CHAPTER 5

BIOGRAPHIES OF IMPORTANT PERSONAGES ASSOCIATED WITH THE NEW ORLEANS DRAINAGE COMMISSION AND THE SEWERAGE AND WATER BOARD OF NEW ORLEANS

Rudolph Hering

Rudolph Hering was a widely influential hydraulic and sanitary engineer who played a pivotal role in the late-nineteenth century movement among American cities to modernize their drainage and sewerage systems. It would not be an exaggeration to name him as the father of modern American municipal sewerage systems. Hering was born in Philadelphia in 1847, and graduated from the Dresden Polytechnic, a leading German school, in 1867. In 1868 he was an assistant engineer at Prospect Park, Brooklyn, and was also an assistant engineer at Fairmount Park, Philadelphia, from 1869 to 1871. Hering was an astronomer at the fledgling Yellowstone National Park in 1872. From 1873 to 1880 he was assistant city engineer in Philadelphia. While engaged in various projects in Philadelphia, Hering became interested in the failed sewerage system extant in the city. He presented a paper before the 1878 annual meeting of the American Society of Civil Engineers on sewer section design, the first, and for many years the only, American discussion of its subject (Metcalf and Eddy 1914:16; A.N. Marquis Co. 1943:554).

In 1880 Hering entered private practice. Hering's professional papers brought him to the attention of the National Board of Health, who selected him in 1880 to conduct a survey of European sewerage and drainage systems. Bearing letters of introduction from this prominent semiofficial body, Hering was able to become acquainted with leading European sewerage designers and the details of their work, including controversial features. Hering issued an exhaustive report on sewerage and drainage after his return. This report was the first clear American analysis of all the main problems of sewerage and drainage, and the methods of solving them. The report firmly secured Hering's reputation as a specialist. Included in Hering's analysis was a recognition of the importance of underground removal of stormwater in large cities, a point of great relevance for the design of the New Orleans drainage system (Metcalf and Eddy 1914:16; A.N. Marquis Co. 1943:554; Tarr 1979:318-319).

Hering became a prominent critic of controversial sewerage designer George Waring, and made a great contribution to the professionalization of the sewerage and drainage aspects of civil engineering. Following his trip to Europe for the National Board of Health, Hering conducted an investigation for a new municipal water supply for Philadelphia from 1883-1886. In 1889 he was a consulting engineer for the Department of Public Works of New York City. He was also a consulting engineer for water supply, sewerage, and drainage works in Philadelphia, Baltimore, Washington, Buffalo, Cleveland, Atlanta, Montgomery, Los Angeles, Tacoma, Victoria, San Francisco, Honolulu, and Columbus (OH) (Metcalf and Eddy 1914:16; A.N. Marquis Co. 1943:554). In 1893, Hering was named to the Engineering Committee of the New Orleans Drainage Advisory Board, with B.M. Harrod and Henry B. Richardson. With the rest of the full Board, the Engineering Committee carefully examined and approved the planning and design work of the City Engineer, L.W. Brown. The final report of the Drainage Advisory Board was issued in 1895 and became the basis for construction of the modern New Orleans Drainage system. In 1902, Hering was appointed to head the Board of Inquiry on the Conduct and Character of the Drainage Works for the City of New Orleans, and largely approved modifications that had been made to the 1895 plan. In 1910, the City Council of New Orleans named Rudolph Hering and B.M. Harrod to a new advisory board, to examine the alterations to the 1895 plan that had been made during the first fifteen years of system construction. Hering and Harod approved the alterations and made further recommendations, as detailed in Chapter 4.

Hering concluded his career as engineer for the Department of Water Supply, Gas, and Electricity, New York. Hering died in 1923, his reputation established as a uniquely important

figure in the history of American sewerage and drainage engineering (A.N. Marquis Co. 1943:554; Metcalf and Harrison 1914:16).

