Special Article—Joseph Jones (1833-1896)

Stanhope Bayne-Jones, M. D.

Dr. Bayne-Jones has kindly given permission to print portions of the address he made on the occasion of the presentation of a portrait of Dr. Joseph Jones to Tulane University by Mr. Joseph Merrick Jones, at the Hutchinson Auditorium, Tulane University School of Medicine, on November 24, 1957. Dr. Bayne-Jones, who, together with Mr. Joseph Merrick Jones, President of the Tulane Board of Administrators, is a grandson of Dr. Joseph Jones, is an alumnus of Tulane, former Dean of the Yale Medical School and is presently Chairman of the Advisory Committee on Medical Research and Education established by the Secretary of the Department of Health, Education, and Welfare.

Joseph Jones was born in Liberty County, Georgia, probably on Monte Video plantation on the North Newport River, near Midway, on September 6, 1833. His early education was received from private tutors under the guidance of his scholarly father. It is probable also that he was stimulated by his brilliant elder brother, Charles Colcock Jones, who became a renowned antiquarian, historian and author—to such a degree that Bancroft called him "the Macaulay of the South."

Apparently the youthful years of Joseph Jones were happy, instructive and physically invigorating. I judge this to be so from the following description given by Charles Colcock Jones, reminiscent of Biloxi!:

"... boyhood was spent at the paternal homes—Monte Video and Maybank in Liberty County. At the former, which was a rice and sea-island cotton plantation on North Newport River, the winter residence was fixed, while the latter—a sea-island cotton plantation located on Colonel’s Island, lying between the Island of St. Catherine and the mainland, was the summer retreat. The region abounded in game and fish. An indulgent father generously supplied his sons with guns, dogs, horses, row-boats, sail-boats, and fishing tackle. As a natural consequence (the sons) at an early age, became adept with the fowling-piece, the rifle, the rod and line. This outdoor exercise and these field sports laid the foundation for a fine constitution."

After a year at the University of South Carolina, at Columbia, Joseph Jones entered Princeton University in 1850. He graduated from Princeton in 1853, receiving in that year both the B.A. and M.A. degrees.

Perhaps Joseph Jones was influenced to go to Princeton for aristocratic reasons. Fundamentally, he was a serious scholar. His notebooks show he began to collect a library of scientific, historical and philosophical books.
At Princeton, this unknown boy from the South came through with such honors that distinguished members of the faculty of the University of Pennsylvania Department of Medicine were glad to have him as one of their students when he entered there in 1853. Among these notable men were Joseph Leidy and Samuel Jackson. When Joseph Jones received the M.D. degree from this institution in 1855 the seal bore the spiritual imprint of their enduring influence upon his life. While he was a medical student he did some important scientific research.

In 1855, he commenced the practice of medicine in Savannah, and in the same year was elected Professor of Chemistry in the Savannah Medical College. Three years later, in 1858, he was elected Professor of Natural Philosophy and Natural Theology (apparently to teach chemistry, physics, and geology in a religious context) in the University of Georgia, at Athens. He stayed there less than a year, and then became Professor of Chemistry in the Medical College of Georgia, at Augusta. He stayed there until he went into active service in the Confederate Army in 1861.

During the six years, 1855 to 1861, between his graduation from the University of Pennsylvania Medical School and the beginning of the Civil War, Joseph Jones resided in three cities in Georgia and had three or four official appointments. Perhaps these changes of places and positions were only the result of the efforts of a young man trying to find a way to make a living along the lines of his greatest interests. In these changes, however, there were also elements of intense self-concern and restlessness.

In Augusta, Joseph Jones met Caroline S. Davis, who became his first wife on October 26, 1858.

During the ten years following this marriage—four of which were years of the Civil War and two the dreadful aftermath—Joseph Jones and his wife Caroline had four children, namely: Stanhope Jones (my father, graduate of Tulane University Medical School, physician in New Orleans, born December, 1860); Charles Colcock Jones, mining engineer and prospector; Caroline Susan Jones, teacher, and Mary Cuthbert Jones (Mrs. Trist Bringier). Soon after the move of the family from Nashville to New Orleans in the fall of 1868, Caroline S. Jones, first wife of Joseph Jones, died on December 12, 1868.

