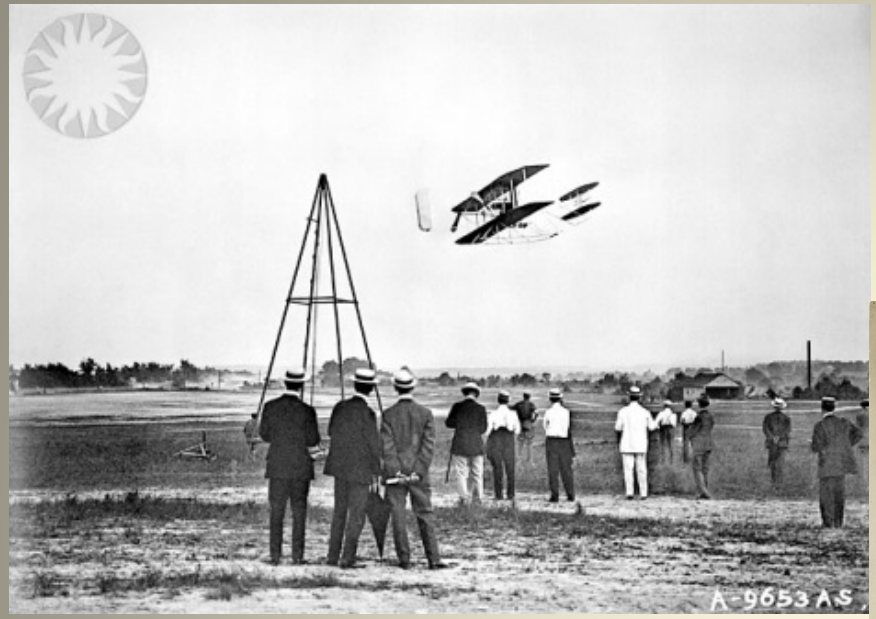
The US Military and the Creation of the NACA

