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Newsletter of the Ship Model Society of New Jersey March 2019

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Our next club meeting is March 26th at 6:45PM

ROSELAND PUBLIC LIBRARY



FEBRUARY NOTES...

Meeting. The meeting was opened at 1845 by President Chuck. There were 21 members and 2 guests. Both guests, Carmine Bianco and Don Kieffer, were attending their second meeting. Welcome back! Carmine and Don are one session away from becoming members. The meeting was adjourned at 2025 whereupon several members went to the Caldwell Diner. <u>Meeting photos</u>.

Treasurer's Report. Tom Ruggiero presented the report; we have a good balance in the Club account. Tom passed out checks to members who had sold items at the auction and received money from members who owed. There are a few members who still owe the club, so please pay up. The SMSNJ take from this year's auction was very nominal. However, Doc Fletcher donated the proceeds of his sales to the club. Thank you, Steve!

Tech Session for Next Meeting. The Tech Session at our next meeting on March 26th will be "Fabricating Masts from Square Stock" presented by Chuck.



Roseland Library Show and Exhibit. We will be holding a show and ship modeling demonstration at the Roseland Library on Saturday, April 13th. Tom Ruggiero and Ken Schuetz have set this up with the Library Director, who will be publicizing the event. We will be exhibiting several models and working on some of our ongoing projects. If you would like to join us, contact Tom.

Speaking of the Roseland Library, SMSNJ member Nick Starace will be holding a "Meet the Author" presentation at the Roseland Library at 7PM on May 16th. Nick will be discussing his autobiography *White Sails Became Me: Memoirs of a Seafaring Heritage,* an account of his life as a Merchant Marine Officer and business executive. Nick has traveled the world and lived through such adventures as the first terrorist air bombing, an African safari and the events of 9/11. See "**Books and Pubs**" below.





Northeast Joint Clubs Conference. Tom has emailed the conference announcement and registration form. President Chuck has asked that we have good representation from SMSNJ. He requests that you let him know if you are planning to go. Note that there is a very good after-lunch speaker already arranged. We will need to have someone from SMSNJ do a round table presentation; please step up and volunteer. Also, please get your registrations in as soon as possible. **History of SMSNJ**. Bill Brown was coaxed by his wife Donna to clean up his closet. In so doing, he found the handouts and proceedings from the Nautical Research Conference that SMSNJ hosted in 1988. In those booklets was a compilation of the founding of SMSNJ. Tom will transcribe the history so that we can put it on our website. Roy has several VHS tapes produced by Bob Fivehouse that included a walk around discussion of all of the models that were on display. Larry volunteered to see what it would take to transcribe these recordings into a digital format.

Auctions. Chuck has noticed that over time the number of items that arrive at our annual auction has steadily decreased. Part of the reason could be that our practice has been to have periodic auctions throughout the year when specific items, tools, and books become available. Recognizing this, going forward we will continue these periodic auctions at regular meetings. To allow us to manage the process, we ask that you let one of the officers know a week beforehand if you have things that you want to auction at a meeting so we can effectively plan meeting time and activities. Thank you in advance.

Pennsville Farm Show. As in the past, SMSNJ will be exhibiting at the Pennsville Farm Show with the Philadelphia Club on Saturday, June 1st. Tom R. was contacted by the event coordinators and agreed to be there. So far, Bill Brown will be joining him. This is a fun day with typically great weather right next to the Delaware River. We encourage others to attend.



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TECH SESSION

Reconditioning lvory and Bone Fittings

by Jeff Fuglestad

At the February meeting, Jeff Fuglestad explained his methods for reconditioning ivory and bone fittings.

Jeff is currently restoring a French Pre-Dreadnought Battleship. The model is very old and includes several carved ivory fittings. One of the issues with a restoration is making sure it's correct. The condition of the model was different on either side of the ship. So Jeff worked on one side at a time, using the unrestored side as a reference, and once that was competed, he went to the other side using the restored side as his reference point (some restorers use extensive photographs; this works too. Ed.).