Chief Engineer Benjamin Morgan Harrod

Benjamin Morgan Harrod (Figure 80) was born in New Orleans in 1837, the son of Charles Harrod and Mary Morgan Harrod. He was prepared by tutors to enter Harvard College, where he joined the class of 1856 for their sophomore year. He earned an A.B. degree from Harvard in 1856. Conventional in his antebellum southern political views, Harrod drew attention at Harvard by making pro-slavery arguments during a debate at which everyone else present was an abolition-ist. After Harvard Harrod studied, first, architecture, possibly opening an office in New Orleans, and then civil engineering. In 1858 he worked for the Engineers Department of the U.S. Army, conducting works at forts and lighthouses along the Gulf Coast. Harrod was awarded an A.M degree by Harvard in 1859 (Hart 1925:668; A.N. Marquis Co. 1943:528; McCullough 1977:449).

Harrod returned to New Orleans shortly before the outbreak of the Civil War, and in 1861 enlisted as a private in the Crescent Rifles. Soon afterwards, he was appointed Second Lieutenant in the Second Louisiana Regular Artillery. One month after receiving his commission, he was promoted to First Lieutenant and detailed as an engineer on the staff of General M.L. Smith. In this capacity Harrod served at Vicksburg and was captured with the rest of the garrison in 1863. Released on parole, Harrod then served in the Second Regiment in Virginia as a brigade and division engineer. He was sent to Petersburg, arriving a few days after the Battle of the Crater and remaining there until after the city was evacuated. Harrod was at Appomatox Court House for the surrender of the Army of Northern Virginia. After the surrender, Harrod was put in charge of about two hundred men from the Gulf Coast. They marched to Burkeville Virginia, where they entrained for City Point. From City Point, Harrod and the soldiers went by ship to New Orleans. After the War, Harrod was given the courtesy title of "Major" although, evidently, the highest rank he had attained was First Lieutenant. Upon his return to New Orleans, Harrod set to work in architecture and engineering (Hart 1925:668, 670; McCullough 1977:449; A.N. Marquis Co. 1943:528).



The following introduction to Harrod's architectural production comes from the indices of the seven volumes of *New Orleans Architecture* (Christovich et al. 1974, 1977, 1978; Wilson et al. 1979, 1984; Toledano et al. 1980; Schlesinger et al. 1989); from the Southeastern Architectural Archives (Tulane University) index to contracts in the Notarial Archives, City of New Orleans; and from a list of drawings recently given by the Andry family to the Southeastern Architectural Archives. There are several documented contracts for houses and warehouses, dated 1866 through 1876, in which Harrod is stated as the architect. One Harrod-designed warehouse stood until recently near the International Trade Mart, in the 600 block of South Front Street. This building

showed a brave and clever attempt to upgrade a simple brick building with a low gable roof unto a Renaissance-like design. Harrod achieved classical architectural references with a variety of stepped and rounded brick coursing. If Harrod had been able to make the building symmetrical, it would have been worthy of the fifteenth century Italian master, Leon Battista Alberti, who Harrod had probably studied.

In 1874, Harrod designed the Confederate Monument in Greenwood Cemetery to mark a mass grave of 600 soldiers. During part of this period, Harrod worked with a Mr. Reid, and that partnership produced designs for a Hebrew Education Society School House on Calliope Street. In 1888, Harrod became City Engineer of New Orleans. Several drawings by Harrod for railroad tracks and bridges survive in the Southeastern Architectural Archives. As City Engineer, he also designed buildings. An example is his design for an Italianate fire station, which was built at least four times in different locations throughout the city. The station buildings which survive—on Julia, Tchoupitoulas, and Magazine streets—have deeply channeled masonry bases which give some of the same effect as the rusticated pilasters of the drainage stations. During the 1880s Harrod also laid out Metairie Cemetery, using the existing race course, and designed its now-demolished entry lodge and gates. He also supervised the reconstruction of Christ Church to designs by a New York architect.