Laurence M. Burke, II, PhD

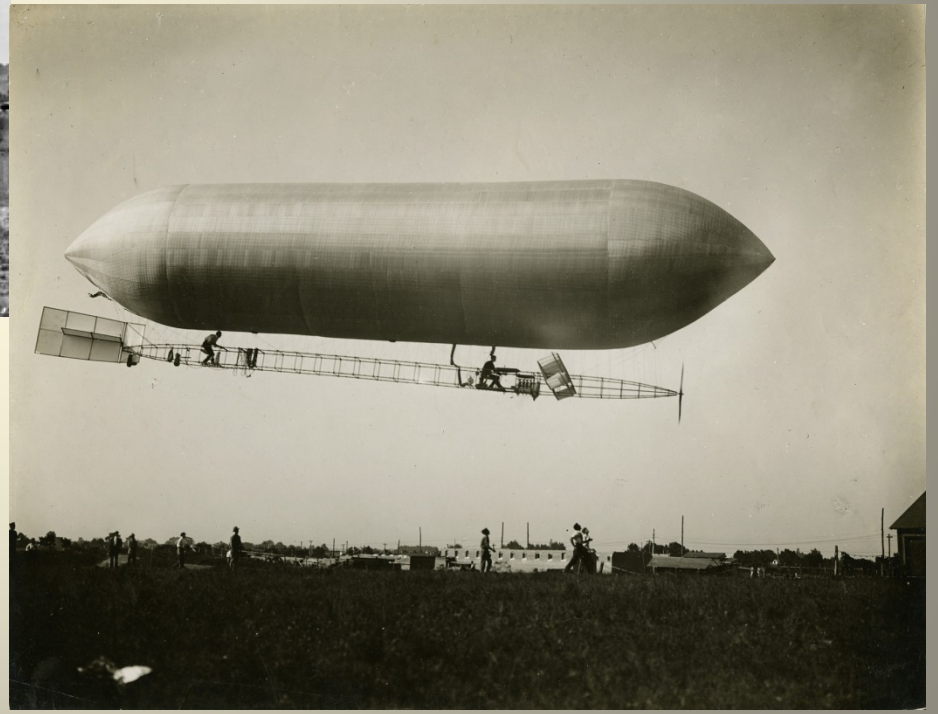
Major George Owen Squier, Signal Corps

Scientist, Inventor



Wright Airplane Trials
1908-1909

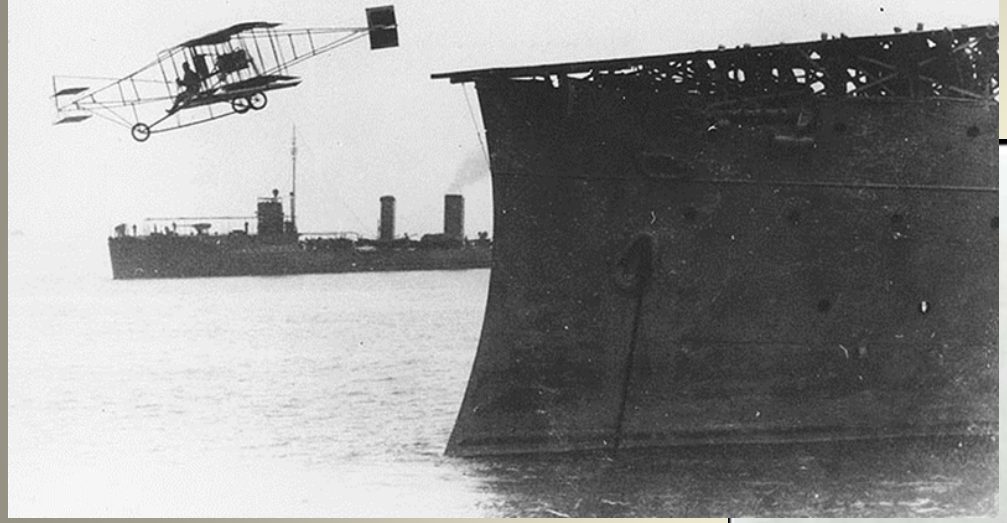
Baldwin Airship Trials
1908

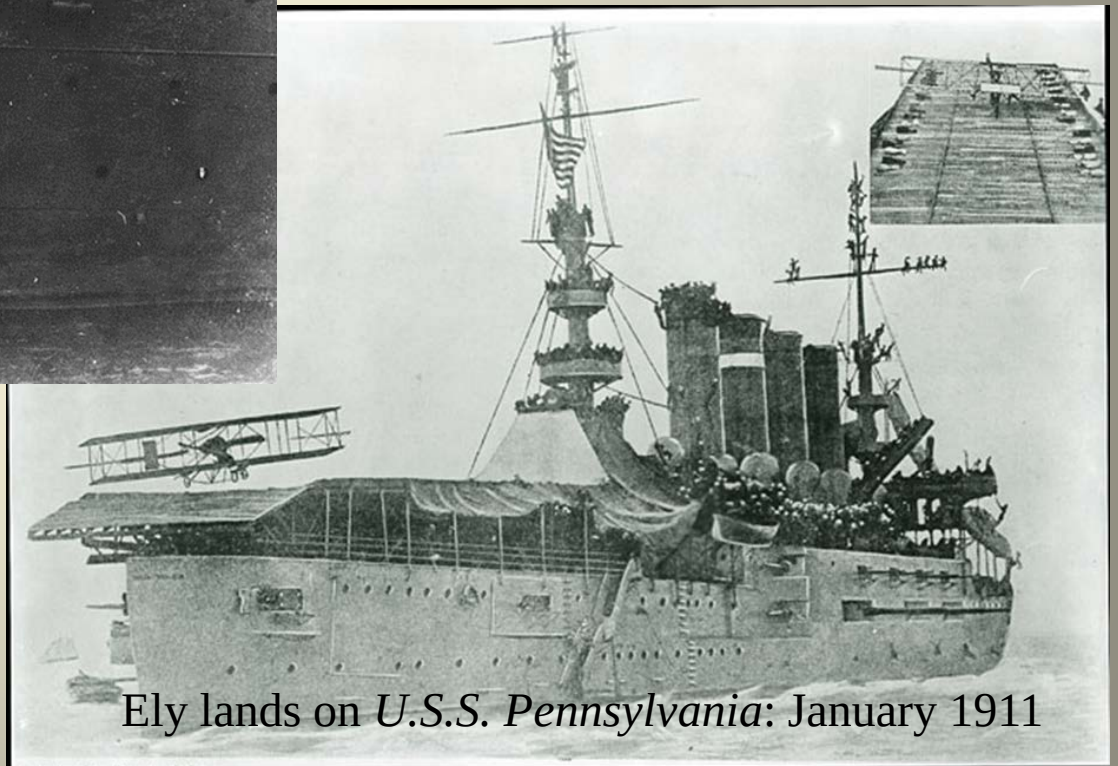


Captain Washington Irving Chambers, USN

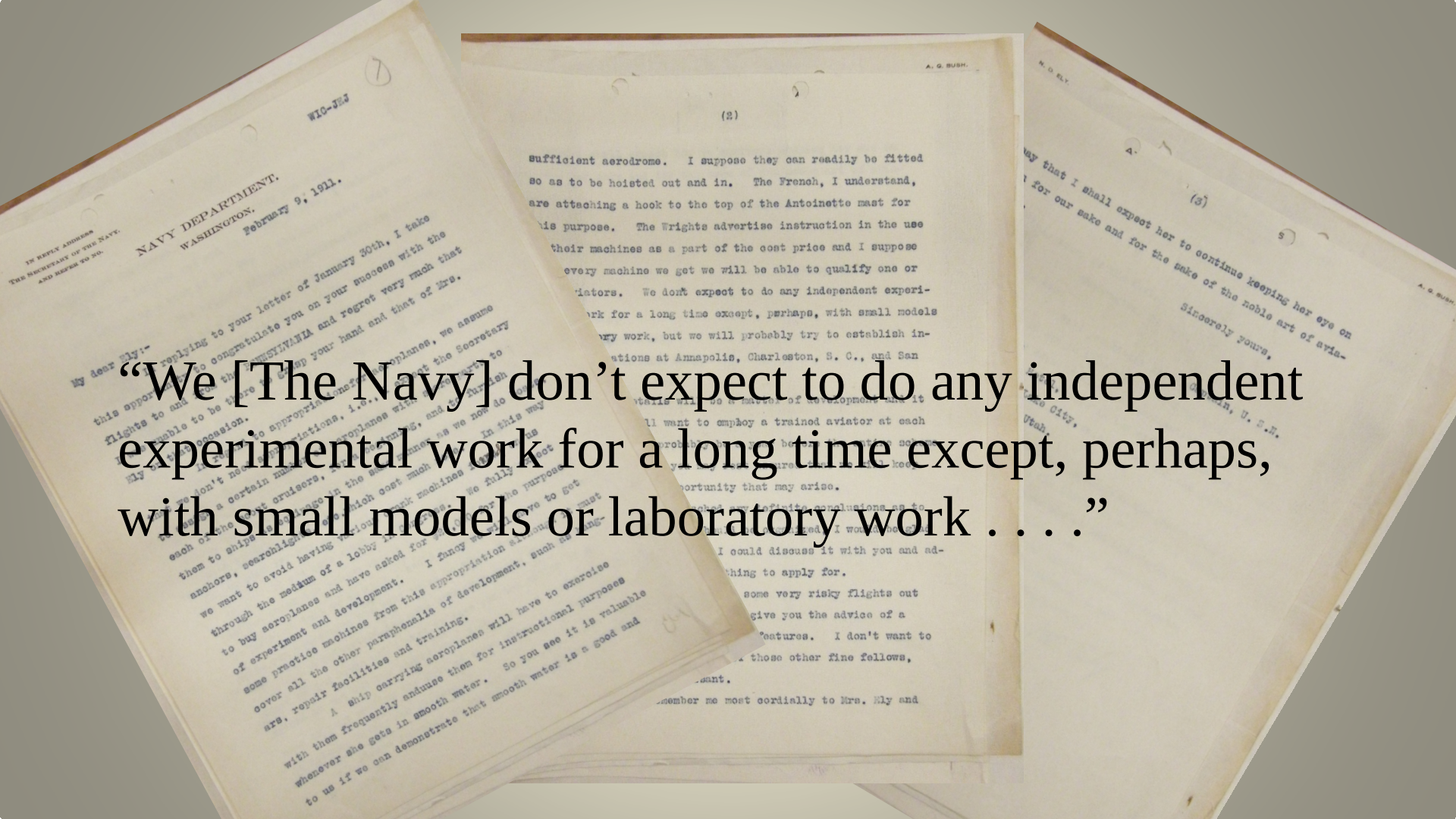
Practical Engineer, Inventor

Eugene Ely takes off from *U.S.S. Birmingham*: November 1910





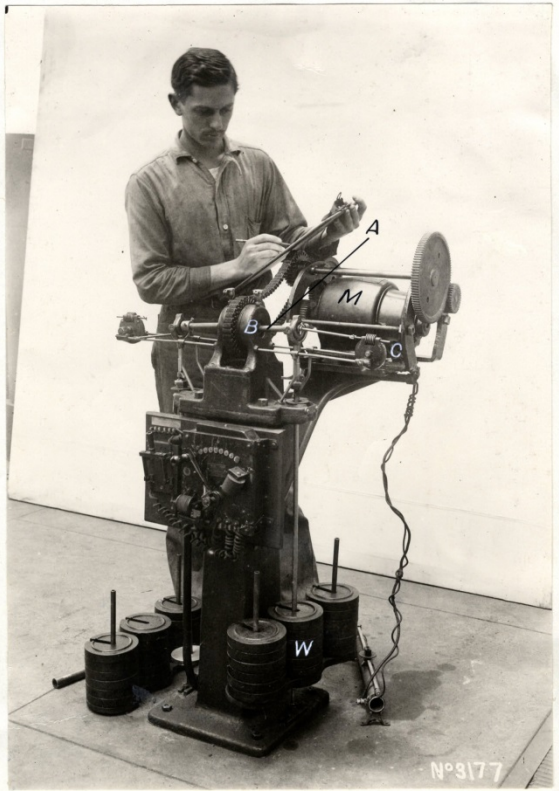
Ely lands on *U.S.S. Pennsylvania*: January 1911



"We [The Navy] don't expect to do any independent experimental work for a long time except, perhaps, with small models or laboratory work . . . ."

Bureau of Construction and Repair’s Model Basin – hydrodynamic analysis of ship’s hulls

Bureau of Steam Engineering’s Engine Experiment Station – Scientific investigation and analysis of engine performance



