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# BIOGRAPHICAL MEMOIR

OF

# DAVID WATSON TAYLOR

1864–1940

BY

WILLIAM HOVGAARD

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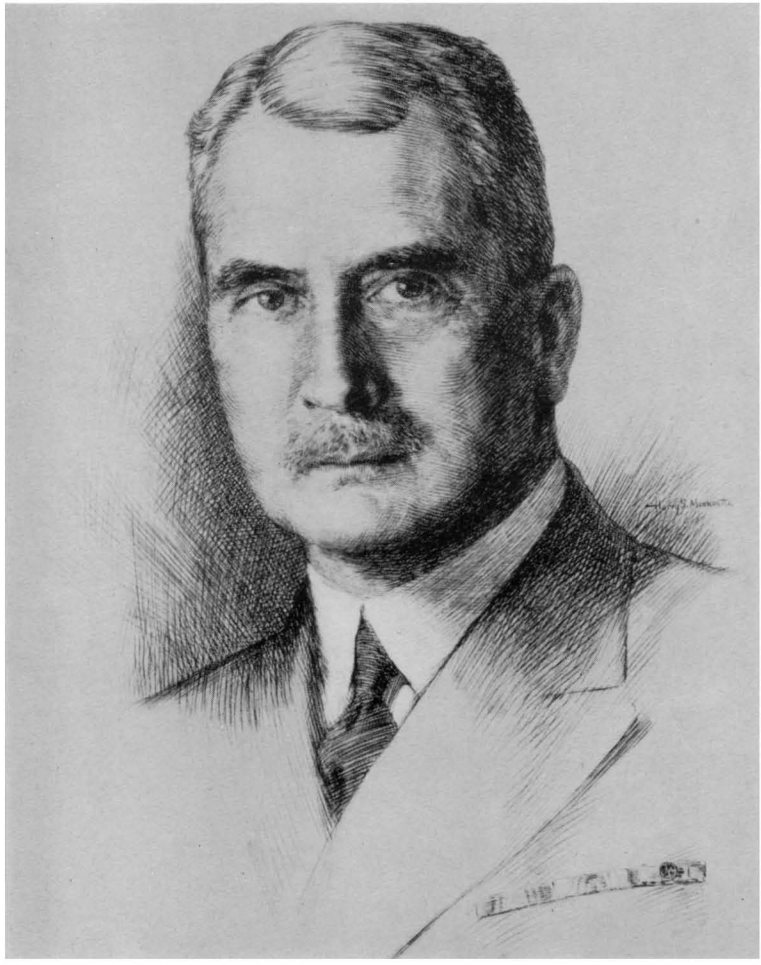

D. W. Taylor

# DAVID WATSON TAYLOR

## 1864–1940

BY WILLIAM HOVGAARD

David Watson Taylor was born on his father's farm in Louisa County, Virginia, on March 4, 1864, the son of Henry and Mary Minor (Watson) Taylor. After elementary education at home, he was sent to Randolph-Macon College, Ashland, Virginia, at the age of thirteen, the youngest boy in the college. Upon graduation in 1881, he was appointed to the United States Naval Academy and graduated as a cadet engineer in 1885 at the head of his class, with the highest scholastic record of any graduate of the Academy up to the present time. During his fourth year at the Academy, he was not only the ranking cadet, but a member of the football and baseball teams, president of the athletic association and chairman of the "hop" committee. After three months' service on the U. S. S. *Pensacola,* the flagship of the European Squadron, commanded by Captain George Dewey, he was selected by the Navy Department for assignment to study at the Royal Naval College in Greenwich, England. At that time there was no special course in this country for the design and construction of warships and naval machinery and for several years the Navy Department had sent young naval officers to study those subjects in England and France and later also in Germany. Taylor was ordered to England and entered the post-graduate course at Greenwich in 1885, specializing in marine engineering. He graduated from the Royal Naval College in 1888, receiving a first-class certificate, making the highest record of any English or foreign student at the College up to that time. While at Greenwich he was appointed Assistant Naval Constructor in 1886 because of his high standing at the College. In fact, at the annual examination of his first year at the College he was awarded a first prize in a class of 24 students.

Upon his return to the United States, Taylor was assigned to duty at Cramp's shipyard in Philadelphia.