The firm Harrod and Andry was formed in the early 1890s. In 1892, Harrod and Paul Andry were engaged in designing school buildings for the Orleans School Board (Goodspeed Publishing Co. 1892:252). In 1894, Andry, Harrod's twenty-one-year-old employee, won a national competition for the Tulane Arts and Sciences Building (now Gibson Hall). The competitionwinning design is a limestone Richardsonian Romanesque structure which is classical in its overall massing. The *Daily Picayune* described it upon completion in 1894 as being both "Renaissance" and "modernized Gothic," combining richness and dignity. Harrod and Andry also designed the two orange brick buildings placed on diagonals behind the Arts and Sciences Building (originally the Physics and Chemistry buildings, now F. Edward Hebert Hall and the Richardson Building). The three Tulane buildings were quickly joined by the Civil Engineering Building, a power plant, and a variety of shops for Tulane's manual training school. Harrod and Andry's excellent understanding of classicism as the sensitive relationship between the dimensioning of molding profiles and overall proportions, evidence of which dignified the drainage buildings, is clearest on the two orange brick structures. The firm of Harrod and Andry did other work as well, including a public market on North Rocheblave Street and a building for the Ursuline Convent. By 1898, Harrod and Andry had taken on Albert Bendernagle as a junior partner, and by 1900 Harrod dropped out of the partnership. Harrod seems to have ended his architectural practice at about this time, although not his engineering practice.

Harrod's engineering endeavors, though not directly germane to an architectural evaluation, are what he emphasized in his own accounts of his achievements. Harrod was Chief State Engineer of Louisiana from 1877-1880, a member of the U.S. Mississippi River Commission from 1879 to 1904, an active member of the American Society of Civil Engineers (serving as President for two years in the 1890s) and a member of the Louisiana Engineering Society. Published writings by Harrod as a member of the Mississippi River Commission remain at Tulane University. Harrod became City Engineer of New Orleans in 1888. While serving as City Engineer, Harrod drafted the levels of the water and sewerage systems that were utilized when those systems were put under construction. At an unknown date prior to 1893, Harrod was succeeded as City Engineer by L.W. Brown. In 1893, Harrod was named to the Drainage Advisory Board that oversaw the drafting of the original plans for the modern New Orleans drainage system. Harrod was made Chief Engineer for the Drainage Commission in 1895, serving in that capacity until 1902 (Hart 1925:669; Archives, Harvard University; A.N. Marquis Co. 1943:528).

By 1902, the reputation of B.M. Harrod had become international, and he was among the first men appointed by President Roosevelt to serve on the Panama Canal Commission. Harrod

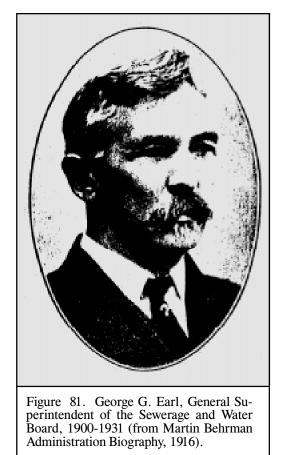
also served on the second Panama Commission, the only member of the first commission asked to sit on the second. However, Harrod evidently did not act in an executive capacity on the Panama Canal Commissions. Tulane University awarded Harrod an honorary LL.D. in 1906. Also in 1906, Harvard invited him to return to deliver the Memorial Day address, the first time it had offered that honor to a veteran of the Confederacy. In 1910, Harrod was recalled by the city of New Orleans to serve on another Drainage Advisory Board, which reviewed the changes in the 1895 plan and made recommendations for completion and improvement of the drainage system. Among Harrod's other notable activities, he was a consulting engineer for the construction of the Roosevelt Dam in Arizona, and consulting engineer for the construction of the Delgado Art Museum in City Park. Harrod was particularly interested in the Delgado Art Museum, which exhibited his art collection soon after opening. A lifelong member of Christ Church, Harrod supervised its reconstruction, and he was an active member of the Louisiana Historical Society, and the Army of Tennessee, Confederate Veterans. An ardent supporter of the Audubon Society, Harrod hoped to make Ship Island and some islands that he owned into bird sanctuaries. Benjamin Morgan Harrod died in 1912, after a long and distinguished career, as engineer, architect, and public servant.