In January, 1861, about four months before the outbreak of the Civil War, Joseph Jones joined the Liberty Independent Troop—a troop of light horse based at Midway, Georgia, in the center of his ancestral homeland.

After about six months in the cavalry, during which he rendered a considerable amount of medical service, Joseph Jones was commissioned as full Surgeon, with the rank of Major, in the Confederate Army. From about the beginning of 1862 to the end of the Civil War on April 9-26, 1865, he had an unusually respected relationship with the Office of the Surgeon General of the Confederate States of America. In a series of orders and letters, Surgeon General Samuel Preston Moore, CSA, authorized Surgeon Major Joseph Jones to visit, and conduct investigations in any army, camp or fortified town within the bounds of the Confederacy.

Without regard for personal risk, he utilized conditions produced by the war to advance scientific and clinical medical knowledge. He investi-
gated tetanus (lock jaw) in wounded men. He made extensive studies of hospital gangrene in the wounded patients in hospitals and in prisons. He studied scurvy and many nutritional deficiencies. He investigated typhoid fever, dysentery, pneumonia, meningitis, and malaria. He studied spurious vaccination against smallpox, with results that were of value to him when he became President of the Board of Health of Louisiana in 1880. The accounts of these investigations fill hundreds of pages of articles in medical journals and in his "Medical and Surgical Memoirs." They contain also much poignant personal material.

When the Civil War was over in April, 1865, Joseph Jones returned to Augusta, and to his family. He remained there only a short time. Responding to an invitation from the University of Nashville, Tennessee, he became Professor of the Institutes of Medicine in the Medical School in that city. As this was another proprietary medical school in which the professors had a commercial interest in the proceeds of instruction, Joseph Jones became unhappy as soon as he discovered the true situation. From the start of his appointment he was in conflict with the administration of the school. He added to his duties by accepting appointment as Chief Health Officer of the City of Nashville. He found time for a variety of investigations, including the exploration excavation of Indian mounds in the valley of the Cumberland River, especially in the region of West Harpeth and Franklin, Tennessee. The collections that he made from 1866 to 1868 were the basis of his noted memoir entitled: "Explorations of the Aboriginal Remains of Tennessee," published by the Smithsonian Institution in 1876.

For many years this collection of antiquities filled cases and shelves—glass fronted and constructed at his expense—in his house on Washington Avenue in New Orleans. At present, most of these relics are in the Museum of the American Indian (Heye Foundation) in New York City. On this occasion, time does not permit a description of the extraordinary archeological investigations of Joseph Jones, which contributed to his international recognition. Perhaps the most important evidence of this was the recognition abroad that Joseph Jones had discovered evidence of the pre-Columbian existence of syphilis in America.

The Nashville episode, however, was only short-lived, although scientifically productive. While he was there, Joseph Jones in 1868 was offered the chair of Chemistry and Clinical Medicine in the Medical Department of the University of Louisiana (later in 1884 Tulane University School of Medicine). He was offered appointment also as visiting physician at the Charity Hospital.

Soon after his arrival in New Orleans in the fall of 1868 he started again to practice medicine, and opened an office in the building of the Medical Department of the University of Louisiana, or in a structure then known as the University Building. The first definite public listing of his address is in the City Directory of 1870.

On June 21, 1870, Joseph Jones married Susan Rayner Polk, the daughter of the Reverend Leonidas Polk (1806-1864), kinsman of President James K. Polk, who had been Bishop of the Protestant Episcopal Church in Louisiana and a Lieutenant General in the Army of the Confederate States. By his second marriage he brought the Jones family into alliance
with still another sturdy “clan” of the South which had produced men of ability, patriotism and influence in the history of the United States. They had three children: Hamilton Polk Jones, graduate of Tulane medical school, physician in New Orleans, husband of Caroline Merrick and father of Mr. Joseph Merrick Jones; Frances Devereux Jones (Mrs. Harry U. Hall), artist; and Laura Maxwell Jones.

With the intention of combining an increase in his knowledge, an enlargement of his collections of books and archeological specimens, with a pleasant honeymoon abroad, Joseph Jones took his new bride with him to Europe in the latter half of 1870. They visited England and France. He made a careful tour of art galleries, museums and hospitals in London, Edinburg, Liverpool and Paris. In all places he was received with respect and cordiality by scientists, such as Sir Richard Owen, Director of Natural History in the British Museum. By this time his scientific reputation was unquestionably international.

