

The Day Book

Volume 1, Issue 3

March-April 1995

A Newsletter for the Supporters of the Hampton Roads Naval Museum

From Pop Guns to Top Guns

The Rise of the Aircraft Carrier in the U.S. Navy

by Joe Mosier

After an initial surge following Eugene Ely's flight off the USS *Birmingham* in November 1910, naval aviation underwent thirty-five years of uneven and often tortuous growth. This process of growth is a focus of the "Navy Takes the Lead" gallery in the Hampton Roads Naval Museum.

In 1911, the basic concepts of naval air operations were proven with Ely's landing aboard the USS *Pennsylvania* and Glenn Curtiss' introduction of the seaplane. During the Vera Cruz expedition in 1914, a



The Big "E", USS *Enterprise*, under construction at Newport News Shipbuilding in 1937. Various New Deal programs put money back into shipyards like Newport News and led to the construction of one of America's most celebrated and honored warships. (Naval Historical Center photograph)

five seaplane detachment gave convincing evidence of the value of aircraft to the Navy. When the United States became involved in World War I, the size of the Navy's air component was eagerly expanded. In the 19 months of U.S. participation, a force of 6,716 officers and 30,693 enlisted men served in naval aviation. The end of the war, however, brought precipitous demobilization that threatened the future of naval air.

Navy manpower fell within seven months to less than half its wartime highs. All unfilled procurement contracts were canceled. Faced with these decreases, naval aviation's leaders were faced with many questions on what to do next. Four factors determined the path naval aviation would take during the 1920's and 30's: competition among potential aviation technologies, agitation for a unified and independent air force, an international desire for limitations on naval arms,

and the demands of a fiscally conservative Congress.

With the science of aeronautics still in its infancy, no single "right way" was obvious to those debating the Navy's future air needs. Lighter-than-air craft, seaplanes and aircraft flying from carriers or catapulted from battleships each had their champions. All had their claims on a share of the Navy budget. As technology began to catch up with concept, wheeled aircraft flying from aircraft carriers took the lead. The results of experiments done on the USS *Langley* (CV-1) assured primacy to the aircraft carrier.

A number of officers in the Army Air Service returned from World War I insisting that air power alone had won the war and would win future wars unassisted by ground forces or navies. Principal among them was Gen.

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Museum is Taking Off


The Director's Column

by Becky Poulliot

In today's Navy, the aircraft carrier and its aircraft are key components of the Navy's mission to protect and control the sea lanes. Most of the major development of this important arm of the Navy happened here in Hampton Roads. From the first flight off a ship to the construction of the mighty aircraft carriers, naval air made a name for itself in this region. In this issue of the *Day Book*, we touch on the major achievements that made naval aviation and the aircraft carrier a reality.

The first of the achievements was the first flight off a ship, which was accomplished by Eugene Ely. Although history does not record Eugene Ely's exact words after his flight off the USS *Birmingham's* makeshift deck in 1910, the significance of this undertaking has not been forgotten. We are fortunate to have an article on Eugene Ely and his plane, *Hudson Flyer*, from Tom Hesse of American Scale Model Associates. Mr. Hesse constructed a magnificent model of *Hudson Flyer* which is currently on display at the museum.

There can be no dispute that that Ely's flight led to the second achievement: developing a theory and doctrine for naval aviation. About ten years after Ely's flight, the U.S. Navy and the Army Air Service began a series of bombing experiments to prove that the airplane could serve the Navy. With the conversion of a coal collier into USS *Langley* (CV-1) and the future construction of several other carriers at Newport News, naval aviation became a reality.

Our museum houses some excellent exhibits and archival sources on naval aviation. Among them are: an eight foot long builder's model of USS *America* (CV-66), Tom Hesse's model of *Hudson Flyer* and exhibits on the regional shipyards' role in developing the carrier arm. Please take the time to use these resources. 

Becky

About The Day Book

The *Day Book* is an authorized publication of the Hampton Roads Naval Museum (HRNM). Its contents do not necessarily reflect the official view of the U.S. Government, the Department of Defense, the U.S. Navy or the U.S. Marine Corps, and do not imply endorsement thereof. The HRNM is a museum dedicated to the study of 200 years of naval history in the Hampton Roads region. The museum is open from 9 a.m. to 4 p.m. daily.

