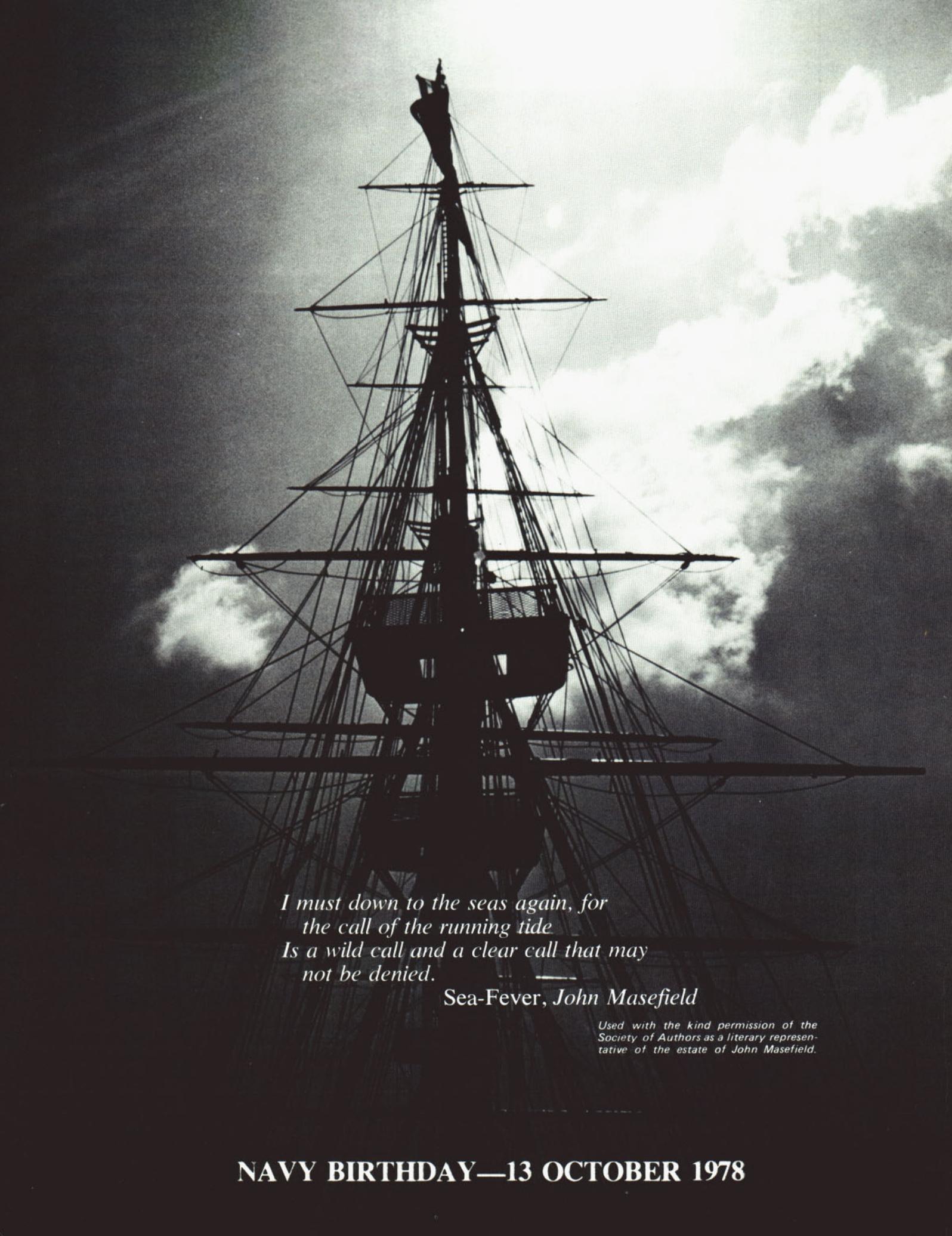




ALL HANDS

OCTOBER 1978



*I must down to the seas again, for
the call of the running tide
Is a wild call and a clear call that may
not be denied.*

Sea-Fever, John Masefield

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Front: Colors shimmer through lenses at Chesapeake Bay's Thomas Point Light. Photo by PH1 Terry C. Mitchell.

Back: The old carrier *Intrepid* frames three other members of "Philly's Silent Navy." Photo by PH1 Terry C. Mitchell.

At left: Masts and rigging of the frigate USS *Constitution* as she stands today in Boston, a symbol of the Navy on its 203rd birthday. Photo by PH1 Richard Pendergist.

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Currents

PCS Travel

Entitlements Expanded ● In the past, Navy personnel transferred to or from deployed units traveled at government expense directly to their next duty station. If they needed to travel through their new homeport to set up house, or their old one to pack out, it was done at their own expense. Not any more. As of Aug. 22, Navy personnel can travel at government expense to or from a deployed unit through their homeport or permanent station on the way to their new duty assignment. For example, a member assigned to a ship homeported in Norfolk, Va., who executes PCS orders to Naples, Italy, while the ship is inport in Barcelona, Spain, may be authorized travel to Naples via Norfolk at government expense. The change to the Joint Travel Regulations corrects an inequity suffered by Navy men and women ordered to and from deployed units. Full details and implementing instructions are in NAVOP 98/78.