He returned from Europe with rare and valuable books, which he used in his work and teaching in Louisiana. He learned much of importance from contact with the great new developments in bacteriology and immunology that were then emerging from the discoveries of Pasteur, Koch and Lister.

As yet I do not have records to show that Joseph Jones took any part in the political battles or other movements of that time. His life seems to have proceeded more or less as usual, within the circle of his family, his teaching and practice of medicine, his scholarly pursuits, productive investigations, and everlasting writing. He became the first secretary of the Southern Historical Society, which he had helped to establish in New Orleans in 1869. He made a number of scientific studies of malaria, particularly in 1876, and of yellow fever in 1878. He contracted that disease and later wrote about it feelingly.

Two years later, 1880, in accordance with the request and appointment of Governor Wiltz, Dr. Joseph Jones became President of the Board of Health of Louisiana, and served in this position for four years, until April, 1884. It was a violent and historically important term of the chief sanitary officer in an organization that is now recognized as having been the first Board of Health created by any State of the Union, as it was established by Act of Louisiana State Legislature on March 15, 1855. During this period he was “enabled to put to the crucial test the actual application of every principle relative to the nature and exclusion of foreign pestilence.” He asserted, to use his own words again, that: “During this period, the measures instituted were effective in excluding yellow fever from the Mississippi Valley; and the principles of diagnosis based upon his clinical and pathological researches, gave the precision and confidence to the official decisions of the Board of Health, and prevented panic, alarm and useless quarantine.” He conducted vigorous educational activities to promote preventive medicine and public health.

During this period (1880-1884) the Board of Health of Louisiana had a bitter struggle with the powerful railroad and steamship corporations of the United States “which had been for many years in open rebellion against the quarantine laws of Louisiana.” In spite of personal vilification and shrewd legal opposition, the Board won its case in the higher courts, securing
from the Supreme Court of Louisiana a vindication of the quarantine laws of Louisiana. This judgment was later confirmed by the Supreme Court of the United States.

During a year or two preceding 1879, and especially during the period from 1879 to 1883, another violent controversy over public health administration and jurisdictions split New Orleans, as well as the Nation, into opposed factions. This acrimonious debate was over the subject of the National Board of Health which was established by Act of the United States Congress on March 3, 1879. As this Board was given power to over-rule State sovereignty, and to take action over the head of a State Board of Health, such as the Louisiana State Board of Health, conflicts were inevitable. Naturally, Dr. Joseph Jones who had asserted the quarantine and other rights of the Louisiana State Board of Health so vigorously, and was defending them so successfully during his presidency of the Board, was a strong upholder of local authority. I do not have sufficient information to deal with this episode adequately. I can note only that it appears to have led to unpleasantness in the relations between Drs. Chaille and Bemiss, who were for the National Board of Health, and Dr. Joseph Jones, who was against it. As the National Board of Health did not function well, it was allowed to die when the law under which it operated expired by limitation on March 2, 1883.

During the forty years between 1855 and 1895 Joseph Jones published at least 105 papers in medical and scientific journals, four large volumes of "Medical and Surgical Memoirs," each of more than a thousand closely printed pages on which the crowded text presses against the narrow margins, and in addition, published annual and occasional reports when he was President of the State Board of Health, miscellaneous monographs and short articles.

By attitude, training, early association with first-rate scientists—by inexhaustible persistence and endurance, with high intelligence and broad conceptions, he was well fitted for research. He was hindered, however, by lack of critical associates and the thinness of the atmosphere of experimental scientific work in New Orleans during most of the twenty years following his arrival there in 1868.

On his visit to England and France in 1870 he came into contact with the new era of medical bacteriology, and the new advances in medicine, public health and biology. With remarkably quick understanding, he accepted the new proofs that microorganisms caused disease—the so-called "germ theory of disease." In the early 1870's, and even before that, he was searching for the bacterial agents that might cause malaria or yellow fever, or other diseases. Perhaps this was the result of the influence of his great teacher, Professor Joseph Leidy at the University of Pennsylvania, who in 1851 published a paper on the occurrence of bacteria in and upon animals and man. With so much new information coming in from Europe through the port of New Orleans, the decade after the Civil War was a time of intellectual activity and appreciation of scientific advances not only in the local community but also in the South.