The *Day Book's* purpose is to educate and inform readers on historical topics and museum-related events. It is written by the staff and volunteers of the museum. The newsletter takes its name from a 19th century Norfolk newspaper.

Questions or comments can be directed to the Hampton Roads Naval Museum editor. The *Day Book* can be reached at 444-8971, by fax at 445-1867, or write *Day Book*, Hampton Roads Naval Museum, One Waterside Drive, Suite 248, Norfolk, VA, 23511-1607. The *Day Book* is published bi-monthly with a circulation of 1000.



The battleship shown here, USS *Virginia* (BB-13), was sunk by a joint U.S. Army/Navy bombing test off Cape Hatteras, N.C. on Sept. 5, 1923. The test was one in a series of experiments to demonstrate the effectiveness of airpower on ships. (Navy Historical Center photograph)

Mitchell vs. the Navy

The Bombing Tests of 1921 and 1923

by Joe Mosier

Soon after World War I ended, the United States Navy decided to conduct damage experiments to improve survivability for modern ships. The targets for these ships were obsolete U.S. battleships of Spanish-American War vintage and German ships captured by the Allies after World War I. In 1921, at Congressional prodding, the Navy invited the Army Air Service to join in the tests.

Brig. Gen. William Mitchell, Assistant Chief of the Army Air Service, had made the vulnerability of battleships a central argument in a drive for a united air force. He was determined to achieve a propaganda success.

Mitchell began to build up the First Provisional Air Brigade at Langley Field near Hampton. The sleepy post, with fewer than 15 pilots assigned, was quickly inundated with 1,000 men and 250 airplanes. The Army airmen trained against target hulks at Tangier Island, Md., from February to July.

Naval aircraft began the tests on June 20, 1921, with the bombing of three ex-German U-boats. Next, the ex-German destroyer *G-102* took a terrible pounding from Army bombers and sank in twenty minutes. A joint Army-Navy attack sank the cruiser *Frankfurt* with 250 and 600 pound bombs in less than six hours. The climax of the 1921 series was the bombing of the ex-German battleship *Ostfriesland*, an event which attracted world-wide attention. It took two days of attacks with bombs weighing up to 2,000 pounds each, but the battleship joined her consorts on the bottom 60 miles east of Cape Charles.

Mitchell had done what he set out to do, but not without

see Mitchell on Page 6

NOW OR NEVER!

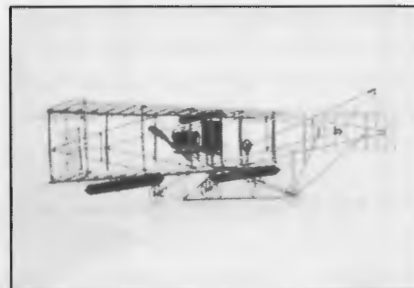
Ely and *Hudson Flyer* make historic flight off *Birmingham*

by Tom Hesse

The date was Nov. 14, 1910. The place was a hastily constructed ramp on the bow of the heavy cruiser USS *Birmingham* anchored in the James River. The ship was not too far from the site of the epic battle of the CSS *Virginia* and USS *Monitor*. At that instant, Eugene Ely, a pilot employed by the Curtiss Exhibition Company, decided an approaching squall front made it "now or never," and directed his assistants to release his aircraft. Without the ship heading into the wind, his Curtiss pusher, the *Hudson Flyer*, slowly accelerated toward the end of the ramp, only 57 feet away. As the plane cleared


water thrown up by the wheels, Ely knew he had to forego a planned exhibition flight over Norfolk. Within a matter of minutes he landed the *Hudson Flyer* safely at Willoughby Spit. While U.S. Navy leadership remained skeptical for some time concerning the practical utility of what Ely had done, no one today doubts that his flight from the *Birmingham* marked the birth of naval aviation.