Saliva and cotton swabs are one way to clean a model. Jeff said that he didn't have enough saliva, so he used Top Job mixed with water, a solution that worked well. He applied the mixture with a cotton swab, then rinsed the area with a clean swab soaked in plain water. He then dried the area with a third swab. This process removed the grime but did not disturb the crazed varnish.

Old ivory tends to turn orange or yellow and some parts



needed to be replaced. Ivory can be cut, filed and shaped. Several of the ship's rails were 1/32" in diameter. Jeff cut pieces with a fine tooth saw and then finished shaping them with a disc sander. He held small pieces in a drill, then turned on the drill and carefully touched each piece to the disc sander. The combination allowed him to copy the 1/32" diameter railings. He was then able to pass these through the stanchions on the model.

Unlike wood, ivory is cellular and has no grain. This allows it to be worked with no splitting. Jeff was able to shape the ivory by soaking it in warm water for about 30 minutes and then bending it over a heated bending iron. Cyanoacrylate works well for attaching ivory. Jeff was asked how he determined that pieces were ivory instead of bone. His research indicated that ivory is very smooth, and with progressive sanding with finer grits, can be polished. When asked about the use of ivory in light of current government bans, Jeff stated that ivory that is pre-1976 can still be legitimately used.



24-pounder Cannon

— Len Schwalm

Len arrived at the February meeting with a scratch-built cannon, circa 1812, in 1:24 scale.

The cannon is made entirely of wood, including the barrel that Len turned on a wood lathe using plans from The Smithsonian. The model was started some time back in the 1960s, and Len decided to resume the project about a year ago. A good-looking piece, Len.







French Pre-Dreadnought

- Jeff Fuglestad

The subject of the February Tech Session was Jeff's vintage model of a pre-dreadnought battleship. The model belongs to a friend from Cape Cod. It had been sitting on the mantle of the friend's parents' house since the early 1900s. The model had been in Jeff's friend's closet for quite some time.

For his demo and the tech session, Jeff brought photos of the model before he started restoring it. He believes it was built in 1:64 scale, as it measures 15½" in length by 5½" abeam and is 19" tall. He estimates that it was (scratch) built in the late 1800s, but this is an educated guess. The hull is very heavy, and Jeff speculates that the material used was fir. Fir is classified as a soft wood, but it has resin filled rings making it heavier and harder than pine or basswood. The fittings are made of ivory about 150 years old Jeff is guessing. There are several quite detailed painted figures of sailors at various posts aboard. The model's only identification is a partial carving in ivory of the French Navy motto, "Honneur, patrie, valeur, discipline." (Honor, homeland, valor, discipline).















Brigantine Leon

- Doug McKenzie

Leon is back and Doug is making good progress. The Leon was built in Norway. Doug's model is plank on frame, 26" long, 7" in breadth and 5" high in 1:48 scale. The single frames were doubled to agree with research material that Doug located. Mast steps were added to the top of the keelson. The deck beams are in the process of being installed. The beams are supported by two diagonal hanging knees at each beam's end. This replaces the more conventional lodging knees and one hanging knee arrangement. It is possible that this is a uniquely Norwegian design referenced in the survey and the 1882 DNV Rules and Regulations (DNV GL is an international accredited registrar and classification society headquartered in Høvik, Norway). Very impressive, Doug.















America ship's boats

- John Marinovich

John is building the Schooner *America* and for the February meeting brought in his work on the ship's boats. The plans he used are from Eric Ronnberg, Jr. John is repeating the technique that was used by Harold Underhill. The boats are plank on frame with a boxwood keel, stem, and sternpost. Good looking work, John.





Medway longboat

- Larry Friedlander

Larry has completed the planking on his longboat. He notes that some areas were quite thin so he added extra stock inside the boat. Moving along nicely, Larry.