Superintendent George G. Earl

George G. Earl (Figure 81) was born into a Quaker family near Allentown, New Jersey, during the Civil War. He was the only child of Holmes Earl and Annie Taylor Earl. In 1880, Earl graduated from the Freehold Institute. Four years later, he received his degree as a Civil Engineer from Lafayette College in Eaton, Pennsylvania. Because of his subsequent achievements in engineering, Lafayette College conferred the degree Doctor of Science upon George Earl in 1918 (Chambers 1925:365; Kendall 1922:1089).

Earl worked for the United States Geological Survey in New Jersey in 1884 and 1885. For the following two years, he worked in the engineering department of the Atchison, Topeka and Santa Fe Railroad. He did location and construction work on the line between Chicago and Kansas City. Earl came south in 1888 to undertake sewer construction work in Montgomery, Alabama. He eventually went into business with Captain W. G. Williamson, the former city engineer for Montgomery. Their firm specialized in sewerage and water works construction. Earl then served as city engineer of Americus, Georgia from 1890 to 1891 (Chambers 1925:365, Kendall 1922:1089-1090).

Earl came to New Orleans in 1892 to accept the position of chief engineer with the New Orleans Sewerage Company. This company had a contract with New Orleans to build a sewerage system. The company went into receivership around 1895, but Earl was retained as chief engineer. Earl had done exhaustive studies on the topography of the Crescent City and its sanitary conditions. Therefore, when the Sewerage and Water Board of New Orleans was established in 1900, it appointed Earl as its chief engineer and general superintendent. As such, he oversaw the planning, construction, and expansion of the city's sewerage, and water works systems, and after 1902, of the drainage system also. Earl served in this capacity until his re-



tirement in 1931. He continued on as a private consultant to the Board for some time after that. Charles J. Theard, President Pro Tempore of the Board, declared that George Earl was one of the best engineers in the profession and his service as a public servant had been rendered with "the rugged honesty of a stainless character" (Chambers 1925: 365, Kendall 1922: 1090).

Superintendent Alfred Francis Theard

Alfred Theard was born in New Orleans in 1865, and attended the Jesuit College in that city as well as Spring Hill College in Alabama. In 1893, he obtained employment with the Engineering Department of the City of New Orleans. In 1896, he became affiliated with the New Orleans Drainage Commission, first as a draftsman and later as assistant engineer. When the Commission was consolidated with the Sewerage and Water Board in 1902, Theard began his long association with that body. From 1913 until 1934, he served as Principal Assistant Engineer in Charge of Drainage. In 1934, he became General Superintendent of the Board (American Society of Civil Engineers n.d.:1).

In addition to his activity in the field of engineering, Theard worked as an architect. He prepared plans for completion of the Chalmette Monument at the site of the Battle of New Orleans and prepared plans for the Louisiana Memorial Monument in the National Military Park at Vicksburg, Mississippi. In 1937, Theard's achievements were recognized by the American Public Works Association which awarded him its Veterans Plaque for his "long and faithful services" to the City of New Orleans (American Society of Civil Engineers n.d.:1-2). Alfred F. Theard died in 1939.

Superintendent Albert Baldwin Wood

The only comprehensive account of the life and work of Albert Baldwin Wood (Figure 82) is an unpublished manuscript by Ray M. Thompson (n.d.). The manuscript is on file in the Manuscripts Division of the Howard-Tilton Memorial Library. The biography of Wood presented below is derived largely from that document. A shorter version of Thompson's manuscript was published in *New Orleans Magazine* (Thompson 1973).

When the present systems of drainage, water supply, and sewerage were proposed for the City of New Orleans, they had to be designed with pumps that were available at the time. None of these pumps were particularly satisfactory for the demands of the system. Fortunately, Albert Baldwin Wood began to work for the Sewerage and Water Board during its first year of operation. His work for the Board would result in new pump designs that were subsequently adopted throughout the world.

Wood was born in New Orleans in 1879. On his mother's side, he was a descendant of Don Francisco de Bouligny, who was a governor of Louisiana during the Spanish colonial period. His father's family was from Pennsylvania. He attended Tulane High School and then enrolled in the engineering department of Tulane University. His talent for invention was apparent even during his college career. He and a classmate, after reading an article by Marconi, built a wireless set and established communication between two Tulane classrooms. In 1899 he graduated with honors, and received the Glendy Burke Award in mathematics (Thompson n.d.:1, 5).