Had Glenn Curtiss fully appreciated just how important Ely's flight would become, he might have preserved the *Hudson Flyer*. Unfortunately he did not, and not too long after Ely's historic flight, the plane



Tom Hesse's model of *Hudson Flyer* can be viewed at the museum. (Photograph by Tom Hesse)

\$10,000. Subsequently, Curtiss always billed it as the *Hudson Flyer* whenever it made exhibition appearances. Eugene Ely, like the historic plane he flew, soon passed into history as well. He was killed in a flying accident in Macon, Ga., on Oct. 19, 1911.

The Hampton Roads Naval Museum includes an exhibit on Eugene Ely's history-making flight from the USS *Birmingham*. Included is a scale model of the *Hudson Flyer*. Many hours of research were devoted to reconstructing the design and construction of the plane, including the preparation of working drawings from which the model was made. With a wing span of 26-1/4 inches and an overall length of 30-1/2 inches, the model is large enough to show almost all of the detail found in the original aircraft. The museum believes it to be the only scale model of the *Hudson Flyer* in existence today. 

Editor's note: The author of the article, Tom Hesse, is the builder of the Hudson Flyer model now located in the gallery of the HRNM. Mr. Hesse is a retired U.S. Army colonel and has long-standing interest in model building. He is currently the owner of American Scale Model Associates in Newport News, Va. American Scale Model Associates was founded in 1986 and is a company made up of full-time, professional model builders. He resides in Hampton, Va.



The crew of the USS *Birmingham* ready the *Hudson Flyer* on the cruiser's makeshift runway. Ely only had 57 feet to make a successful launch. (Naval Historical Center photograph)

the ramp, spectators on a nearby ship registered shock as it plunged downward toward the water, because its forward speed was insufficient to provide the required lift. Ely, who could not swim, struggled to fly the plane out of this perilous situation. The wheels of the plane actually struck water before his speed achieved enough lift to propel the aircraft into a climb.

With the plane vibrating severely from a splintered propeller caused by

faded from public view. Plans for the aircraft have long since vanished as well. Only a small number of photographs remain to show how the airplane was designed and constructed. Built by the Curtiss Aeroplane Company in Hammondsport, N.Y., it obtained its name, *Hudson Flyer*, when Glenn Curtiss personally piloted the airplane along the Hudson River from Albany to New York City in May of 1910, winning a *New York World* sponsored-race and the first prize of



News and Notes For Volunteers

by Jamie Swanson

A Special Thanks

The museum would like to thank Dr. William S. Dudley, Senior Historian of the Navy Historical Center, for visiting the museum and giving an enlightening presentation on the *Chesapeake* Affair.

V.A.M. to Hold Conference

The Virginia Association of Museums (VAM) announces this year's conference entitled "Museums in a State of Change" to be held in Richmond, **March 19-21**. The conference includes workshops and individual sessions on museum topics. Additionally, tours, receptions and field trips to museums in Richmond are planned. The keynote speaker for the March conference is Rex Ellis,


director of Museum Programs for the Smithsonian Institution. There are extra copies of the registration forms available in the Education Department for those who are interested.

New and Future Exhibits

HRNM continues its outreach with the installation of a promotional exhibit in the Plume Street West Building located at the corner of Granby and Plume streets. This building houses 30 tenants with approximately 250 employees. Included among the offices are Trader Publishers, the Chesapeake Bay Foundation and State Senator Stanley Walker. Another promotional exhibit is also in the works for Norfolk International Airport. Along with the promotional exhibits, the museum is

going to receive a new exhibit for the museum's permanent gallery. Submarine Force Atlantic is assisting us in procuring a new interactive computer-based exhibit which will display submarine history and include information on submarine operations. The location of this exhibit will be next to the USS *America* model and will complete the Modern Navy gallery.

The Spring Docent Meeting

Please take note that the next quarterly docent meeting is **Wednesday, March 15 at 9:00 a.m.** This is to be held at 232 Main Street. I find that I need a volunteer to take the minutes for this meeting. If there is anyone who is interested, please contact me. 