Medway longboat

- Chuck Passaro

Chuck's Medway longboat is just about complete. It is 1:24 scale and measures 17" in length. The model now has its mast, bowsprit boom and rigging. It also includes a British Ensign. Chuck has just a few more details to add to this prototype of the group build project that the club is working on.















Queen Mary

- Bob Fivehouse

Bob recently finished his model of the Clyde steamer Queen Mary which he has sent to Michael Wall at the American Marine Model Gallery to try to sell. The Queen Mary is an excursion steamer built for the River Clyde service of Turbine Steamers LTD by William Denny Brothers in 1933. She is now being restored for use as a museum ship in Glasgow. Bob's model shows her as she appeared during her trials which is how the final restoration should appear. The model is made from the original plans supplied by the National Maritime Museum and is to a scale of 1"=24'. The hull is basswood, the decks holly, the funnels brass and the large vent cowls are turned from wood, then glued to a dowel. Most of the fittings are wood and brass, with paper as needed. The water is carved wood and the bow wave and wake are built up from modeling paste. The flags at the masthead are the company flag with the name pennant below. The starboard halvard flies the "H" flag which, at that time, indicated that she was on her trials and other vessels should steer clear. The port halyard flag was indecipherable from photos, so Bob substituted the Denny company flag, a blue elephant on a white background.

An interesting note is the fact that, in Great Britain, only one ship can be registered with a given name. When the ocean liner *Queen Mary* was launched two years later, the Cunard Line made a deal (probably a monetary one!) with the owners of the excursion steamer to re-name their vessel *Queen Mary II*, thereby releasing the original name for the ocean liner. After the ocean liner was retired, the excursion steamer's name reverted to *Queen Mary* and the new ocean liner is now the *Queen Mary II*!









A New Breed of Supercarrier

USS Gerald R. Ford heads a new class of aircraft carriers being built to replace the US Navy's Enterprise- and eventually its Nimitz-class carriers. The Ford class was introduced with the delivery of its namesake as CVN-78. The new vessels have a hull similar to the Nimitz carriers, but include recently developed technologies such as the Electromagnetic Aircraft Launch System and other features intended to improve efficiency and reduce operating costs. Improvements were made using developing technologies and more efficient design. Major design changes of the new class include a larger flight deck, improvements in weapons and material handling, a more compact island that has been pushed back to improve aircraft handling, storage and traffic flow, and a new and smaller (but more powerful) propulsion plant requiring fewer people to operate and maintain it. This propulsion



Carriers of the class have:

- Advanced arresting gear
- Greater automation, allowing a crew of several hundred fewer than the *Nimitz*-class carriers
- The updated RIM-162 Evolved Sea Sparrow missile
- Dual Band Radar (DBR), initially developed for the Zumwalt-class destroyers
- An Electromagnetic Aircraft Launch System (EMALS) in place of traditional steam catapults for launching aircraft
- A new nuclear reactor design for greater power generation
- Stealth features to reduce radar cross-section
- The ability to carry up to 90 aircraft of multiple types, including unmanned combat aerial vehicles such as the Northrop Grumman X-47B

The biggest visible difference from earlier supercarriers is the farther aft location of the island.

Up until recently, the 1960s *Nimitz* design had been able to accommodate advanced technologies introduced over the decades, but the class' ability to support the most recent technical advances is rapidly declining. According to a 2005 Rand report, "The biggest problems facing the *Nimitz* class are limited electrical power generation capability, the upgrade-driven increase in ship weight and erosion of the center-of-gravity margin needed to maintain ship stability." With these constraints in mind, the Navy developed what was initially known as the CVN-21 program, one which ultimately evolved into CVN-78, *Gerald R. Ford*. unit has been critical in meeting the increased electrical demands of new technologies.