In 1889 he was a member of the board of experts considering alleged defects in the battleship *Texas* building at Norfolk.

About the same time he assisted in preparing the designs of naval vessels for the consideration of the *Board of Naval Policy.* It was in those years that the upbuilding of the "New Navy" began, and Taylor took an active part in this work in several ways.

In 1891 he was promoted to the grade of Naval Constructor and from 1892 to 1894 he served as Construction Officer in the Navy Yard, Mare Island, California. In 1894 he was assigned to duty in the Bureau of Construction and Repair at Washington as principal assistant to the Chief Constructor. His connection with the designing and construction bureau of the Navy Department, thus commenced, continued throughout the remainder of his active career in the Navy. In 1898 he was ordered to Havana to arrange for and to fit the floating dry dock for towage to the United States. He was promoted to the rank of Commander in March 1899, to the rank of Captain in March 1901, and to the rank of Rear Admiral in 1917.

For about eight years, from 1914 to 1922, Admiral Taylor served as Chief Constructor and Chief of the Bureau of Construction and Repair. This term included the period of the World War. In 1917 he was appointed a member of the National Advisory Committee for Aeronautics, representing the Navy.

Admiral Taylor was retired at his own request, January 15, 1923, after more than forty-one years' service.

Following his retirement, Admiral Taylor served as Secretary of the National Advisory Committee for Aeronautics, 1923-1926, and was appointed Vice Chairman in 1927. He also served as Consultant for the Shipping Board.

In 1925 Admiral Taylor became a Director of Gibbs Brothers, Inc., Naval Architects and Marine Engineers, and later with the organization of Gibbs & Cox, Inc., in 1929, he became a Director of the new firm and also Vice-President.

Admiral Taylor married Imogene Maury Morris of Louisa County, Virginia, on October 26, 1892. They had four children: Dorothy Watson, May Coleman, David Watson and Imogene Morris.

In the spring of 1932, at a time of life when he might still have rendered further valuable service to the country, Admiral Taylor was stricken with paralysis and after this tragic event he was helplessly confined to chair and bed for the remaining eight years of his life. He spent his time largely at the Naval Hospital in Washington, always under the care of his wife. He died at the hospital on July 28, 1940.

### *Taylor as a Naval Architect and Scientist*

Even in the earliest years of his career, Taylor produced original work of practical and scientific value.

He critically investigated the various methods of "ship calculation" for the determination of displacement as well as the characteristics of buoyancy and stability and formulated a method of calculation which became the standard for the Navy.

In 1893 he wrote his first book entitled: *Resistance of Ships and Screw Propulsion,* a subject which was to become his life's principal work. This book formed the foundation for his later more complete and classical volume to be described below.

In 1894 Taylor read a paper entitled: "Ship-shaped Stream Forms," before the British *Institution of Naval Architects,* in which was revealed his high analytical ability and capacity for original mathematical research. This paper was awarded the gold medal of the Institution in 1895, the first time this honor was bestowed on an American.

Taylor brought to the attention of the naval authorities the great handicap under which the naval designers of the United States labored through lack of experimental facilities, notably a model basin for experimentation with small ship models, such as possessed at that time by several foreign governments and private establishments. His persistent advocacy and convincing arguments for the need of such facilities led to the appropriation of funds for the establishment of the Experimental Model Basin at the Washington Navy Yard. The details of the design of the Model Basin and its actual construction were placed under the immediate supervision of Taylor and the basin was completed and ready for operation by 1899. He then began an extensive and systematic series of experiments and investigations

on the subject of resistance to the propulsion of ships and on the action of propellers, which continued under his immediate direction up to the time of his appointment as Chief of the Bureau of Construction and Repair in 1914. The results of these systematic investigations were scientifically analyzed and tabulated, and from time to time conclusions deducible therefrom, with supporting data, were published in various papers, mostly in the *Transactions of the Society of Naval Architects and Marine Engineers,* of which he was one of the founders.