HRNM Docents: Tailored to Your Needs

by Bob Matteson

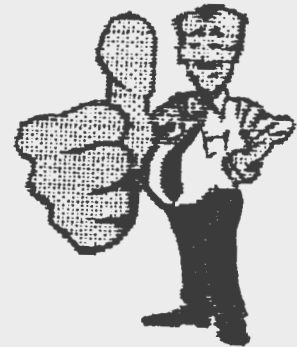
Today's audiences are made up of all ages, races and religions. They are regional, national and even multi-national. They come as individuals and in groups. Today's audiences want to be greeted, made to feel welcomed, and above all, want to be shown the same respect that we all expect. I believe that we have, in many ways, built bridges between the museum, the Hampton Roads' community and the world at large. I'm proud to say that the Hampton Roads Naval Museum (HRNM) volunteers go out of their way to make everyone feel like they matter.


The museum's docents will succeed if they project a positive attitude everyday, whether it be to the individual who just walks in or a specific school group coming for a tour. Furthermore, docents do what they can to learn about the group that

is coming and try to make them feel comfortable in our surroundings to make their stay an enjoyable one.

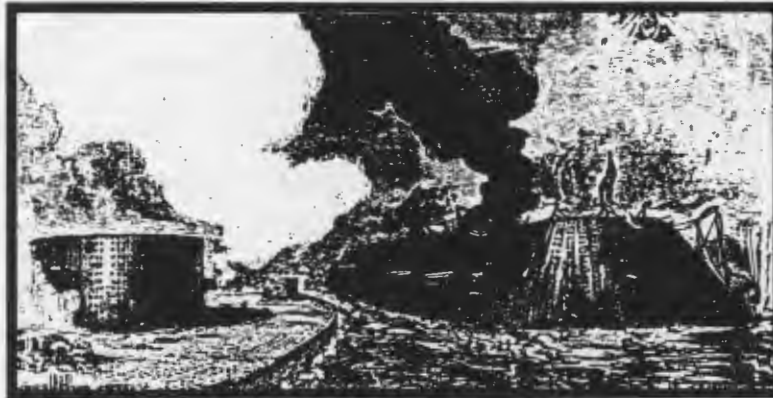
One of the ways they do this is by soliciting questions. In this way, docents are sending out the message that they want to know about the visitor. The docents ask questions during the tour to involve group members in the tour, and by doing so, point out that what the visitor has to say is important.

Sometimes though, docents may be challenged by a visitor. If an answer to a visitor's question is controversial, the docent needs to seek clarification. The docent may either ask for audience input, may refer the visitor to a staff member or may take the time to research an answer and send it to the visitor. In every area of the museum, our docents, while having opinions, allow for debate.



A good example of this would be discussing an engagement of a particular ship, and the docent's answer or statement being questioned by a visitor. The visitor may have been on the ship at the time and remembers things somewhat differently. Instead of arguing with the visitor, the docent will ask the visitor to elaborate on their recollections. The point here is that our docents see themselves as only one source of information. They do not rule out knowledge from any source, rather they seek knowledge just as the visitor who comes to learn from the museum. 

She's gonna ram!



Experience the excitement as Living History Associates performs a live historic interpretation of The Battle of Hampton Roads.

Saturday March 11th 2:00 p.m.
Nauticus Changing Gallery

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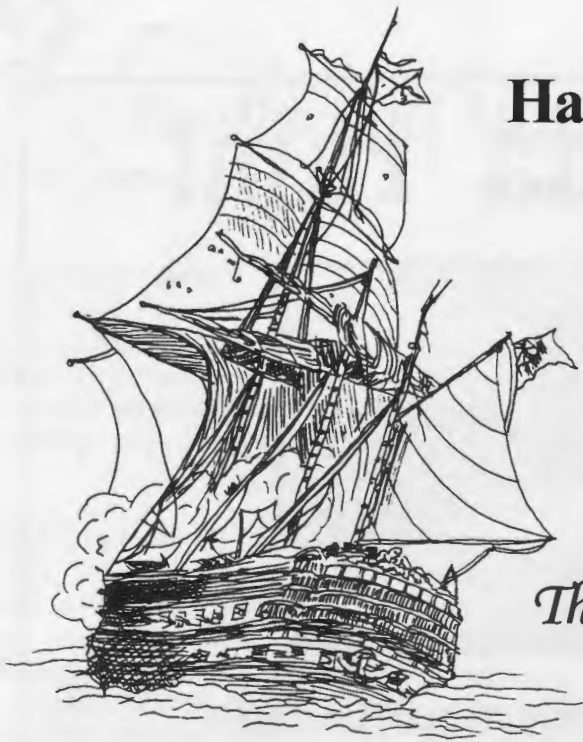
William Mitchell, who sought to create a "Department of Aeronautics." This department would unify all aviation; civil or military, naval or army. Zealous in his attempts to reach this goal, Mitchell used opportunities like the bombing tests of 1921 (see page 2) to put himself and his idea in the public eye. Statements such as, "...the surface ship as a means of making war, will gradually disappear," had the unplanned outcome of strengthening the cause of naval air. Even the most stubborn members of the "Battleship Club" were willing to seek moderate expenditures for naval aviation rather than face Mitchell's draconian alternatives.