Advances in electromagnetics have enabled development of EMALS, an Electromagnetic Aircraft Launch System, and AAG, Advanced Arresting Gear. An integrated warfare system, the Ship Self-Defense System (SSDS), has been developed to allow the vessels to more easily take on new missions. The new Dual Band Radar (DBR) has combined S-band and Xband radar. Flight deck changes have supported the requirements for a higher sortie rate, around 160 a day with surges to 270. All of these advances now allow the new carriers to launch 25% more sorties.

EMALS and AAG offer radical improvements in launching and recovering aircraft. *Nimitz*-class carriers use steam-powered catapults for launch. The EMALS system installed aboard the Ford-class is more efficient, smaller, lighter, more powerful, and easier to control, Increased control allows the carrier to launch heavier and lighter aircraft than would be possible if she were equipped with steam catapults. As an added benefit, the use of a controlled force reduces the stress on airframes, resulting in less maintenance and a longer lifetime for the aircraft. EMALS will not be retrofitted to the Nimitz class, because these carriers cannot generate enough electricity to power it. Electromagnets are also being used in the new Advanced Arresting Gear (AAG). With this technology, energy absorption is controlled by a turbo-electric engine rather than by



hydraulics. This makes the trap smoother and reduces the shock to airframes. Even though the system looks the same from the flight deck as its predecessor, it is more flexible, safe and reliable, and requires less maintenance and fewer crew to operate.

A few interesting facts about this new class of carrier:

 Newport News Shipbuilding used a full-scale threedimensional product model to design and plan the construction of the *Gerald R. Ford*. This enabled engineers and designers to test visual integration in design, engineering, planning and construction of components and subsystems. CVN-78 is the first aircraft carrier to be designed using a full-scale 3D product model. This modeling enables the compartments within the ship to be modular, so that future upgrades can be implemented simply by swapping "boxes" and locking them down.

- The Navy is actively developing a weapon system called the free-electron laser (FEL), and planning to employ this, along with dynamic armor (electrical vs. solid protection), to address cruise missile and swarm-boat threats against *Ford*-class vessels.
- Breakthrough waste management technology developed by PyroGenesis Canada is used to treat all combustible solid waste generated on board. *Gerald R. Ford* Photo essay

How It All Started



Gerald R. Ford was not yet 7 years old when the collier (coal carrier) *Jupiter* was converted at the Norfolk Navy Yard to become the first US aircraft carrier. The purpose? To conduct experiments in the new idea of seaborne aviation. On April 11, 1920, Jupiter was renamed *Langley* in honor of Samuel Pierpont Langley, an American astronomer, physicist and aeronautics pioneer. USS *Langley* was assigned hull number CV-1.

As the first American aircraft carrier, *Langley* was the scene of several seminal events in US naval aviation. On October 17, 1922, Lt. Virgil C. Griffin piloted the first plane—a Vought VE-7—to be launched from her decks. Although this was not the first time an airplane had taken off from a ship, and even though *Langley* was not the first ship with an installed flight deck, this one launching was of monumental importance to the modern US Navy. The era of the aircraft carrier was born on the occasion, introducing to the Navy what was to become the vanguard of its forces in the future. With *Langley* underway nine days later, Lieutenant Commander Godfrey de Courcelles Chevalier

made the first shipboard landing in an Aeromarine 39B. On November 18, Commander Kenneth Whiting was the first aviator to be catapulted from a carrier deck.

An unusual feature of Langley was provision for a carrier pigeon house on the stern between the 5" guns. Pigeons had been carried aboard seaplanes for message transport since World War I, and were to be carried on aircraft operated from Langley. The pigeons were trained at the Norfolk Naval Shipyard while Langley was undergoing conversion. As long as the pigeons were released a few at a time for exercise, they returned to the ship; but when the whole flock was released while Langley was anchored off Tangier Island, the pigeons flew south and roosted in the cranes of the Norfolk shipyard. The pigeons never went to sea again and the former pigeon house became the executive officer's quarters. An interesting note: the early plans for conversion of the battlecruisers *Lexington* and *Saratoga* to aircraft carriers in compliance with The Washington Naval Treaty of 1922 included a compartment for pigeons.