U. S. NAVAL ENGINEERING EXPERIMENT STATION,
ANNAPOLIS, MARYLAND.
TEST 698 INCLOSURE (A).

. . . It would be a handsome thing for the American people, who are proposing all sorts of monuments to Wilbur Wright, to perpetuate his memory in the way he would have most approved, by erecting at the Langley Laboratory, a handsome memorial building, in which to house the first machinery and instruments of the new National Institution.

establish one when they are fully acquainted with the advantages to humanity and to sane industrial progress, and when a reasonable concrete propostion is advanced for their consideration. It is now my purpose to submit such a proposition, and, in doing so, I will follow briefly, in general outline, the ideas advanced in an address to the Fifth International Aeronautic Congress by one of the greatest authorities in the world, the Commandant Paul Renard, president of the International Aeronautic Commission.

A NATIONAL AERODYNAMIC LABORATORY.

Before considering the character of the work to be done and some details of the needed plant, it will facilitate matters to show what should not be done at such a laboratory.

There are those who dream of supplying the laboratory with all the instruments [illegible] chanics, to [illegible]sics, and even to chemistry, in [illegible]able and [illegible]ational institution. [illegible] locality [illegible]ruments [illegible] false id[illegible]

the efficiency at various velocities, the amount of lift, the effect of varying impact at different angles of attack on the stability—in fact, all the exact data which, reduced to curves and diagrams, enables the engineer to design a machine in a scientific manner. From such data the performance of a new machine can be closely predicated. The performance of the finished product can be verified later as before described.