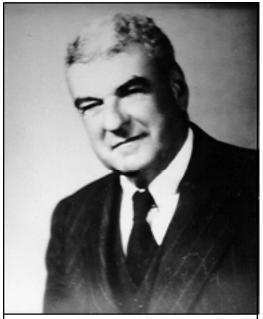


Figure 82. Albert Baldwin Wood, General Superintendent of the Sewerage and Water Board, 1939-1956 (courtesy of the Sewerage and Water Board of New Orleans),

After graduation from Tulane, Wood accepted a job with the Red River Packet Line. He remained with that firm for only a few months. In 1899, Wood entered the service of the New Orleans Drainage Commission as Assistant Manager of Drainage (Sewerage and Water Board 1956:11). In 1902, Wood became a mechanical inspector for the New Orleans Sewerage and Water Board, when it merged with the Drainage Commission. He continued his association with the Sewerage and Water Board until his death in 1956. For a time he served as assistant manager of drainage under Alfred Raymond. In 1907, Wood was promoted to the position of mechanical engineer for the Board. In 1908, he was placed in charge of the water works pumping station and the various sewerage stations. When Raymond died in 1915, Wood was placed in charge of drainage operations. In 1939, after the death of Alfred F. Theard, Wood was elected general superintendent of the Board. He served in that capacity until 1956. During his association with the Board, he refused offers from other cities and countries, even when those offers would have resulted in an income ten to twenty times more than that which he received in New Orleans (Thompson n.d.:5-6,9; 1973:42).

As a new engineer in charge of testing electrical equipment for the Board, Wood examined sewerage pumps slated for installation in the pumping station at St. Louis and North Broad. He refused to accept the pumps, and ordered them rebuilt. This was the beginning of his reputation as a man who demanded near-perfection of mechanical and electrical equipment. When equipment failed to meet his high standards, he often developed new designs that would do so (Thompson n.d.:10, 1973:43).

At first, Wood did not patent his inventions, but he began to do so when he realized the necessity for protecting his ideas. At the time of his death, he was credited with 38 patents. Use of his inventions around the world, as well as fees he received for serving as a consulting engineer, produced a substantial income. However, Wood never collected royalties for the use of his inventions by the New Orleans Sewerage and Water Board (Thompson n.d.:10, 1973:43).

In 1906, Wood invented a six-foot centrifugal pump which better met New Orleans' need for large capacity, low head drainage pumps than models previously available. At the time, this centrifugal pump was the largest of its kind in the world. A short time later, he invented "flapgates" to stop water from backing up when the pumps were stopped. These flapgates soon became the industry standard. In about 1912, Wood invented a hydraulic meter testing machine. At a later date, he conceived of 'half-soling' sewer pipes which were worn through on the bottom due to constant use. This latter invention resulted in substantial savings for the Sewerage and Water Board (Thompson n.d.:11, 1973:43).

In 1912, as discussed in Chapter 4, Wood presented plans for his 12' screw Pump. He gave the Sewerage and Water Board perpetual rights to use the design (Thompson n.d.:11, 1973:43). The 12' screw pump was to be the largest and most powerful in the world, and it attracted the attention of engineers both in the United States and abroad (Thompson n.d.:12-13, 1973:43). The Wood pumps were installed beginning in 1915, first at Drainage Pumping Station No. 1, and then at Station No. 6, and then the others. Wood's designs came to be highly regarded worldwide. By 1919, Wood was "the man the whole engineering world had come to recognize as the authority on heavy duty pumps" (quoted in Thompson 1973:76).

