In the Interest of Truth:

The Life and Science of Surgeon General George Miller Sternberg

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For

My wife, Carolyn and

friends, mentors, and colleagues,

Robert J. T. Joy and Dale C. Smith

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Foreword

I am delighted that Dr. Stephen Craig authored this biography of George Miller Sternberg and chose to culminate his labors by permitting the Borden Institute of the Office of The Army Surgeon General to publish this exhaustive work. The words and deeds of George Miller Sternberg are a powerful historical example of Army Medical Department (AMEDD) strategic leadership and provide an exceptional study for contemporary and future military medical leaders.

As an Army War College student seeking lessons on strategic leadership from among the pantheon of past senior military and civilian scientists, clinicians, and educators, Robert Joy, then Chairman of Medical History at the Uniformed Services University of the Health Sciences (USUHS), guided me to Sternberg. I was not disappointed by what I learned of this remarkable man and his work. Even stripped of the myth and hagiography that characterizes much of what is written about Sternberg and his feats, one is left with an appreciation for his accomplishments during a period of both conventional (American Civil and Spanish-American) and irregular (Indian) warfare, coupled with astonishing advances in science and medicine. A century before human immunodeficiency virus (HIV) disease, pandemic influenza, and emerging infectious diseases spurned by globalization, Sternberg emerged as a national leader in the budding field of bacteriology. He did this while balancing the routine duties of frontier postings and the care of a lean and dispersed Army in the late nineteenth century.

Upon graduating from the War College, I was privileged to serve with then-Colonel Craig and excited to learn of his extended scholarly study of this pivotal leader in Army Medicine. Steve worked tirelessly for almost a decade to find primary sources to definitively examine the life and career of George Miller Sternberg. He probed and dissected the amazing relationship between Sternberg and one of the most iconic figures in Army Medicine and international health: Major Walter Reed.

Serving as The Army Surgeon General during the Spanish-American War, Sternberg faced scandal, censure, and overwhelming challenges in the protection of

soldiers in a rapidly mobilizing nation with a poorly organized logistics system and a rudimentary notion of preventive medicine. In the face of adversity, Sternberg's keen vision and futuristic focus led him to send the Yellow Fever Commission under Reed to Cuba to resolve the question of the transmission of yellow fever. His leadership ultimately led to control of a disease that not only killed millions of people throughout the western hemisphere and Africa for the previous three centuries but also crippled economies and hampered progress on many fronts. Lessons learned from his leadership—together with parallel work in malaria transmission garnered from the work of Sir Ronald Ross in India and applied to the Isthmus of Panama by William Gorgas—ultimately opened the world to the United States. It changed the course of history.

Today's practitioners of military medicine face devastating blast injuries, traumatic brain injuries, and deadly diseases such as HIV and pandemic influenza—all formidable issues—but Sternberg and colleagues tackled problems that decimated civilian and military populations and crippled the economies of entire countries. Dr. Craig's brilliant text documents Sternberg's heroic efforts to promote health and will be an important resource for future generations of leaders.

Lieutenant General Eric B. Schoomaker, M.D., Ph.D.
The Surgeon General and Commanding General
United States Army Medical Command

Preface

THE QUEST FOR GEORGE MILLER STERNBERG

The inspiration for this book has two sources. The first is the old Walter Reed Army Institute of Research (WRAIR). Although bearing Reed's name, it truly is George Sternberg's legacy to Army medicine. The Army Medical School—the first school of public health in the nation—that Sternberg created resided at a number of locations in Washington before moving into building 40 on the Walter Reed campus in 1923. What would become the WRAIR in 1955 required additions and name changes over the years to keep pace with its evolving educational and research functions. For 75 years, building 40 was the home of state-of-the-art military medical research, where military and civilian scientists worked shoulder to shoulder. The names of these men—Vedder, Strong, Craig, Buescher, Hilleman, Artenstein—still echo through the cavernous main hall of the building, their ghosts move silently through the warren of passages and offices on the upper floors, and for many years Brigadier General George Miller Sternberg observed—with an intense steady gaze from his perch above the main entrance—all who entered.

As a resident in preventive medicine working on the second floor, I passed him every morning and began to hear of his accomplishments in my studies. He appeared to be a veritable godfather to military preventive medicine, but literature searches turned up only two biographies, one by Mrs. Sternberg and the other by John M. Gibson, and a few papers, the majority of which recapitulated the same tales rather superficially. The search for Mrs. Sternberg's biography, my second inspiration, began and ended during a Saturday excursion through used bookstores in Georgetown. On the gilt-edged pages of her book from 1920, she inscribed the many accomplishments of a husband, whom she loved and respected, and the memories of a 50-year marriage. But her love, respect, and Victorian upbringing led her to produce a eulogy that described a hero in marble that she had known in the flesh, and only hinted at the depth and breadth of his character and his life. Undoubtedly,

he had desires and passions as well as disappointments to accompany the many and varied achievements of his long and productive life. Each of Mrs. Sternberg's vignettes left me unsatisfied as to who George Sternberg really was, and so the quest for George Miller Sternberg, the man, began.

