

DIED MARCH 10, 1943

John Debo Galloway, the son of James and Emily Meyers (Hoover) Galloway, was born on October 13, 1869, at San Jose, Calif. His ancestors were residents of Maryland, New Jersey, and Pennsylvania prior to the American Revolution. His parents died when he was still quite young. Left to his own resources, one of his dominant characteristics, self-reliance, early came to the fore. His boyhood experiences, some of which were acquired at Virginia City, Nev., when that city was the center of the great mining activity incident to the discovery and development of the famous Comstock Lode, made a deep impression upon him. At the age of eight he was taken to live with friends in Napa Valley, California.

His technical education was gained, not without some financial struggles, at Rose Polytechnic Institute, Terre Haute, Ind. There originated lifelong friendships with others who, like himself, later proved to be leaders in the Society. Mr. Galloway was graduated from Rose Polytechnic Institute in 1889. His attendance there had been inspired by his brother Mason Galloway, who was graduated in 1890.

Next, he was employed in railroad work in the Pacific Northwest. Recalling these days, he later enjoyed telling the late John F. Stevens, Past-President and Hon. M. Am. Soc. C. E., of a good turn he received from him. Although Mr. Stevens had not met Mr. Galloway, through a consolidation of railroad interests, Mr. Stevens, directing the affairs of his company, released Mr. Galloway to (it later proved) better and more congenial employment. After a short stay in the Pacific Northwest, Mr. Galloway returned to California and throughout the remainder of his career maintained his headquarters in San Francisco, although his practice often took him far afield.

From 1892 to 1896 he was chief engineer for Healy-Tibbitts Construction Company of San Francisco. In this capacity he personally directed the construction of important bridges, harbor works, sewers, and difficult foundation work. From June, 1896, to September 1897, he was employed in the engineering department of Pacific Rolling Mill Company of San Francisco, on designing and detailing steel building frames.

¹ Memoir prepared by a Committee consisting of Walter L. Huber, *Chairman*, Henry D. Dewell and A. Kempkey, *Members*, Am. Soc. C. E.



From September, 1897, to October, 1899, he was an instructor in drawing and mechanics at California School of Mechanical Arts in San Francisco. In this capacity he made a deep impression on his students, many of whom became leaders of the engineering profession. Among them was the late Arthur H. Markwart,² M. Am. Soc. C. E., who later became Mr. Galloway's partner. From October, 1899, to May, 1900, Mr. Galloway was chief engineer for Colusa Stone Company. After May, 1900, he maintained an independent practice as consulting engineer, although on two occasions, covering several years, he was associated in partnerships.

For the California Gas and Electric Company, predecessor of the Pacific Gas and Electric Company, he directed the design and construction of the cable span across the Straits of Carquinez. This span, which was a part of the world's then longest transmission line, was also the then longest cable span. It is still in service as an important part of this company's great system.

From 1900 to 1906, the period just prior to the San Francisco earthquake and fire of April 18, 1906, he designed and supervised hydraulic and structural construction for several hydroelectric plants which were later absorbed in the system of the Pacific Gas and Electric Company. He also designed the hydraulic and structural features for the first two hydroelectric plants of the system later owned by California Electric Power Company; and the structural elements of some of the city's principal buildings including the Mutual Savings Bank Building, the St. Francis Hotel, the Shreve Buildings, the Schroth Building, the Syndicate Building of Oakland, etc. He was one of the earliest advocates of earthquake-resistant design, and the merit of his reasoning was fully demonstrated by structures designed by him, when they were subjected to the effects of the great earthquake.

Immediately after the earthquake he formed a partnership with John Galen Howard, as Howard and Galloway, Architects and Engineers. William C. Hays and Mr. Markwart were junior partners. This firm took a leading part in the design of San Francisco's reconstructed commercial district. Many of the city's most important office and commercial buildings were designed under Mr. Galloway's direction. In spite of the exacting demands of his professional work at this critical time, he devoted much personal effort to the revision of the city's building ordinance and to relief work. His firm also designed and supervised the construction of buildings and grounds for the Alaska-Yukon-Pacific Exposition at Seattle, Wash., and the auditorium, chemistry and engineering buildings, and a steam-electric power plant for the University of Washington at Seattle.

At this time he served with Charles D. Marx,³ Past-President and Hon. M. Am. Soc. C. E., and Wynne Meredith, M. Am. Soc. C. E., on the Board of Advisory Engineers on the design and construction of the Stanislaus Hydro-Electric Power Plant, California.

From 1908 to 1920 he was associated with Mr. Markwart on consulting work. However, this partnership had a number of intermissions. From

² For memoir, see *Transactions*, Am. Soc. C. E., Vol. 105 (1940), p. 1877.

³ For memoir, *ibid.*, p. 1785.