After World War I ended, popular sentiment held that the war had been caused primarily by arms competition, with the munitions industry as the main culprit. The 1921 Washington Conference had as its goal to put an end to such competition. The major naval powers agreed to a capital ship tonnage ratio (5:5:3 among Great Britain, the U.S. and Japan) which limited future growth. One result of the Washington Naval Treaty was the decision by Congress to convert two hulls laid down as battle cruisers, the USS *Lexington* (CV-2) and USS *Saratoga* (CV-3), into carriers. A condition of Japanese agreement of the treaty was an



Mrs. Artemus L. Gates, who was the wife of the Assistant Secretary of the Navy for Air, christens the carrier USS Essex (CV-9) at Newport News Shipbuilding in 1943. The Essex-class carriers led the way to final victory in the Pacific. (Naval Historical Center photograph)

see Pop Guns on page 6



Hampton Roads Naval Museum Lecture Series

continues as

*Jim Cheevers, Curator
U.S. Naval Academy Museum
speaks about the historic
Battle Off the Virginia Capes*


Thursday April 13th 2:00 p.m.

Nauticus Changing Gallery

Mitchell continued from page 2

controversy. Charges and countercharges were proclaimed about the validity of the results and the true meaning of the tests to national defense. In one of the best assessments of the tests, the *Virginian-Pilot and The Norfolk Landmark* editorialized on July 23, 1921, that "the critical point established is not that it would be easy for an air-bomber to

sink a battleship, but that it is possible. It is truism of strategy that what is possible must be guarded against as probable."

The tests in 1921 led to several more tests by the Army Air Service and the Navy in 1923 off Cape Hatteras, N.C. Army bombers targeted the battleships USS *Virginia*, *New Jersey* and *Alabama* and succeeded in sinking all three of them. 


Pop Guns continued from page 5

article that prohibited U.S. fortification of islands in the Western Pacific. This effectively meant that in the event of a war, U.S. carrier aircraft would be necessary to project power against Japan.

All of the factors used in determining the direction of naval aviation were complicated by a political element. In 1920, the Republican party rose to power and promised fiscal austerity. Congress cut naval appropriations by 20 percent, and authorized manpower for the Navy as a whole shrank. Those carriers which Congress did authorize became impossible to man. With the coming of the Great Depression after the 1929 stock market crash, President Herbert Hoover favored more naval limitation through international conferences.

By 1932, however, the Democrats had regained control of both Congress and the White House. Through various New Deal programs, President Franklin Roosevelt and Congressman Carl Vinson, chairman of the Naval Affairs Committee, allocated money for naval construction including the carriers USS *Yorktown* (CV-5) and USS *Enterprise* (CV-6), the two most valuable ships in the U.S.

inventory in 1941-1942.

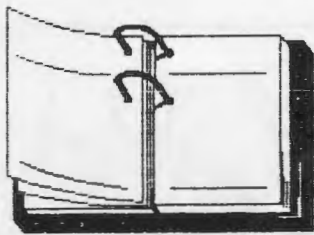
The U.S. carrier effort in this part of the century reached a climax with the introduction of the *Essex*-class during World War II and the *Midway*-class at the end of the war. The *Essex*-class carriers became the backbone of U.S. naval power in the struggle against Japan. With construction of these carriers, Newport News Shipbuilding and Drydock Co. became the world leader in aircraft carrier construction, as it remains today. 