In 1916, Wood patented his Trash Pump which revolutionized the sewerage system in New Orleans and throughout the world. He designed it to solve the problem of rags and trash, which were being introduced into the sewers and clogging the system. The invention alleviated the need for on-site attendants to unclog the screens needed on the pumps then in use. As a result, New Orleans' sewerage system was the first in the United States to become automatically operated (Thompson n.d.:15, 1973:43). This revolutionary pump works in the following manner:

Sewage is not screened before entering the Wood Trash Pumps as they allow the passage of objects as large as a 12 inch diameter ball without impairing the efficiency of the pumping mechanism, and the pump operates efficiently when han-

dling water carrying rags and other debris that would cause ordinary pumps to clog and stop. The impeller design is the feature of this centrifugal pump. It is known as an enclosed side, suction type impeller enclosed in an involute housing. The impeller is free of sharp corners which would catch fibrous material... Instead of many sharp blades they had but two rounded blades on the runners. There was no sharp edge on which a bit of trash could find lodgement [Thompson n.d.:15].

The new pumps functioned extremely well. Three years after installation, a report stated that:

Unscreened sewage is pumped by them with a higher efficiency than clear water by the original sewage relifting pumps, and there has not been a single case of pump obstruction or decrease of pump efficiency due to trash clogging (Thompson n.d.:15).

Wood's sewerage pump design became the industry standard:

Up to a little over ten years ago, more or less standard water pumps with closed or open impellers were used for pumping sewage. Because of the comparatively small passages through the impellers, clogging occurred and satisfactory operation was obtained only by screening the sewage fairly fine before it entered the pumps.

...However, there are in some cases objections to the use of screens with close spacing and a pump that can handle practically unscreened sewage has been demanded. A little more than ten years ago such a pump was put on the market by the Fairbanks-Morse Company using a design originated with A.B. Wood of New Orleans. The overhung impeller of this pump was of the single suction type, with two vanes, the thickness of which diminishes from center to periphery [Figure 14, this report]. The width of the impeller passages was such that spheres one to two inches smaller in diameter than the discharge nozzle could go through the pump. In response to the increasing demand for so-called non-clogging pumps, most pump manufacturers undertook the development of such pumps, giving them various trade names such as "Freeflo," "Clogless," etc. Except for varying design of details, all of these pumps are similar, with overhung, single inlet impellers having wide passages for the liquid...

The most vital part of a sewage pump is unquestionably the impeller... [Peterson 1938:214, emphasis added].

When Hamilton, Ontario built a new sewerage pumping station in the early 1930s, use of Wood trash pumps eliminated the need for screens (Wilson 1932:21-22). Similarly, non-clogging pumps were used for the 1933 World's Fair in Chicago (<u>Municipal Sanitation</u> 1932:502) and for an underground sewerage pumping plant in Los Angeles that was reported on in 1935 (<u>Municipal Sanitation</u> 1935:295). These are only a few examples of systems that had adopted Wood's design by the 1930s:

Due to this improvement in design and construction it is now possible to secure centrifugal sewage pumps that will pass solids about one pipe size smaller than the pumps and give very little trouble from clogging and at the same time maintain efficiencies of from 40 percent for the smaller size to 65 percent for the larger sizes. As a result, centrifugal pumps are now being used for nearly all sewage pumping except where special conditions make some other type desirable [Municipal Sanitation 1935:48].

Even today, "The so-called 'nonclog pumps' are all based on an original development of Wood in New Orleans..." (Karassik et al. 1986:9.28)

During construction of the Inner Harbor Navigation Canal in the second decade of the twentieth century, Wood developed a special trash pump for use by G.V. Goethals and Company, which was the contractor for dredging the canal. The company had previously served as consulting engineers for construction of the Panama Canal. Goethals was using the same type of dredging equipment which had been employed to create Gatun Lake in Panama, with centrifugal pumps equipped with runners. The dredges and pumps chopped up solid matter which was then thrown out along with a stream of water. The equipment worked well at the Inner Harbor site until three layers of "primeval cypress swamps, one on top of the other," were encountered. The equipment in use successfully cut through the wood, but then the solid material piled up on the runner blades, thereby clogging the pumps. It was necessary for workmen to clean the pumps, which reduced the daily rate of dredging from about 75 feet or 80 feet to 20 or 25 feet (Thompson n.d.:19; 1973:43,74).