July, 1912, to April, 1915, Mr. Markwart was absent while in charge of the design and construction of the Panama Pacific Exposition at San Francisco. From November, 1917, to February, 1919, Mr. Galloway served as an officer with the American Expeditionary Force in France. In November, 1920, Mr. Markwart became head of the engineering department of Pacific Gas and Electric Company and the partnership was then dissolved. After this Mr. Galloway continued in independent practice.

With Mr. Markwart, he designed and built several railway and combined highway and railway bridges in the Sacramento Valley, California, a hydroelectric power plant in Yosemite National Park, and a number of important buildings. The firm made many investigations and reports upon utility properties, including those of the Oro Electric Corporation, Butte and Tehama Power Company, City Electric Company, Yolo Water and Power Company, and Santa Barbara Gas and Electric Company. Mr. Galloway investigated and reported on the steam and hydroelectric plants of Treadwell Mines in Alaska; on proposed power development on the Potomac River and Shenandoah River at Harpers Ferry, W. Va.; on existing and possible additional power developments on the Menominee River, Michigan and Wisconsin; on power possibilities on Deschutes River in Oregon; on power developments on Feather River and Yuba River in California; on development of hydroelectric power on Vancouver Island, B. C., Canada; and on power projects on Pit River, California. He also conducted extensive examinations and reports, in many instances including appraisals of irrigation systems. Among the properties concerned were those of Turloch Irrigation District and Modesto Irrigation District; Fresno Canal and Land Corporation; James Irrigation District; Honcut-Yuba Irrigation District; Mendota Irrigation District; Tulare Lake Basin Water Storage District; and Sutter Butte Canal Company. With Mr. Markwart, he made surveys and prepared designs for the irrigation system which, with some modifications, was built by Merced Irrigation District at a cost of approximately \$16,500,000. With the late J. B. Lippincott,⁴ Hon. M. Am. Soc. C. E., B. A. Etcheverry, F. C. Herrmann, W. L. Huber, and the late F. H. Tibbetts,⁵ Members, Am. Soc. C. E., he was a member of the Board of Advisory Engineers on the Sacramento Valley Division of the Central Valley Project in California. This board made studies of dams on the larger rivers giving special consideration to the Shasta (Kennet) Dam and the use of water in the Sacramento Valley.

Mr. Galloway rendered extensive service to Great Western Power Company: First in connection with the design and construction of extensions and additions to its Las Plumas Plant on Feather River; and later in connection with the design and construction of its Caribou Plant on the same stream. As consulting engineer, he represented this company on the construction of the Bucks Creek hydroelectric power plant, a plant with 2,660-ft head.

With Frank G. Baum,⁶ M. Am. Soc. C. E., and W. F. Durand, Mr. Galloway was a member of the Board of Consulting Engineers on the location and

⁴ For memoir, see *Transactions*, Am. Soc. C. E., Vol. 108 (1943), p. 1543.

⁵ For memoir, *ibid.*, Vol. 105 (1940), p. 1924.

⁶ For memoir, *ibid.*, Vol. 99 (1934), p. 1407.

design of the Moccasin Creek hydroelectric plant on the Hetch Hetchy Aqueduct of the City of San Francisco. For Pacific Gas and Electric Company he served as consulting engineer in connection with the concrete masonry dams for Pit No. 3 and Pit No. 4 power plants on Pit River, the enlargement of Fordyce rock-fill dam on Yuba River, and the design and construction of the 328-ft Salt Springs rock-fill dam on Mokelumne River. With Robert Ridgway⁷ and Arthur N. Talbot,⁸ Past-Presidents and Honorary Members, Am. Soc. C. E., and M. M. O'Shaughnessy,⁹ M. Am. Soc. C. E., Mr. Galloway was a member of the first Commission of San Francisco on the location of the San Francisco-Oakland Bay Bridge. The foregoing list of his professional engagements is necessarily incomplete. As one of his colleagues recently stated, he had a part in practically every major engineering project in northern California during a period of forty years.

As previously noted, his professional career was interrupted by World War I. In 1917 he was chairman of a temporary organization of about 750 engineers for the study of war work and for supplying information preparatory to army service. In November, 1917, he was called to active duty and ordered to France, arriving in December, 1917. He served as Major of Engineers in G-2 Section of the General Staff at Headquarters of the American Expeditionary Force at Chaumont, France.

In 1942, during World War II, he was board member of the Price Adjustment Section for the Pacific Division, Corps of Engineers, U. S. Army. He was Director of Defense Transportation (Office of Civilian Defense) for Berkeley, Calif., until the time of his death.

He was married on April 19, 1894, to Nettie Mabel Barnes whom he had known since early childhood in Napa Valley. Mrs. Galloway died on June 14, 1941. Two daughters, Mrs. E. Ronald Foster and Mrs. Alice Wilder; three grandchildren, John D., Margaret Ellen, and Rosemary Foster; and a brother, Mason Galloway, survive him.