In 1910, the extensive research work performed by Taylor up to that time, in connection with the model basin, was published in his great work: *"The Speed and Power of Ships,"* which has become internationally known as the standard book on this subject. In the preface Taylor sums up the purpose of this book in the following words:

"The intention of this work is to treat in a consistent and connected manner, for the use of students, the theory of resistance and propulsion of vessels and to give methods, rules and formulae which may be applied in practice by those who have to deal with such matters. The contents are based largely upon model experiments, such as were initiated in England nearly half a century ago by Mr. William Froude and are now generally recognized as our most effective means of investigation in the field of resistance and propulsion. At the same time care has been taken to point out the limitations of the model experiment method and the regions where it ceases to be a reliable guide."

After an introductory chapter on hydrodynamics, pertinent to this subject, the book deals comprehensively with the problem of resistance to driving a ship through water, in all its aspects, with special regard to the use of small models. The results of the vast experimental work are expressed in a great number of diagrams, giving curves which represent the resistance of a series of models, derived from a parent form by variation of the principal characteristics such as beam-draught ratio, speed-length ratio, coefficients of fineness, etc.

The third chapter is devoted to the difficult subject of propulsion, which is here treated in a most complete and masterly manner. It comprises the general theory of propeller action, the results of extensive series of experiments with small models,

presented in numerous diagrams by curves, various special problems such as that of cavitation, and finally a full discussion of the strength and design of propeller blades.

The last chapters deal with ship trials and their analysis, and with the important practical problem of powering of ships, that is, the calculation of the engine power required to drive a given ship at a certain speed.

Altogether the book is an outstanding classic in engineering literature. Taylor had the rare advantage of a brilliant mind and a natural talent for expressing himself in concise scientific language. He was never satisfied until he had reached perfection in exposition and he avoided always the pitfall of stating opinions that were not completely buttressed by facts. His talent for experimental work found the best possible opportunity for development and achievement, due to the fact that he had at his disposal and under his independent direction a well equipped experimental plant, shaped according to his own ideas and provided with an exceptionally able staff of his own selection and trained by himself. His master mind used this tool to full efficiency.

The Navy Department allowed Taylor to hold his position as scientific expert and head of the Experimental Model Basin in Washington continuously for about twenty years. This is contrary to the ordinary routine according to which officers do not hold the same commission or office for more than four years. Thus Taylor was given the opportunity of continuous and consistent study and research, and the outcome was a work of rare excellence and value.

In 1933 a second revised edition of his book was published, following closely the same principles in mode of presentation, but containing much new material, largely based on experimental data from the model basin, accumulated since the publication of the first edition in 1910. The new edition was prepared with the assistance of Lieutenant Commander A. S. Pitre (CC), U. S. Navy, the Admiral's capacity for work being at that time impaired by his illness. The book has placed ship designers of all countries under a great and lasting obligation to Admiral Taylor.

In 1909 Taylor published a paper on "Some Model Experiments on Suction of Vessels," read before the Society of Naval Architects and Marine Engineers in New York, explaining the "suction" which tends to draw ships together when they pass close to one another. Not long after, a collision occurred between the British cruiser *Hawke* and the White Star liner *Olympic*. In the ensuing trial the British Admiralty claimed that the collision was due to "suction" and in 1911 Taylor's services as technical expert were requested by the Admiralty and were loaned by the United States Government. The decision, which was strongly influenced by Taylor's testimony, was in favor of the Admiralty's contention.

The work at the Model Basin under Taylor's guidance extended outside the field of resistance and propulsion of ships and came to comprise several other problems in engineering.

To the writer's knowledge, one of the earliest and most complete sets of experiments on the artificial ventilation of ships was that made by Taylor at the Experimental Model Basin. His experiments were conducted through a number of years and led to a rational scientific mode of design of ventilating systems, now adopted in the United States naval vessels.

In 1901 he published a paper on the balancing of reciprocating marine engines, giving the most complete analysis of the problem up to that time. An analysis and experiments were made on the problem of gyroscopic control of the rolling of vessels for the late Dr. Elmer Sperry, which proved to be most useful in the development of the Sperry control apparatus.

Taylor was appointed Chief Constructor with the rank of Rear Admiral in 1914 and served in that capacity during the World War and until 1922. He was responsible for the design of an unprecedented number of vessels; actually more than 1,000 vessels, large and small, with a total displacement of about 1,200,000 tons, were built under his supervision, while in addition half a million tons of vessels were designed and begun, but discontinued or scrapped after the Washington Naval Conference of 1922.