In the second volume of his "Medical and Surgical Memoirs," published in 1887, he included a great deal of material that he had worked up during...
the eleven years that had elapsed since the first volume appeared in 1876. A long and important section is entitled “Parasites of Man and Animals.” This begins with Koch’s postulates and is a condensed review of general and medical bacteriology, with excellent illustrations—some original, most copied from foreign publications. Having been brought up in the belief that Dr. William Henry Welch introduced modern medical bacteriology into the United States between 1879 and 1884, I was astonished to find so much of the same kind of material in the writings of Joseph Jones at dates earlier than these. He had excellent microscopes with which he looked at everything examinable for microorganisms. He got stains from Weigert about 1872 and used them to stain bacteria. In the middle 1870’s he was teaching medical students to diagnose intermittent malarial fever by microscopic examination of the blood. Learnedly and technically he was ahead of his professional associates, and of his time, in the United States. Unfortunately, he did not grasp the full significance of his findings, or follow all of the leads that some of them suggested. During the Civil War, at Confederate hospitals and at Andersonville, he looked for bacteria in exudates of hospital gangrene and wound infections. Either he did not find them or was not sufficiently concerned with the possible significance of those he saw. After summarizing his observations on bacteria in hospital gangrene he wrote: “These microscopical investigations have thus far afforded only negative testimony upon the animalcular origin of hospital gangrene.”

Nevertheless, in 1884, only two years after Pasteur’s great work on spontaneous generation, Joseph Jones spoke of his similar conviction that the doctrine of spontaneous generation was false, and he indicated his developing belief that contagious diseases might be due to “the action of special vegetable or animal forms.”

Dr. Joseph Jones was President of Section XV (Public and International Hygiene) of the Ninth International Medical Congress held at Washington, D.C., in September, 1887. He used the occasion to tell about his past investigations. In a characteristically long address with a characteristically long title he claimed priority in the discovery of the bacterial cause of typhoid fever, and of the microorganismal cause of malaria. I have examined these claims in as much detail as the published evidence permits. I believe that he was justified in saying that he had seen the causative microorganisms in both of these diseases before others had made similar observations.

Joseph Jones claimed only that he was the first to see the typhoid bacillus, in 1862 to 1864, in microscopical preparations of intestinal contents, scrapings from Peyer’s patches and mesenteric lymph nodes in specimens obtained at autopsy of soldiers who had died of typhoid fever. He described the microorganisms and drew pictures of them. These drawings, dated 1862, were published later, chiefly in the second volume of his “Medical and Surgical Memoirs” (1887). This was as much as was done by Edwin Klebs and Carl Eberth, in Germany, who are credited with the discovery of the typhoid bacillus because they saw it in preparations of this type in 1880 and 1881. Pure culture of this organism was obtained by Gaffky in 1884.
A voluminous writer about the symptoms, pathology, prophylaxis and treatment of malaria, Dr. Joseph Jones referred too rarely to his original and fundamental observations on the microorganismal cause of malaria. The first published account of these is in 1876, but there is reason to assume that the observations had been made before that year.

At the Ninth International Medical Congress in Washington in September, 1887, he laid claim to being the discoverer of the malarial parasite. As proof of this he put into the record the full text of his paper which had been published in the New Orleans Medical and Surgical Journal, in August, 1878 (Vol. VI, pp. 138-156), entitled: “Medico-legal Evidence relating to the detection of Human Blood, presenting the alterations characteristic of Malarial Fever, on the clothing of a man, accused of the murder of Narcisse Arrieux, December 27th, 1876, near Donaldsonville.” This is a good detective story as well as a scientific classic.

As a result of his examination of blood from Narcisse Arrieux he decided that the murdered man had been or was suffering from intermittent malarial fever, and he reached the conclusion that the blood from a stain on the shirt of one of the men suspected of having had a part in the murder showed the same diagnostic changes. These abnormalities were pigmented and hyaline bodies in the white corpuscles of the blood, and also in the red corpuscles. The latter, as now recognized, were the more significant. His description of what he saw is so important that it is quoted in full:

“I observed changes in the blood from the pieces of cloth which lead me to infer that the person from whom it was abstracted had suffered and at that time was most probably suffering with paroxysmal, paludal or malarial fever. This opinion was based chiefly upon the following abnormal substances observed in connection with the colored and colorless or white blood corpuscles; black pigment or melanemic corpuscles, varying from 1-10,000 to 1-100ths of an inch in diameter, conglomerations of these melanemic particles, in masses of various sizes; colorless corpuscles or leucocytes which contained small granular masses of black pigment. Many of the particles of the melanemic pigment were spherical, others were irregular and angular, some entirely free, others incased in a hyaline mass; others incorporated with cellular elements which are more or less related to the white corpuscles of the blood.” (Italics added.)