Mr. Galloway was a life member and past-president of the Astronomical Society of the Pacific, a member of the Society of Military Engineers, a member of the Seismological Society of America, a member of the California Historical Society, a charter member and life member of the Commonwealth Club of California; and a director of California School of Mechanical Arts and past-president of its Board of Directors. San Francisco's noted Bohemian Club, a group of professional and civic leaders, learned to appreciate his ability as he was charged with upkeep of its summer retreat in the Redwood Country—the locale of events famous for their originality and convivial atmosphere. Mr. Galloway was particularly proud of the fire-protection system which was installed there under his direction.

His was a rich life filled with interests beyond his professional practice. He had a passionate fondness for historical research, particularly when it related to the early development of the West such as the Pacific railroads,

⁷ For memoir, see *Transactions*, Am. Soc. C. E., Vol. 106 (1941), p. 1527.

⁸ For memoir, *ibid.*, Vol. 108 (1943), p. 1530.

⁹ For memoir, *ibid.*, Vol. 100 (1935), p. 1710.

the utilities which served the western mining regions, and early explorations in general. He made a fine collection of rare prints. Gardening gave much pleasure to him and his wife.

He wrote many authoritative articles, especially for the Society. For his paper on "The Design of Rock-Fill Dams,"¹⁰ he received the Thomas Fitch Rowland Prize in 1941, and, at the same Society meeting, he was awarded Honorary Membership. The dual honor was a significant tribute to the depth and catholicity of his interests. His splendid article, "Theodore Dehone Judah—Railroad Pioneer,"¹¹ is, so far, the only printed evidence of the great amount of study and research which he devoted to the subject of the building of the Central Pacific Railroad. It is hoped that some of his manuscripts on this subject will yet be printed.

Among many important assignments which he filled for the Society one stands out in bold relief—his chairmanship of the Society's Earthquake Committee which was instituted following the Japanese disaster of 1923. After years of study this committee produced a monumental report, which is still consulted for authentic information on a wide variety of earthquake problems.

Besides the papers mentioned he was the author of many other papers and discussions, among them: "Report of Committee on Fire and Earthquake Damage to Buildings"¹² (chairman of committee), "The Design of Hydro-Electric Power Plants,"¹³ "Hydro-Electric Developments on the Pacific Coast,"¹⁴ and "Earthquakes and Structures,"¹⁵ in collaboration with L. M. Hoskins. He contributed valuable discussions to a great many papers published by the Society. He was the author of "Hydraulic Power Development and Use" presented at the International Engineering Congress in San Francisco in 1915. He also contributed a discussion of a paper entitled "The Subsidence of a Rockfill Dam and the Remedial Measures Employed at Eildon, Australia" to the *Journal* of the Institution of Civil Engineers, London. Among his numerous papers presented to the Commonwealth Club of California may be mentioned "The Hetch Hetchy Water Supply for San Francisco," "The Bay Cities Water Problems," "Reception to Members from the Front," "Water Power and Irrigation in California," "California Water and Power Act," "Hetch Hetchy Power," and "The Swing Johnson Bill."

Mr. Galloway had a capacity for genuine friendship but when occasion demanded he could be a frank critic. Whatever decision his logical mind led him to take, he defended it strongly. This independence combined with his great kindness made him greatly admired and loved. As noted in *Civil Engineering*,¹⁶ "No civil engineer on the Pacific Coast has enjoyed a more secure place in the esteem and affection of his fellows." One of his loyal friends of many years recently made a statement which is offered here because it describes Mr. Galloway's personality so truly.

¹⁰ *Transactions, Am. Soc. C. E.*, Vol. 104 (1939), p. 1.

¹¹ *Civil Engineering*, October, 1941, p. 586; November, 1941, p. 648.

¹² *Transactions, Am. Soc. C. E.*, Vol. LIX (1907), p. 223.

¹³ *Ibid.*, Vol. LXXIX (1915), p. 1000.

¹⁴ *Ibid.*, Vol. LXXXVI (1923), p. 803.

¹⁵ *Ibid.*, Vol. 105 (1940), p. 1269.

¹⁶ *Civil Engineering*, April, 1943, p. 190.

“Personally, I not only respected but also appreciated ‘J. D.’ both as a student and as a scholar, and I certainly did look up to him as a genuine engineer—sound as to judgment and eminently practical as regards the application of engineering knowledge and skill.

“My very deep affection for him, however, was founded upon his humanitarian traits, for after all he was a man both human and humane.

“I did so enjoy his little ‘bark’ which never could become anything even remotely resembling a ‘growl’ because of the smile that at such times always lingered at the corners of his mouth, and the ever present bright twinkle in his eye.