*Achievements in Aeronautics*

The following is quoted from the "commemorative appreciation" by Dr. W. F. Durand on the occasion of the award of the John Fritz medal to Admiral Taylor in 1930:

"Admiral Taylor has made notable contributions in the field of Aeronautics chiefly through two connections with public affairs: first, as Chief Naval Constructor and second, as member of the National Advisory Committee for Aeronautics.

"In the early developments in the Navy, with reference to aircraft both heavier than air and lighter than air, the responsibility for design and for supervision of construction were placed in the office of the Chief of Naval Construction, the same for aircraft as for water craft. Admiral Taylor, as Chief Naval Constructor bore from 1915 until 1921, when the Bureau of Aeronautics was formed, the entire responsibility for the design and construction of Naval Aircraft, which were carried brilliantly forward under his direction. Perhaps the most notable achievement was the development of the NC type of flying boat, initiated by Admiral Taylor with the idea of having Naval seaplanes of the patrol type, capable of flying across the Atlantic and thus of insuring their presence in European waters if German submarine warfare should prevent their shipment on surface vessels.

"In 1917, Admiral Taylor was appointed a member of the National Advisory Committee for Aeronautics, representing the Navy. Upon retirement as Chief Constructor in 1922, he was reappointed from civil life, in appreciation of his distinguished attainments. He served as Secretary, 1923-1926, as Vice-Chairman, 1927-1930, and as chairman of the committees on Aerodynamics and on Aeronautical Inventions, since 1927.

"Of the equipment for aeronautic research at the Committee's laboratory at Langley Field, for which Admiral Taylor has been largely responsible, the variable density wind tunnel set a new mark in the field of experimental research on reduced scale models; the full scale propeller research tunnel; the full scale wind tunnel, and the seaplane towing channel, are unique in size and in the boldness and character of their design. They are quite unapproached elsewhere in the world.

"Through the pioneer work of the Bureau of Construction and Repair under his direction, and through his long and effective service as member and officer of the National Advisory Committee for Aeronautics, Admiral Taylor has made a deep and lasting imprint on the development of Aeronautics in the United States."

It may be added that it was largely due to Admiral Taylor's vision that the Bureau of Aeronautics was established. He realized the need for an independent bureau in the Navy Department to handle the great expansion in Navy aviation which he so clearly foresaw. He used his great personal influence in the Navy Department and in committees in Congress to obtain the necessary legislation. When the new bureau was set up he assisted it by turning over to its control a great part of the commissioned and civil personnel which formed its original staff.

It is of interest to note that the flying boat NC-4 was the first heavier-than-air craft to cross the Atlantic.

### *Character and Personality*

In order to throw light on the character and personality of Admiral Taylor, the following tributes from some of his colleagues and friends are here given.

Rear Admiral George H. Rock, one of his contemporaries in the Construction Corps, writes as follows:

"I never knew any one who I thought had such a fine mind, was so broad as well as practical in all matters, had such clear foresight and, withal, was so gentle and lovable at all times. He had, also, that truly rare gift of being able to answer a question without making the inquirer feel that he should have known the answer. Always plain spoken, he never gave offense, even to supersensitive or to poorly informed persons, because of his natural manner and his well-chosen words. His character, his fine instincts, his unobtrusiveness and his intuitive knowledge of persons and of affairs, were so exceptional as to place him above others without causing any jealousy or ill feeling—only respect and admiration. My feelings are the result of some forty years of intimate and affectionate friendship."

Captain Lewis B. McBride (CC) USN. (Ret.), writes:

"It was my privilege to serve under Admiral Taylor during several periods and to enjoy his friendship for thirty years. Others have paid tribute to his technical and scientific accomplishments. To me these were always overshadowed by his human qualities; his wisdom, common sense, humor and intuitive understanding of other human beings and their problems. It was these qualities that led so many men of high standing in political and business life to seek his advice and to be influenced

by his judgment. He was a philosopher as well as a man of science and a man of action; a man who would have attained distinction in any field of human endeavor which he had chosen to enter."

Mr. William Francis Gibbs, Vice-President of Gibbs & Cox, Incorporated, writes:

"My brother and I met Admiral Taylor in about 1914 while he was Chief Constructor of the Navy, and thereafter we consulted with him on problems of propulsion. We came to have a very high regard for his foresight and calm judgment and his almost intuitive approach to propulsion problems.