By January 15, 1923, Langley had begun flight operations and tests in the Caribbean Sea for carrier landings. In June, she steamed to Washington, D.C., to give a demonstration at a flying exhibition before civil and military dignitaries. She arrived at Norfolk on June 13, and commenced training along the Atlantic coast and Caribbean, exercises which carried her through the end of the year. In 1924, Langley participated in more maneuvers and exhibitions, spent the summer at Norfolk for repairs and alterations, then departed for San Diego to join the Pacific Battle Fleet. For the next 15 years she operated off the California coast and Hawaii engaged in training fleet units, experimentation, pilot training, and tactical-fleet problems. Langley was featured in the 1929 silent film about naval aviation The Flying Fleet.

On October 25, 1936, she put into Mare Island Navy Yard, California for overhaul and conversion to a seaplane tender. Though her career as a carrier had ended, her well-trained pilots had proved invaluable to the next two

carriers Lexington and Saratoga, commissioned, respectively, on December 14 and November 16, 1927.

On December 8, 1941, Langley was anchored off Cavite, Philippines. Following US entry into WWII, she departed Cavite for Balikpapan in the Dutch East Indies. As Japanese advances continued, Langley left for Australia, arriving in Darwin on January 1, 1942. She then became part of the American-British-Dutch-Australian Command (ABDACOM).

On February 27, 1942, Langley was spotted by Japanese aircraft while delivering P-40 aircraft to Tjilatjap, Java. Late that morning, she and her escorts came under attack from 18 Japanese "Betty" bombers. Although able to maneuver to escape the first round of attacks, Langley eventually took 5 hits and 3 near misses. Dead in the water and with her topsides aflame, the order was given to abandon ship. Once the crew was clear, Langley was sunk by US gunfire and torpedoes to prevent her capture. It was a sad end to a groundbreaking icon.

A Century of Progress

CV-1

Type: Commissioned: Cost: Displacement: Length: Beam: Draft: Installed power: Propulsion:

Speed: Range: Complement: Armament: Aircraft carried: Primary aircraft:

March 20, 1922 \$1,722,104 (collier + conversion) 13,900 tons 542 ft 65 ft 5 in 24 ft 3 × boilers, 7,200 shp General Electric turbo-electric transmission 2 × shafts 15.5 knots (17.8 mph) 3,500 nmi (4,000 mi) 468 officers and men 4 × 5 in/51 cal guns 36 Aviation facilities: 1 × elevator, 1 × catapult Vought VE-7 biplane Crew: 2 Unit Cost: ? Max speed: 106 mph Range: 290 mi Service ceiling: 15,000 ft Armament: 1 Vickers 30-cal mg

Langley-class aircraft carrier

CVN-78

Commissioned: Cost: Displacement: Length: Beam: Height: Draft: Decks:	Gerald R. Ford-class aircraft carrier July 22, 2017 \$12,998,000,000 112,000 tons 1,106 ft 256 ft (flight deck); 134 ft (waterline) 250 feet 39 ft 25
Propulsion:	Two A1B nuclear reactors, 340,000 shp Four shafts
Speed:	>30 knots (35 mph)
Range:	Unlimited
Endurance:	50-year service life
Complement:	508 officers, 3,789 enlisted
Armament:	Surface-to-air missiles:
	2 × RIM-162 ESSM launchers
	2 × RIM-116 RAM Guns:
	3 × Phalanx CIWS
	4 × M2 .50 Cal. machine guns
Aircraft carried:	75+
Aviation facilities:	
Primary aircraft:	F35C Lightning
,	Crew: 1
	Unit Cost: \$107,700,000
	Max speed: 1,200 mph
	Range: 1,550 mi
	Service ceiling: 50,000 ft
	Armament: 1 25-mm rotary cannon,
	6 underwing pylons