Further Reading

Melhorn, Charles M. *Two-Block Fox: The Rise of the Aircraft Carrier, 1911-1929*. Annapolis: Naval Institute Press, 1974.

Trimble, William F. *Admiral William A. Moffett: Architect of Naval Aviation*. Washington: Smithsonian Institution Press, 1994.

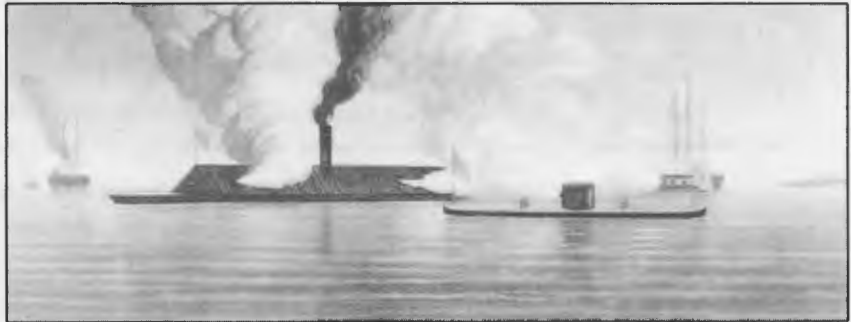
Terzibaschitsch, Stefan. *Aircraft Carriers of the U.S. Navy*. London: Conway Martitimes Press, 1980.



Calendar of Events

March

8-9, 1862 The Battle of Hampton Roads. On March 8, the ironclad CSS *Virginia* attacks the Union blockade squadron and sinks the wooden frigates USS *Cumberland* and *Congress*. The turreted ironclad USS *Monitor* arrives that night and exchanges shots with *Virginia* on March 9.



The ironclads USS *Monitor* and CSS *Virginia* engaging at close range in Hampton Roads. March 9, 1862. (HRNM photograph of a book engraving. Drawn by J. Hamilton and Samuel Sartain.)

11 Living History Associates will perform a vignette on two citizens observing the Battle of Hampton Roads. To be presented in the Changing Gallery at 2 p.m.

15 Quarterly docent meeting to be held in Nauticus' main offices at 232 Main Street at 9 a.m.

19-21 The Virginia Association of Museums' annual conference in Richmond. The conference will have guest speakers, workshops and field trips. Contact the museum for more information.

20, 1922 The Navy recommissions USS *Langley* as its first aircraft carrier at the Norfolk Navy Yard. *Langley* was converted from the coal collier USS *Jupiter*.

22, 1820 Capt. Stephen Decatur, former commander of the Gosport Shipyard and Navy hero, and Capt. James Barron, former commander of the ill-fated frigate *Chesapeake*, have a duel in Bladensburg, Md. in which Decatur is killed.

March Birthdays

Alton Carswell
Margaret Godfrey
Leo Grudzinski
Herbert Jones Sr.
Frank McGill
Ralph Preston
Henry Tarrall Jr.



April

4, 1949 Fifteen countries including the United States sign a treaty of mutual defense under the NATO treaty. Supreme Allied Commander Atlantic (SACLANT) is activated three years later in Norfolk on April 10, 1952.

6, 1917 The U.S. declares war on Germany after repeated violations by German U-boats of American neutrality.

12, 1861 Ft. Sumter in Charleston, S.C. fired on by the Confederate forces, starting the American Civil War.

13 Jim Cheevers, Curator of the U.S. Naval Academy Museum, will speak on the Battle Off the Virginia Capes at 2 p.m. in the Changing Gallery.

21, 1861 Evacuating Union forces burn the Gosport Navy Yard. The ship-of-the-line *Pennsylvania*, the frigate *Merrimack*, the sloops *Germantown* and *Plymouth* and the brig *Dolphin* are all lost along with hundreds of guns and Drydock No. 1.

25, 1898 War formally declared on Spain by the U.S. after an uproar over the loss of the battleship USS *Maine*.

26, 1907 President Theodore Roosevelt opens the Jamestown Exposition at Sewells Point in Norfolk.

April Birthdays

Stephen Belechak
Fred Ferguson
Bob Gladu Jr.
Maureen Helms
Mac McKeel
Mick Nussbaum