* * *

"With his retirement in 1923 the thought occurred to us he might be willing to join with us in a consulting capacity. Considering Admiral Taylor's great reputation and standing and our relative inexperience and the difficult periods through which we were passing, it was with diffidence that we suggested the possible alliance. Admiral Taylor accepted this suggestion with alacrity and we were very proud of the fact that such an outstanding figure was willing to join with us.

"In joining our firm he explained that one of his reasons was that we were trying to accomplish a forward looking advance in the art. * * *

"His advice was invaluable, not only on technical matters, but particularly on the policy of the firm and his insistence on a forward looking and high quality of design was an inspiration to us all.

"Admiral Taylor, during his connection with our firm, and up to the time of his illness in April 1932, had an intimate connection with all of our work, and his efforts were particularly outstanding in the design of the four Grace Line ships, the Santa Rosa, Santa Paula, Santa Lucia and Santa Elena. These ships were outstanding in economy and very high propulsive efficiency, and their success was in large part due to Admiral Taylor's assistance.

"During our years of association and after his illness when we all saw him from time to time at the hospital, he had endeared himself to all of us, and my brother and I counted on him as our best friend and wisest counsel. His courtesy, consideration, wisdom and vast technical skill and intuition commanded our deepest admiration.

"We have always been proud that Admiral Taylor associated himself with our firm. He gave us confidence that the prin-

ciples for which we were contending were right and worthwhile, and we like to think that the progress which we have made was a matter of satisfaction to him and was the result of the wisdom of his advice and his helpful counsel."

Rear Admiral E. S. Land (CC), U.S.N. (Ret.), Chairman of the United States Maritime Commission, writes:

"David W. Taylor was my 'father confessor' from 1913 to the time of his death—a period of twenty-seven years.

"No important step in my career was taken without obtaining his advice.

"I always looked upon him not only as the outstanding naval architect and marine engineer of the world but also as the wisest man of my acquaintance.

"In my sixty-odd years of existence no other man had as much to do with my professional career as Admiral Taylor.

"His sense of humor was so keen, his interests were so varied, his knowledge so great, and his character so splendid, that it was a genuine pleasure to consult him on any subject from football to the square root of minus one!

"During his protracted illness it was always an inspiration to me to visit him and one left him with renewed determination to solve the problem at hand.

"He was a man among men. 'All the world could stand up and say: "This is a man." '

"I can only add that he had my deep affection and great esteem."

Professor Henry H. W. Keith, Head of the Department of Naval Architecture and Marine Engineering, Massachusetts Institute of Technology, writes:

"I worked for Admiral Taylor as a ship draftsman at the Model Basin in the Washington Navy Yard from 1905 to 1910, starting in immediately after graduation from M. I. T. At that time the Model Basin had been in operation only a short time and most of the work was necessarily of pioneer character. I have always felt that I was particularly fortunate in being there during those early years as, in addition to the routine work of testing models of hulls and propellers, a great deal of original research was carried on under Admiral Taylor's supervision. While I was at the Basin, his book 'The Speed and Power of Ships' was written and published, his work on the mathematical lines of ships was developed, and his early

experiments in connection with the ventilation of ships and the application of the gyroscope in rolling were undertaken.

"Although I had but a small part in these projects, I was kept extremely busy in trying to keep up with the work, and I well remember the extra studying I had to do in order to understand what it was all about. Admiral Taylor always took a personal interest in whatever work was in hand, and in my case I shall always look back with extreme gratitude for the time he spent with me at my own drafting table. His comments were always very much to the point, and the brief contacts I had with him will always be a treasured memory."

Commander A. S. Pitre of the Construction Corps, who had the opportunity to work with the Admiral during his final illness, writes as follows:

"I knew the Admiral only after he had been stricken in the spring of 1932. After regaining some measure of relief, he requested that I complete the revision, that he had undertaken, of his 'Speed and Power.' I was in no wise fitted for this important task, but despite my protest and with the renewal of his request, I was persuaded to undertake this work.

"His condition during the early stages of his illness did not permit of any extended technical discussions. I was requested to confine my remarks to 'restful' subjects. Later, with his remarkable recovery (I refer to his mental faculties), we did engage in some technical discussions especially concerning problems of propulsion that continually challenged his interest. I found him always eager to hear of our work and progress in the Model Basin (where I was attached at the time).