BOOKS AND PUBS

White Sails Became Me: Memoirs of a Seafaring Heritage — Nicholas F. Starace II

This book is the autobiography of SMSNJ member Nick Starace II and is described as "A modern-day renaissance that takes you on a worldwide journey living more adventure than most people dare to dream." The volume chronicles Nick's experiences growing up in South Brooklyn and Red Hook and early years spent in the company of his father and grandfather, from both of whom he learned to love boats, boat building and the sea, pursuits that led to Nick's lifelong passion for ship modeling. His family relationships shaped Nick's very future, eventually leading to enrollment in the Merchant Marine Academy at Kings Point (with a subsequent engineering Master's degree from Stevens Institute of Technology) and a career that carried him around the world as a mariner and international executive with responsibility for his company's worldwide ship construction program.

Narration between the covers is filled with such adventures as survival of the first terrorist air bombing attack, travels and residence in Europe and the Orient, a safari in Africa, an earthquake he survived that others didn't, witnessing first hand the devastation wrought on 9/11 as it happened. There's also humor, including a funny story about the mysterious disappearance of the toilet seat from the cabin of actress Rita Hayworth as she traveled across the pond on the SS *United States*.

Throughout, Nick skillfully weaves his work and personal life into a single thread, and gives us pause to reflect that who we are and what we do, what we experience, are truly inseparable. In his lifetime, he has endured his share of personal tragedy: contracting cancer, military death in the family, the loss of a child to suicide, divorce. It's all sensitively and openly covered in the book. His life experiences have fostered a strong desire to give back; for the past 15 years Nick has been working as a volunteer at the VA Hospital in East Orange, service that he says is "immeasurably gratifying."

This is a great read for anyone with even a hint of salt air in his nostrils and a taste for exotic adventure.



I must go down to the seas again, to the lonely sea and sky, And all I ask is a tall ship and a star to steer her by, And the wheel's kick and the wind's song and the white sails shaking, And a gray mist on the sea's face and a gray dawn breaking. —John Masefield, from "Sea-Fever"

The Ship Model Society of New Jersey

The Broadaxe is published monthly by The Ship Model Society of New Jersey (SMSNJ), a nonprofit organization dedicated to teaching and promoting ship modeling and maritime history. Membership dues are \$25.00 for the first year and \$20.00 per year thereafter.

Visit our Web Site at:

http://www.shipmodelsocietyofnewjersey.org where a web version of *The Broadaxe* can be found. *The Broadaxe* is distributed each month by email in PDF format.

Regular meetings are held on the fourth Tuesday of every month at 6:45 PM, at the Roseland Free Public Library, 20 Roseland Avenue, Roseland, New Jersey. Guests are always welcome.

Contributions to *The Broadaxe* are always welcome, and SMSNJ members are encouraged to participate. Articles, shop hints and news items may be submitted directly to the Editor as typed manuscript or electronic files, either on discs or by email. Handwritten notes or other materials will be considered depending on the amount of editing and preparation involved.

The Broadaxe is edited by Steve Maggipinto. Your ideas and suggestions are always welcome. Please submit them to Steve Maggipinto at stevemagg@optonline.net.

If any member would like an email copy of the roster, please drop a note to Tom Ruggiero at the email address listed below. If there is an error in the roster let Tom know and the roster will be amended. Please make sure that your spam filter is not blocking emails from Tom because if it is, you won't get member bulletins. You can eliminate the filtering by adding Tom's email address to your contact list. Please keep the secretary informed of any changes so that the roster can be kept current. If you would like a printed copy of the roster, please send a SASE to Tom Ruggiero at the address below and one will be mailed to you. Rosters are also available at the monthly meetings.

Please keep your contact information up to date. Your email address is particularly important because that is the main avenue of communication for club announcements. In case of emergencies such as last-minute cancellations due to weather, emails will be sent to the members.

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