Guide to the Papers of Clark B. Millikan, 1922-1965

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Descriptive Summary

Title: Guide to the Papers of Clark B. Millikan, 1922-1965

Dates: 1922-1965

Collection Number: 10021-MS

Creator/Collector: Clark, B.Millikan

Extent: 23 linear feet

Repository: California Institute of Technology

Pasadena, California 91125

Abstract: The working papers, correspondence, publications, and biographical material of Clark B. Millikan form the collection known as the Papers of Clark B. Millikan in the Archives of the California Institute of Technology. Clark Millikan obtained his PhD from Caltech in 1928 and joined the Caltech faculty thereafter, where he became one of the nation's pioneers in aerospace research and development. Millikan served as director of the Guggenheim Aeronautical Laboratory at the California Institute of Technology (GALCIT) from 1949 until his death in 1966 and was advisor to various governmental committees during and after World War II. He was the eldest son of Robert A. Millikan.

Language of Material: English

Access

The collection is open for research. Researchers must apply in writing for access.

Publication Rights

Preferred Citation

Guide to the Papers of Clark B. Millikan, 1922-1965. California Institute of Technology

Acquisition Information

The original collection was donated by Max Millikan, son of Clark Millikan, to the Caltech Archives circa 1975. Supplementary files were given by Caltech's Sherman Fairchild Library in 2000.

Biography/Administrative History

Clark Blanchard Millikan, the son of Nobel Prize recipient Robert A. Millikan, was born in Chicago in 1903. Born in the same year that the Wright brothers first flew their aircraft at Kitty Hawk, Clark Millikan would later become one of the nation's foremost pioneers in aerospace research and development. Only eight years old when he decided to make his vocation aeronautics, Millikan pursued his dream by first obtaining from Yale an undergraduate degree in science and then from Caltech his PhD in 1928, completing his dissertation on the "Steady Motion of Viscous Fluids" under the guidance of Harry Bateman. Upon completing his degree, Millikan joined the Caltech faculty and began teaching aeronautics within the Division of Civil and Mechanical Engineering. Millikan also continued to pursue research in aeronautics and soon formed productive relationships with several Southern Californian aircraft companies. Integral to this research and these relationships was Millikan's longstanding involvement with the Guggenheim Aeronautical Laboratory at the California Institute of Technology (GALCIT) and the Southern California Cooperative Wind Tunnel (SCCWT). With Theodore von Kármán as its first director and with its 200 m.p.h. wind tunnel, GALCIT-established with a generous endowment from Daniel Guggenheim-enabled Millikan and the rest of the laboratory's personnel to make large strides in the advancement of aeronautic engineering. During the Second World War, for example, Millikan helped advance many of the U.S. military's most sophisticated aircraft and ordnance, while, following the war, Millikan was heavily involved in using the wind tunnel to test, analyze, and solve the aerodynamic problems that accompanied the development of high-speed aircraft, and, eventually, guided missiles. Indeed, the wind tunnel serves to exemplify Millikan's ability to link the worlds of industry, academia and the military. While research always remained important for Millikan, his work as an administrator and advisor is also noteworthy. Following the war, he became a key component of Pasadena's Jet Propulsion Laboratory (JPL). From 1949 until his death in 1966, Millikan served as GALCIT's director, while he also served as chairman of the Scientific Advisory Committee for Defense, of the Air Force Ballistics Missiles Committee and of the Air Force Scientific Advisory Board. In addition, and among many other things, he served as a member of the Naval Advisory Committee, the National Committee of Aeronautics, the Los Angeles Committee on Foreign Relations, and the U.N. Association. Millikan regularly spoke to interested groups. He addressed technical and non-technical audiences, professional groups, women's clubs, or social clubs, like the Sunset Club and others, of which he was a member. Developments in aeronautics paralleled Millikan's

own interests. The changing nature of his lectures evolved with advancing technologies: "The Influence of Running Propellers on Airplane Characteristics" of 1939 is characteristic of his pre-War work; "The Dawn of the Supersonic Age" (1949) and "The Guided Missile: Precocious Problem Child of the Military Act" (1951) are characteristic of his post-War interests; and his 1963 "What to do With Space?" is indicative of his interests during the Cold War. Millikan's professional honors include honorary fellowships in the Institute of Aeronautical Sciences (later the American Institute of Aeronautics and Astronautics), and the Royal Aeronautical Society of Great Britain. He also received the United States Presidential Medal of Merit. His professional affiliations included the American Society of Mechanical Engineers, the American Physical Society and the American Academy of Arts and Sciences. However, during his lifetime, and despite his distinguished track-record, Millikan was also known for his warm character, approachability and collegial nature.