"The predominating characteristics that excited my admiration were his high courage and genial disposition during so many days that must have been a real trial to all his hopes and plans. I never found him cross, unwilling to talk, nor impatient with me in my own poor efforts to afford him some measure of social as well as professional companionship. When he found that I too liked detective stories, we enjoyed many a moment. His interest in this 'terrible stuff' (this is Mrs. Taylor speaking) ran entirely to the fiction side.

"I was detached from Washington in October 1935. Up to that moment, I never once saw the Admiral but what his hopes were high that some day he would walk again. He continually looked forward to the summers when he was permitted to return to his home at Waldrop, Virginia. At this time he again

indulged in his hobbies—farming and the raising of bees. When he returned to the hospital in the fall, he immediately started anticipating his return trip to the farm in the following summer. These personal observations may not sum to very much but to my unpracticed eye, they really are a great monument to his courage and to the serenity of his common sense philosophy."

There is one field of work which commanded Admiral Taylor's continued interest over almost forty years which has not, apparently, received mention in any other obituary or memoir; that is, his interest in insurance. The Navy Mutual Aid Association was founded many years ago as a form of mutual assessment insurance for officers of the service. Captain John R. Hornberger (SC) USN., (Ret.), the present secretary of the Association, gives the following memorandum on Admiral Taylor's service to the Association:

"Rear Admiral D. W. Taylor was elected a member of the Board of Directors of the Navy Mutual Aid Association on 4 January 1898. He served continuously as a member of this Board until his death, 28 July 1940. He held the office of Vice President from January, 1910, until January, 1923.

"During his long service as a member of the Board of Directors, Admiral Taylor contributed much to the success of the Association. He conducted such actuarial studies as were made during his active period of membership, and was responsible for the preparation of the assessment ratios and rates established in 1900. He prepared a pamphlet on Navy Mutual Aid protection and on the general subject of insurance in 1914, and a similar publication in 1930, commemorating the fiftieth anniversary of the Association.

"Although unable to attend the meetings of the Board of Directors during his last years, Admiral Taylor retained a lively interest in the Association and his advice and suggestions were most helpful to me in making the studies which led to the change to the level premium basis on 1 January 1939."

In recording the personal contacts which the writer of this memoir had with Admiral Taylor, the personal pronoun will be used for the sake of briefness and convenience.

It was my privilege to become intimately acquainted with Admiral Taylor and to form a friendship with him while we were still young. This happened at the time when he studied

at the Royal Naval College in Greenwich, where our terms of study overlapped by one academic year, 1885-6, this being his first and my last year.

At the end of April in 1886, during our Easter vacation, Taylor and I made a trip to Paris on a tricycle. As Taylor did not ride a bicycle, we chose a tricycle of the "sociable" type, where we sat abreast of each other. We took the boat from Newhaven to Dieppe and went through Rouen, Alençon, Le Mans, Nogent-le-Rotrou, Chartres to Versailles, from where we took the train to Paris. France looked beautiful in the warm and sunny spring weather and people were everywhere very friendly. At that time bicycles were little known in France and our novel machine, as well as our cyclist dress, made quite a sensation: "Ah, voilà la petite voiture!" Sometimes people would stop, laugh at us and shake their heads exclaiming: "Voilà les Anglais!" When, driving through a village, we took a child up in front of our machine, people were delighted.

I saw Taylor again on visits to London in 1887 and 1888, and it was always a wonder to me how easily he carried the load of the course, which on the side of mathematics was very heavy indeed. Yet, he obtained a first-class certificate and passed his final examination with the highest record ever attained at the Royal Naval College up to his time.

On one of my visits to London in 1887, together with the Danish Chief Constructor, Commodore K. Nielsen, Taylor took dinner with us. The Commodore, who was known as a keen observer of men, was much impressed by Taylor and remarked to me afterwards: "That young man is a genius!"