In the second volume of the “Medical and Surgical Memoirs,” Joseph Jones reproduced drawings of these findings, showing very clearly hyaline pigmented forms, and segmenters, in the red corpuscles in blood of malarial patients. Unfortunately those drawings were not published until 1887. Meanwhile, in 1881, Laveran had published his definitive descriptions of the malarial parasites, and to him, naturally, is accorded the credit for their discovery.

Apparently Joseph Jones regarded these forms which he saw in the red blood cells and leucocytes of patients with malaria as spore-bearing organisms. He thought that they were related to spore-bearing organisms of the soil and stagnant waters. Hence, he searched for them in soils and waters, and developed a notion that malaria was due to infection with such organisms taken in through the skin, or alimentary tract, or, most importantly, through the respiratory tract. To him “malaria” had become air polluted with a spore-bearing organism. Here he missed the cue.
Seemingly, he did not know that in 1854 Louis David Beauperthy had published his opinion that malaria was transmitted by mosquitoes, and that even earlier, in 1848, Dr. Josiah Clark Nott, of South Carolina, had published his mosquito theory of the transmission of yellow fever. The possibility that insects could transmit infections to man had not yet come into the thoughts of Joseph Jones, although in 1878 Sir Patrick Manson had shown that the Culex mosquito transmitted Filariasis. With respect to malaria, insect transmission of the disease, by mosquitoes, was not proved until Sir Ronald Ross demonstrated it in India in 1897-1898. To Laveran justly went the credit, while the incomplete observations of Joseph Jones have been called "the near discovery of the malarial parasite." Undoubtedly he saw it first, and recognized its significance in relation to the disease. But he did not continue to the true finish.

Joseph Jones might well have laid claim to the discovery of phagocytosis, as he saw it and described it in the paper referred to above. The pigmented particles that he saw in leucocytes in the blood of Narcisse Arrieux in 1876 had been ingested by the process which Metchnikoff described as phagocytosis in 1884. If he had appreciated the significance of this original observation he would have had a rank among the proponents of the modern doctrine of cellular immunity.

The beginning of the end seems to have come upon him about 1890. He suffered from several illnesses, chiefly "rheumatism," and some attacks of nervousness and exhaustion following periods when he had driven himself unusually hard. Suddenly, after breakfast on June 23, 1893, he had a stroke which caused a partial paralysis of his left arm and leg. Through the devoted care given to him by his family, especially by his son, Dr. Hamilton Polk Jones, who took him to Hot Springs, Arkansas, several times, he managed to drive his weakened body to try to do some of the things demanded by his still active brain. Because of his infirmities, he gave up his professorship at Tulane in 1894. At home, however, he continued to collect material for the medical history of the Confederacy which he hoped to write, relying possibly upon an additional allotment of time. Joseph Jones died at his home at 1138 Washington Avenue on February 17, 1896, near the end of his 63rd year. The cause of his death was certified as "cerebral embolism," or "cerebral thrombosis." He was buried in his family tomb in Lafayette Cemetery No. 1 (Square 1, Lot 194) located on the block bounded by Washington Avenue, Coliseum, Sixth and Prytania Streets.

He went his way through life, not serenely, but with high purpose. He was both patriotic and devoted to the Confederacy. His integrity was never responsibly questioned. He was deeply religious. Although he was sensitive and proud, Joseph Jones was humble in his heart. He summarized his life by the following quotation from Francis Bacon's "Advancement of Learning," which he wrote down, in August, 1865, at the head of his manuscript on hospital gangrene:

"Knowledge is not a couch whereon to rest a searching and restless spirit; or a terrace for a wandering and variable mind to walk up and down, with a fair prospect; or a tower of state for a proud mind to raise itself upon; or a fort or commanding ground for strife and contention; or a shop for profit or sale; but a rich storehouse for the glory of the Creator and the relief of man's estate."