Much of the research work will be prosecuted at the request of technical men outside of the institution, to whom the laboratory should offer, gratuitously as far as possible, its material and personal resources.

THE COUNCIL AND ORGANIZATION.

To obtain benefit from these researches it will be necessary to know that they are worth the time and expense, and a body of men—a council or a board of governors—should be authorized to accept or reject requests for this work. This will be a delicate task, but the principal duty of the council should be to establish and to correct from time to time a program of the research work to be executed by the director and his staff and to coordinate the work to t[illegible] best advantages within the limits of the money available. The [illegible] bursement of the Government funds, however, and the respo[illegible] bility therefor should be entirely under the director. [illegible] the actual state of aerial navigation and its deficiencie[illegible] policy of the council to concentrate effor[illegible] portant, promising, and interest[illegible]

A COMMISSION RECOMMENDED.

Inasmuch as more definite information regarding the actual cost of a dignified and creditable but modest and sufficient installation should be obtained and as the details of the plan, the scope, the organization, and the location of such an important undertaking should not be left to the recommendations of one man, *I respectfully recommend that a commission or board be appointed to consider and report to the President, for recommendation to Congress, on the necessity or desirability for the establishment of a national aerodynamic laboratory, and on its scope, its organization, the most suitable location for it, and the cost of its installation.*

W. IRVING CHAMBERS.

A National Aerodynamic Laboratory

“An aerodynamic laboratory should be devoted to (1) experimental verification, (2) experimental research.”

A council or board, comprising “learned and technical men, with broad vision and reputation.”

“... I respectfully recommend that a commission or board be appointed to consider and report to the President, for recommendation to Congress, on the necessity and desirability for the establishment of a national aerodynamic laboratory….”

Woodward Commission

Dr. Robert S. Woodward, Carnegie Inst. (President)

CAPT Washington I. Chambers, USN
CAPT David W. Taylor, USN
BGEN James Allen, Chief Signal Officer
MAJ Samuel Reber, Aeronautic Division
Charles Walcott, Smithsonian Secretary
William Humphreys, Dir., Weather Bureau
Dr. S.W. Stratton, Dir., Bureau of Standards
Charles Manley (Langley's mechanic)
Harold M. Sewall

Henry A. Wise Wood, VP, ACA
Bion J. Arnold, Aero Club of Chicago
M.B. Sellers, Aeronautical Society
William Durand, Stanford University
Richard Maclaurin, President of MIT
Alfred Zahm, Catholic University
Frank West Rollins
Herbert Parsons
Frederick H. Smith

Advisory Committee of the Langley Aerodynamical Laboratory

CAPT Washington I. Chambers, USN
Naval Constructor Holden C. Richardson, USN
BGEN George Scriven, Chief Signal Officer
MAJ Edgar Russel, Aeronautic Division Head
Charles Walcott, Smithsonian Secretary
William Humphreys, Dir., Weather Bureau
Dr. S.W. Stratton, Dir., Bureau of Standards
Glenn Curtiss
Orville Wright
John Hays Hammond
Alfred Zahm

[National] Advisory Committee on Aeronautics
(first meeting, April 23, 1915)

BGEN George Scriven, Chief Signal Officer
LTCOL Samuel Reber, Aeronautic Div. Head
CAPT Mark Bristol, Director Naval Av.
Naval Constructor Holden C. Richardson
Dr. S.W. Stratton, Dir. Bureau of Standards
Dr. Charles P. Marvin, Dir., Weather Bureau

Byron R. Newton, Asst. Sec'y of Treasury
(Coast Guard in Treasury Dept.)
William Durand, Stanford University
Michael L. Pupin, Columbia University
John F. Hayford, Northwestern University
Joseph S. Ames, Johns Hopkins University

Charles Walcott named to Committee, but absent at this meeting.

Scientifically-minded officers
(Concerned mainly with
improving state-of-the-art)

George Owen Squier (Army)

Washington Irving Chambers (Navy)

More parochial officers
(Concerned mainly with
benefiting their own service)

David W. Taylor (Navy)

James Allen (Army)

Josephus Daniels (Navy)

George P. Scriven (Army)

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