At the beginning of 1901, I was ordered by the Danish Government on a voyage of study to the United States for the purpose of investigating the problem of submarine boats, which had just then, after many years of experimentation, been solved by John P. Holland. On that occasion I again had the pleasure to meet Taylor, who was most hospitable and helpful to me and I had an opportunity to see the newly established Model Basin. When I left Washington I said to him: "Well, goodbye,

I suppose we shall never meet again." "Oh," he said, "don't be too sure of that; somehow, when people once find their way to this country, they usually come back again." I did not attach any importance to this remark, but a few months later, in May, I received an invitation from Massachusetts Institute of Technology to take charge of the new Course in Naval Construction, which it was planned to establish for the training of young American naval officers in that subject. As I learned afterwards, it was due to Taylor's suggestion and his influence with the Chief Constructor, Rear Admiral Francis T. Bowles, that I had the honor to be selected for this task.

In all my early years in this country I met the greatest hospitality and friendship in Taylor's home in the Washington Navy Yard. From the Model Basin, Taylor supplied me with much information and rendered assistance which was of the greatest value in my work of instruction. On more than one occasion, special experiments were carried out in the tank in order to assist me in my research work. Taylor's books and papers were in constant use in my course and were of the greatest assistance in the instruction.

On one occasion I tried to assist Taylor in his hobby of farming. He asked me to get for him some Danish walnuts, which he thought would be perhaps more hardy than the American walnuts and better capable of standing the climate of Virginia, but it appears they were not entirely successful.

### *Various Activities and Honors*

Admiral Taylor was a member of the *Society of Naval Architects and Marine Engineers* from its foundation in 1893, and contributed to it twenty scientific papers, many of them of great importance for the science of naval architecture and naval construction. He was President of the Society for three years, from 1925 to 1927, and in 1936 the Society established in his honor the David W. Taylor Medal, the first award of which was made to Rear Admiral Taylor for "notable achievement in naval architecture and marine engineering."

Referring to his service as Chief Constructor during the World War, he was awarded the Distinguished Service Medal by Congress for "exceptionally meritorious service in a duty of great responsibility." For similar service he was made a Commander of the Legion of Honor by the French Government.

It has been already mentioned that in 1895 Admiral Taylor was awarded the Gold Medal of the British *Institution of Naval Architects* for his paper: "On Ship-shaped Stream Forms." In 1901, he was awarded a prize by the Society of *Naval Architects and Marine Engineers.* In 1907 he was awarded the Gold Medal of the *Franklin Institute,* Philadelphia. In 1931 he was awarded the Shipbuilding Gold Medal of the *North East Coast Institution of Engineers and Shipbuilders of England,* of which he had been an Honorary Fellow since 1925.

He was awarded the honorary degree of Doctor of Engineering by *Stevens Institute of Technology,* Hoboken, N. J., in 1907; the honorary degree of Doctor of Science by *George Washington University,* Washington, D. C., in 1915; the honorary degree of Doctor of Laws by *Randolph-Macon College,* Ashland, Va., in 1922, and the same degree by the *University of Glasgow,* Scotland, in 1924. He was nominated Honorary Vice-President of the *Institution of Naval Architects* in London, 1931. He was awarded the John Fritz Gold Medal for 1931, by the *American Society of Civil Engineers,* the *American Institute of Mining and Metallurgical Engineers,* the *American Society of Mechanical Engineers* and the *American Institute of Electrical Engineers,* for "outstanding achievement in marine architecture, for revolutionary results of persistent research in hull design, for improvements in many types of warships and for distinguished service as Chief Constructor of the United States Navy during the World War."

Admiral Taylor was elected a member of the *National Academy of Sciences* in 1918.

On October 5, 1937, the Secretary of the Navy issued General Order No. 100 reading as follows: "The Naval Experimental Model Basin, Carderock (P. O. Cabin John), Maryland, is hereby established and will be known as *'The David W.*

*Taylor Model Basin'."* On November 4, 1939, the new model basin was formally dedicated in the presence of Rear Admiral Taylor himself as well as of all Navy Department employees in Washington, both active and retired, who had served with Rear Admiral Taylor at the Experimental Model Basin and at the Bureau of Construction and Repair. On behalf of the members of the Construction Corps, Rear Admiral and Mrs. Taylor were presented with an etching of the Admiral executed by Mr. Harry Moskowitz of Philadelphia. A reproduction of this etching presented by Mrs. Taylor is incorporated in this memoir.

Admiral Taylor was a member of the Phi Beta Kappa, the Phi Kappa Psi, and the Army and Navy Club of Washington.

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