Wood designed a special trash pump for Goethals, mounted on the dredge boat. During the 44 days prior to installation, 95,000 cubic yards had been dredged. Wood's pump allowed the dredging of 223,000 cubic yards during the 38 days after installation. This resulted in a savings of \$221,000.00 (Thompson n.d.:19-20, 1973:74).

Wood was also instrumental in the reclamation of the Zuyder Zee by the Dutch government. The Zuyder Zee was a shallow body of water about the size of Rhode Island. Holland sent a representative to meet with Wood about his Screw Pump, which was becoming well-known in the engineering world. Wood reached an agreement with the Werkspoor Company, the leading pump manufacturer of Europe, headquartered in Amsterdam. The Werkspoor Company received exclusive rights for the manufacture and sale of Wood Screw Drainage Pumps in continental Europe. Wood himself refused to go to the Netherlands, but engineers involved with the project visited him when problems arose (Thompson n.d.:20-21, 1973:74).

Between 1910 and 1920, Wood also served as consulting engineer for a number of projects in the United States. In 1913, his services were engaged during construction of a pumping station to protect North Memphis during flooding of the Mississippi and Wolf Rivers. The following year, Wood designed two 78-inch pumps for Funk Farms Corporation which was engaged in land reclamation at Paradis, Louisiana. In 1917, the Chicago City Water Works appointed Wood as consulting engineer. They paid him a considerably greater amount than did the New Orleans Sewerage and Water Board despite the fact that he remained in New Orleans. In 1919, the Sanitary District of Chicago decided to replace an inadequate sewerage drainage canal with a pumping system. Recognizing that their sewerage problem was similar to that of New Orleans, they engaged Woods' services (Thompson n.d.:23; 1973:74,76).

Wood was a consulting engineer for many other agencies as well. These included the Memphis District of the Army Corps of Engineers as well as public and private agencies in Chicago, Illinois; Jacksonville, Florida; Ontario, Canada; Milwaukee, Wisconsin; Baltimore, Maryland; and San Francisco, California. He designed pumps for the U.S. Government Docks in Seattle, and served as a consultant for the London Waterworks. Wood Screw Pumps were installed in China, India, and Egypt. However, Wood visited these places only very briefly, if at all, preferring to remain in New Orleans (Thompson 1973:76).

After a severe downpour in 1927, the New Orleans Sewerage and Water Board decided to double its drainage capacity. Wood designed a fourteen-foot version of his Screw Pump, and the first of these was completed in 1929. With a capacity of one million gallons every five minutes , the 14' Wood screw pump was then largest pump in the world. These pumps remain the heart of the present-day drainage system for the City of New Orleans, and they may well represent Woods' greatest engineering achievement.

Wood died in 1956. The Sewerage and Water Board adopted a resolution of regret which included a biographical summary and tribute:

Many honors were conferred on Mr. Wood during these years. The young Men's Business Club presented him with a silver membership and in 1955, citing him for having made outstanding contributions to the welfare and development of New Orleans through the invention of various heavy duty water pumps and other hydraulic needs of our community; prior to this, in 1939, Tulane University, his alma mater, awarded him the degree of doctor of engineering; in 1940, the Chamber of Commerce presented him a plaque for his outstanding civic work; and in 1954 the City of New Orleans presented to him a plaque in honor of his 55 years of service with the board.

His was a life of achievement and usefulness. That public, private, technical and educational groups paid tribute to him testifies to his important role and indicates the degree of New Orleans' loss. He rendered our city one of the greatest services it has ever received from an individual.

Our present water, sewerage and drainage systems stand as a monument to his genius and guidance throughout the years of his service. The principles of design and the policies of operation that he created in the Sewerage and Water Board will continue to live, and the shadow of his influence will continue to inspire and guide us for years to come [Sewerage and Water Board 1956].

The annual report of the new General Superintendent E.F. Hughes began with the simple but eloquent statement that "The sudden death of Mr. Albert Baldwin Wood on May 10, 1956 brought to an end an era of engineering ingenuity" (Sewerage and Water Board 1956).