“The structures which he designed and the projects in which his influence is so clearly shown will endure as physical mementos to his worth as an engineer; but as a man and as a friend, his memory ever bright will live always in my heart.”

Mr. Galloway was elected a Member of the American Society of Civil Engineers on December 6, 1905, and an Honorary Member on October 14, 1940. He became a Life Member on January 1, 1940. He was a Charter Member and Past-President of the San Francisco Section of the Society.

In Memoriam

JOHN D. GALLOWAY

1869-1943

Major John Debo Galloway, one of America's outstanding civil engineers, passed away in Berkeley, California, on March 10.

He was born in San Jose, California, on March 13, 1869, the son of James and Emily Hoover Galloway. Shortly after his birth the family removed to Virginia City, Nevada. This was in the midst of exciting times on the Comstock Lode. After his mother's death eight years later, he returned to California. From an early age, left largely to his own resources, he developed the self-reliance which was a marked characteristic.

Graduated from the Rose Polytechnic Institute in Terre Haute, Indiana, in 1889, he soon thereafter made his headquarters in San Francisco, though his engineering work often took him far afield. In the next fifty years he had a part in most of the major engineering projects of northern California, including such projects as the San Mateo Bridge, Shasta Dam, Coyote Dam, and the Stanislaus, Las Plumas and Moccasin hydro-electric plants.

He was a pioneer in the design of earthquake-proof structures, as well as in the field of hydroelectric plant construction. Irrigation development, water supply works, bridges, and dams were among the projects in which he specialized.

Following the San Francisco fire and earthquake of 1906, his firm designed and supervised the construction of many of the new city's important structures, and he revised the San Francisco building code.

From 1906 to 1908 he was associated with John Galen Howard in the architectural and engineering firm of Howard and Galloway, and from 1909 to 1917 he was a member of the engineering firm of Galloway and Markwart.

In the first World War, he was chairman of an organization of seven hundred engineers for the study of war work. He was commissioned major of engineers in the United States Army, in G-2 section of the general staff at the headquarters of the American Expeditionary Force, Chaumont, France, receiving for this service a citation from General Pershing. He remained in the Army till January 1919.

On his return to San Francisco, the partnership with A. H. Markwart was revived and existed until the end of 1920. From then on Major Galloway maintained a consulting practice in San Francisco. He was on the first commission for the location of the San Francisco-Oakland Bay Bridge.

A resident of Berkeley for many years, Major Galloway was prominent in civic affairs. Up to the time of his last illness, he was serving as Berkeley's transportation administrator.

Major Galloway wrote extensively for technical publications, especially for the American Society of Civil Engineers. He was signally honored by that Society in 1940, when he was made an honorary member and also was awarded the Thomas Fitch Rowland prize for his paper on "The Design of Rock-Fill Dams."

He served for some years as president of the Board of Directors of the California School of Mechanical Arts, and he was a member of the Astronomical Society of the Pacific, the Society of Military Engineers, and the Seismological Society of America.

Much interested in the early history of the West and its railroads, he was a member of the California Historical Society, serving as a director at the time of his death. He was a charter and life member of the Commonwealth Club; an honorary member of the Bohemian Club and a long-time member of the Hillside Club of Berkeley.

Major Galloway is survived by two daughters, Mrs. E. Ronald Foster of Berkeley and Mrs. Alice Wilder of Oakland; three grandchildren, John Douglass Foster and the Misses Margaret Ellen and Rosemary Foster, also of Berkeley. He also leaves a brother, Mason Galloway of Cupertino. Mrs. Galloway had passed away about 18 months before his death.

The national publication of the American Society of Civil Engineers said editorially, in referring to Major Galloway: "No civil engineer on the Pacific Coast has enjoyed a more secure place in the esteem and affection of his fellows."

AUBREY DRURY

Gifts Received by the Society

March 1, 1943, to May 15, 1943

BOOKS AND PAMPHLETS

From CALIFORNIA ACADEMY OF SCIENCES—Alden, Roland H., and Ifft, John D., *Early Naturalists in the Far West* (Occasional Papers, No. XX), San Francisco: California Academy of Sciences, 1943.

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From CALIFORNIA STATE HISTORICAL ASSOCIATION—California State Historical Association, comp., *A Partial List of Organizations in California Interested in California History*, 2d ed., Los Angeles: California State Historical Association [1942].

From MISS LILIAN A. CROSS—Cross, Lilian A., *Appreciation . . . John Francis Cross . . . Sarah Jane Cross*, Oakland, 1933; *idem*, *Sylvan Recollections, a History of the Sylvan District, Sacramento County, California*, 1943.

From MR. AUBREY DRURY—Olmstead, Frederick Law, *Report of State Park Survey of California*, Sacramento: California State Printing Office, 1929.

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