Scope and Content of Collection

This collection documents C. B. Millikan's role as a pioneer in the field of aeronautics in its academic, commercial, and popular aspects. It also offers a glimpse of the private man, through correspondence with long-time friends and colleagues, and through the diaries Millikan kept. The collection itself is divided into seven main series and numerous sub-sections which reflect his various professional activities and personal interests. It should be noted, however, that many similar documents are scattered throughout the collection. Thus, while an entire series is devoted to GALCIT, documents involving Millikan's affairs at GALCIT are located in numerous sections. Similarly, materials related to von Kármán can be found in every section. Series I, Personal, publication and general correspondence comprises approximately one-fifth of the collection. Containing material from the 1920s to the 1960s, the correspondence provides access into most elements of Millikan's life and career. Included among the correspondents is Harry F. Guggenheim, Theodore von Kármán, McGraw-Hill and Time Magazine. Millikan's research and advisory roles often involved branches of the U.S. government and the U.S. military. The second series focuses on this involvement, particularly his association with the Aeronautical Advisory Council and the Department of Defense. Of course, much of Millikan's work for the Government transpired during the Second World War; but the series also contains miscellaneous other work-for instance, his role in the President's Scientific Advisory Committee and the Air Force's Space Systems Division Advisory Group in the early 1960s. The third series evinces the diversity of Millikan's professional activities. Ranging from the National Academy of Sciences and the Western Metals Congress to the Ford Foundation and the Atlantic Council's Committee on Foreign Relations, the section also encompasses the multitude of educational bodies with whom Millikan collaborated. Series IV, on the other hand, is limited to one specific educational body-Caltech-although, like the other elements of Millikan's career, the facets of his involvement in the Institute's operations were manifold. As such, the series contains materials related to general administrative duties, the Caltech Flying Club and the civilian pilot training program. Most of the materials, however, relate directly to GALCIT: Millikan's correspondence as GALCIT's director (1949-66), government research contracts, faculty appointments and student instruction. Millikan's diverse writings-lectures, speeches, book manuscripts, journal articles-comprise Series V. Within the section are manuscripts, galleys and reprints, as well as notes, correspondence and printed material related to the composition of the writings. Encompassing five decades, the writings reflect Millikan's changing interests and the progression of flight. The writings also reflect the different audiences whom Millikan was addressing, be it the Faculty Women's Club, the American Physics Society, or readers of the most specialized journals in aeronautics. Whereas Series V evinces Millikan's ability to address general audiences, the following section represents the highly technical side of his career. Series VI, "Research and Technical Files," contains a collection of reprints that Millikan collected throughout his career,as well as copious notes, experimental results, calculations and drawings. Topics include early research in biplane theory, calculations on "porpoising," reports to Douglas Aircraft and analyses of wake turbulence. Also included in the series are sub-sections containing photographic slides and Millikan's involvement in industrial relations. The final section, Series VII, contains various personal and biographical material. For a quarter of a century Millikan was a dutiful diarist: his diaries (1940-65) largely contain a day-by-day record of meetings, trips and various administrative matters regarding the Cooperative Wind Tunnel, the Jet Propulsion Laboratory and defense related activities. Yet also recorded on a daily basis are personal items: family matters, illnesses, social engagements and sporting activities. In addition to his diaries are a number of personal scrapbooks (1956-64), as well as material related to the clubs and associations to which Millikan belonged, that offer a good glimpse into aspects of his life, both professional and personal. RELATED MATERIALS: Papers of Robert A. Millikan; Papers of Theodore von Karman; Caltech Historical Files (GALCIT); Wind Tunnel Records. Interview with Clare Mallory Millikan, Caltech Archives, 1981.

Indexing Terms

Aeronautics

Aerospace engineering

California Institute of Technology

Container List