarded to Dr. Maxcy. In making the presentation, Dr. Karl F. Meyer said in part:

“Under his guidance, teaching and research in epidemiology has, through the years, undergone a subtle transition. From a descriptive science overshadowed by an anthropocentric point of view it has become a biologic science, under the impact of teachings of Theobald Smith, whom the Association honored with the Sedgwick Award in 1930. This reorientation is fully documented in the masterful chapters on epidemiology that Dr. Maxcy has presented in some of the recently published textbooks on preventive medicine and medical microbiology.

These basic principles might have remained written documents had not his ability created interest among his students and stimulated them to analyze problems and to use their biologic information in reaching an explanation of the ecologic phenomena at hand. This major and real contribution rests on the friendly and remarkably tolerant, but critical, fashion in which he incited the thoughts of others. In consequence, he has sent scores of inquisitive young men and women from his classes eager to emulate his example of clear thinking before acting. . . . To find the qualities of the competent scientific investigator so well combined with the qualities of the teacher who understands learning is not common."

Dr. Maxcy's experienced advice was continually sought by organizations concerned with epidemiological problems. He served as a Scientific Director of the International Health Division of the Rockefeller Foundation for many years, and was a valued adviser of the American Red Cross. For more than fifteen years he was a member of the Armed Forces Epidemiological Board and the Research and Development Board of the National Military Establishment. Perhaps most significant of all, his department of epidemiology in the Johns Hopkins University School of Hygiene and Public Health was selected by the National Foundation for Infantile Paralysis for the establishment of a poliomyelitis laboratory. Here he organized and directed investigations which led to a better understanding and eventual control of this dreaded infection. In the 1940s he published reviews of the epidemiology of poliomyelitis in which he stressed the evidence that effective transmission was directly from person to person and not by such routes as water, sewage, or flies as was commonly thought.

Dr. Maxcy served as chairman of the Committee on Research and Standards for the American Public Health Association from 1939 to 1946, and was a member of the Governing Council. When he shouldered the task of editing a new edition

of Rosenau's book, *Preventive Medicine and Hygiene*, in 1949, the latest (sixth) edition was fifteen years old. Revisions and additions had to be extensive and many months of painstaking labor went into the preparation of the seventh and eighth editions of the book. He was associated with two medical journals: in the 1930s with the *American Journal of Medical Sciences*, as editor of the section on hygiene and public health, to which he contributed several review papers; and the *American Journal of Hygiene*, as chairman of the editorial board. Upon his retirement a volume of the latter journal was dedicated to him and later one of his early typhus papers was reprinted by this journal.

He had an interest, stemming probably from World War I, in meningococcus infections. In his departmental laboratories Phair and Schoenbach did a series of studies on this problem as encountered in World War II. Typhoid, shigellosis, and diphtheria were among the other problems on which he and his students published useful work. He was chairman of a committee of the National Academy of Sciences which reviewed the issue of water fluoridation for preventing dental caries and recommended its further adoption.

Dr. Maxcy met the difficulties of debilitating Parkinson's disease during the last years of his life with a cheerful and remarkable fortitude, sustained by his devoted wife and the affectionate concern of many of his colleagues and former students. He is survived by his wife and their three children, Kenneth Fuller Maxcy, Jr., of Pittsburgh, Frederic Reynolds Maxcy of Ellicott City, and Selina Maxcy Wolf of Baltimore.

Despite his many accomplishments in public service, teaching, and research, Dr. Maxcy will undoubtedly go down in medical history as the "discoverer" of murine (flea-borne) typhus. Indeed, his epidemiological predictions regarding this disease were, in many ways, just as remarkable as the classic studies of John Snow on cholera and the Broad Street pump.



## HONORS AND DISTINCTIONS

## SPECIAL POSITIONS

- Scientific Director, International Health Division, Rockefeller Institute, 1937-1940, 1942-1945, 1948-1951  
 Board of Trustees of International Polio Congress, 1951  
 Consultant to Secretary of War, Army Epidemiological Board, 1941-1945  
 Member, National Advisory Health Council, 1942-1946  
 Consultant, Research and Development Board of National Military Establishment, 1946-1957  
 Member, Executive Committee, Advisory Board on Health Services, American Red Cross, 1945-1948  
 Member, Medical Advisory Committee, National Foundation for Infantile Paralysis, 1940-1948  
 Chairman, Committee on Research and Standards, American Public Health Association, 1939-1946  
 Editorial Board, *American Journal of Hygiene*  
 WHO Advisory Panel on Environmental Medicine and Sanitation, 1951

## HONORS

- Phi Beta Kappa  
 Alpha Omega Alpha  
 Delta Omega  
 Sigma Xi  
 Sedgwick Award of American Public Health Association, 1952  
 National Academy of Sciences, 1952

## SOCIETIES

- Fellow of American Public Health Association  
 Fellow of American Association for Advancement of Science  
 Association of American Physicians  
 American Society of Epidemiologists  
 Fellow of Royal Medical Society of London

BIOGRAPHICAL MEMOIRS  
BIBLIOGRAPHY

KEY TO ABBREVIATIONS

- Am. J. Hyg. = American Journal of Hygiene  
 Am. J. Med. Sci. = American Journal of the Medical Sciences  
 Am. J. Public Health = American Journal of Public Health  
 J. Am. Med. Assoc. = Journal of the American Medical Association  
 J. Am. Water Works Assoc. = Journal of the American Water Works Association  
 J. Infect. Diseases = Journal of Infectious Diseases  
 Public Health Rept. = Public Health Reports  
 Southern Med. J. = Southern Medical Journal

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1918

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1919

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1921

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1922

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1923

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## 1924

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## 1925

With Charles G. Sinclair. Mild typhus (Brill's disease) in the lower Rio Grande Valley. *Public Health Rept.*, 40:241-48.

With W. G. Smillie and W. A. Plecker. Malaria statistics. *Southern Med. J.*, 18:449-52.

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## 1926

With C. N. Leach. The relative incidence of typhoid fever in cities, towns and country districts of a southern state. *Public Health Rept.*, 41:705-10.

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## 1927

With M. A. Barber and W. H. W. Komp. On the significance of spleens palpable on deep inspiration in the measurement of malaria. *Public Health Rept.*, 42:3010-21.

## 1928

Limitations to the use of quinine intravenously in the treatment of malaria. *J. Am. Med. Assoc.*, 91:1372-75.

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