Finding primary and very useful secondary source material relating to my subject was not difficult—just time-consuming—in that there was so much of it to read and digest. At the time of his death in 1915, Sternberg was a nationally and internationally known and respected soldier, physician, scientist, author, administrator, humanitarian, medical community leader, and civic activist, who was—with the exception of the military—still active in all of these venues. From his reports as an Assistant Surgeon during the Civil War to his last article published posthumously in 1916, he contributed voluminously to the medical and lay press. Written in an era when editorial censorship of content was less stringent, many of these articles contain references to Sternberg's professional and personal feelings as well as collaborators in his research, dates, and places, and therefore were extremely valuable in fleshing out a number of the details of his career. John M. Gibson's book, *Soldier in White* from 1958, is largely a recapitulation of Mrs. Sternberg's biography. However, it is unique, and was valuable in my quest, for two reasons. First, Gibson gave a detailed bibliography of Sternberg's publications, although he did not use many of them in preparing his book. Second, Gibson gained access to a number of letters between General and Mrs. Sternberg. This personal correspondence provided insights into their marriage, some of the more trying episodes in their life, as well as some of Sternberg's elations and frustrations concerning his early work on yellow fever in Cuba. Although these letters have apparently disappeared, I did obtain a copy of a short autobiography written by Sternberg's father, the Reverend Levi Sternberg, and a Sternberg family genealogy through the kindness of Mr. Albert Martin of Decatur, Alabama. Regrettably, Sternberg wrote little about himself, composing only two small autobiographical sketches for the army when he was a junior officer. These and other personal and professional—both medical and military—papers reside in the National Archives and the National Library of Medicine. Out of this not insignificant body of material an image began to emerge. Unshackled from the historical straitjacket of a single, set piece of accomplishments and failures, the image came into sharper focus as a man of humble yet uncommon origins; a man of intelligence, self-discipline, character, and courage; a kind and generous man with human flaws; and a physician, scientist, and soldier whose life was much more remarkable, more compelling, than his earlier biographers suggested.

The son of well-educated Lutheran evangelicals of limited means, Sternberg earned a medical degree from the College of Physicians and Surgeons of New York in 1860, but failed to establish a medical practice on Long Island and took refuge in the Army Medical Department as shells fell on Fort Sumter. By the time Grant and Lee met at Appomattox Court House, he had established a reputation as a competent field surgeon and intrepid soldier. He moved west with the postwar army. At Forts Harker and Riley on the Kansas Plains, Sternberg struggled with cholera, Indian campaigns, and

the monotony of routine sick call and administrative duties. In the large amount of unstructured time left over, Sternberg found an opportunity to satisfy his voracious appetite for scientific literature and inquisitive, experimental nature. Of particular interest was Joseph Lister's work (1867) on the antiseptic treatment of fractures and abscesses, a technique based on Pasteur's nascent airborne germ theory and the germicidal action of carbolic acid dressings. In the laboratory he fashioned in his quarters, Sternberg obtained a microscope and taught himself the fundamentals of microscopy, photomicrography, and the new science that would become bacteriology. He recognized that if Pasteur and Lister were correct then other disease germs and poisons might be found under the microscope and prohibited by disinfection.

Sternberg's desire to pursue experimental medical research as a full-time duty assignment was frustrated by an Army Medical Department with too few physicians and too many posts to support. Over the next 20 years, Sternberg served at army posts from one end of the country to the other. With the exception of the Nez Perce War, in which he revalidated his field medical skills and won a brevet promotion to Lieutenant Colonel for gallantry at the Clearwater Battle, Sternberg pursued medical science relentlessly with a scientific conservatism and always "in the interest of truth."[1] His seminal work in the evaluation of commercial disinfectants; investigations into the etiology, treatment, and immunization techniques of yellow fever, and a variety of other bacterial and parasitic organisms; and his many valuable contributions to the professional literature made him an internationally respected bacteriologist and public health expert. He created and taught some of the first lectures in bacteriology at Johns Hopkins University, became the Director of the Hoagland Laboratory—one of the first bacteriological research laboratories in the country—in Brooklyn, New York, and published the first American textbooks on bacteriology.

In late May 1893, Sternberg's selection as Surgeon General over 10 senior officers was not only an acknowledgment of his outstanding military service but also a sign of the times. The intellectual atmosphere among the captains of industry, politics, medicine, and the military who advocated Sternberg's selection recognized him as the personification of the new medical science and professionalism of the emerging Progressive Era. Sternberg did not disappoint his supporters. In just a little over three weeks from the time he took office, the Army postgraduate medical school was established in the Army Medical Museum and Library in Washington. During his nine-year tenure as Surgeon General, the school became the cornerstone of a larger professionalization and modernization program for the Medical Department. The laboratory mission was expanded, a hospital construction and renovation program was begun, the modern combat medic was created, and a Nurse and Dental Corps were established.

Upon retirement from the Army in 1902, Sternberg continued to be active in medicine—particularly public health education and reform—in Washington, DC. Public health reform with its emphasis on sanitation—air, water, and milk free of contaminating germs, and clean city streets—was a natural ally of the social reform

movement of the era, particularly in the realm of tenement/slum eradication and urban planning. Sternberg brought his organizational, educational, and medical expertise to bear in a number of areas: teaching at George Washington University, working with the National Tuberculosis Association, directing local anti-tuberculosis activities in the nation's capitol, and struggling to eradicate Washington's alley slums.

This book is the story of a remarkable man who strode across a broad stage in both the military and medical professions during an era of tremendous scientific, technological, and social change. His contributions to both professions were significant, enduring, and all in the interest of truth.

I am indebted to a large number of individuals for their assistance in the production of this book. Special thanks go to Robert J. T. Joy, Colonel, Medical Corps, USA (Ret.), Professor Emeritus, and Dale C. Smith, Ph.D., Professor and Chair, Medical History, Uniformed Services University. We spent many profitable and enjoyable hours discussing 19th and early 20th century military medicine and medical history. Their enthusiasm for the project, encouragement, and mentoring as I proceeded, as well as the critical review of the manuscript, were invaluable.

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[1]GMS, Letter to the Editor, *New Orleans Medical & Surgical Journal* 8 (November 1880):484, and Letter to the Editor, *Medical News* 41 (1882):332.