Navy Suggestion Program

To Receive New Emphasis ● “We have only scratched the surface” of possible returns from the Navy suggestion program, Secretary of the Navy W. Graham Claytor Jr. reported in ALNAV 40/78. He said FY 77 savings of \$57 million were not up to the program’s potential. “We must take positive steps to effect measurable improvements in the suggestion program now,” he stated. One of those steps is the creation of a Navy task force of military and civilian managers which will recommend ways to simplify the program. “This important program merits increased recognition, publicity and use at all echelons of command,” Secretary Claytor said. “I enjoin all commanding officers and heads of activities to stress the advantages of this vital program.” Details of the suggestion program are contained in SECNAVINST 1650.24A.

5.5 Percent Pay Increase

Recommended By President ● The President has proposed a 5.5 percent pay increase effective Oct. 1 this year for military personnel and civilians employed by the federal government. The proposal means basic pay, subsistence allowance and quarters allowance each will be increased 5.5 percent. The President said there would be no reallocation from basic pay into the allowances. The 5.5 percent pay increase goes into effect unless either the House or Senate disapproves of the action before Oct. 1. According to law, the President must adjust the pay of military personnel and most federal government workers each year to keep it comparable with pay of civilians in the private sector. An 8.4 percent increase would keep the pay of military and federal employees comparable, but the President proposed the 5.5 percent increase to help halt inflation.

Many “A” School

Openings For Fleet Sailors Next FY ● Although “A” school is designed primarily to train new recruits, more than 7,800 quotas are available during the upcoming fiscal year for Navy men and women already serving in the fleet. Those ratings with the highest number of quotas available to fleet personnel include: HM, AT, RM, AE, AD, OS, MS, ETN and ETR. Navy personnel desiring to apply for “A” school must meet the prerequisites outlined in the catalog of Navy training courses (NAVEDTRA 10500). A complete breakdown of “A” school quotas available and application procedures are contained in BUPERS Notice 1510 of Aug. 28, 1978.

SGLI Rates

Reduced ● Monthly premiums for Servicemen's Group Life Insurance (SGLI) have been reduced due in large part to a lowering mortality rate among service members. New rate for persons with \$20,000 coverage is \$3 per month; for \$15,000, \$2.25 per month; for \$10,000, \$1.50 per month; and for \$5,000, \$.75 per month. Old rates were \$3.40, \$2.55, \$1.70 and \$.85, respectively. The new rates are retroactive to July, and will be reflected in the Leave and Earning Statements (LES).

Uniform Wear

Test Status ● The Navy is distributing jumper style blue uniforms to selected fleet units as wear testing of the new uniforms continues. BUPERS also announced the Navy will no longer issue the service dress blue coat to recruits after Oct. 1. At that time, wear of the coat for paygrades E-1 through E-4 will become optional. Authorized seasonal uniforms for E-1 through E-4 after Oct. 1 will be winter blue, summer blue and summer white. Recruit issue of the jumper style uniform will begin on Oct. 1, 1980. Details of the change will be announced in an upcoming NAVOP. Wear testing of the women's new winter blue, summer blue and summer white uniforms is complete and materials are being selected. Wear testing of the new khaki uniform for female officers and CPOs, as well as coveralls for all women, will be completed on Sept. 1. Khaki uniforms should be available through the Navy Exchange next spring. Introduction of the coveralls will be announced after the results of the wear test are reviewed.

Stateside Furniture

Delivery For Overseas Exchange Customers ● Navy men and women stationed overseas who have PCS orders to the U.S. now can purchase American manufactured furniture through the Navy Exchange for delivery in the Continental U.S. at government expense. Under a new procedure called the Furniture Drop-ship Program, the furniture will be counted as part of the household goods shipment and will be charged against the weight allowance. The program lets Navy Exchange customers special order furniture while attached to overseas duty stations, including Alaska and Hawaii. The Navy Exchange will ensure the furniture is shipped directly to the new stateside address. Further information is available from the special order departments of overseas Navy Exchanges.

On-Duty High

School Studies Program Available ● The Navy has developed the Navy High School Studies Program (NHSSP) for Navy men and women assigned to afloat commands. It is an on-duty, fully funded education program designed to improve basic skills levels. Eligible personnel are those with skills levels below the 12th grade in English grammar and composition, reading, mathematics and science who, in the opinion of their commanding officers, can benefit from the program. Contractors – Florida Junior College for the Atlantic Fleet and Central Texas College for the Pacific Fleet – will provide instructors and materials for group or individual study free of charge to the student. The program is administered by the Chief of Naval Education and Training as an educational opportunity under the Navy Campus for Achievement. Organization of classes is the same as that now used under the PACE program. Requests from fleet units for courses may be submitted by letter or message to the Navy Campus Area Coordinator at the appropriate naval education and training support center, Atlantic or Pacific. Shore commands can receive assistance in organizing their basic skills development classes from their assigned Navy Campus education specialists.

Navy Dental Health Program

BY JO2 DAVEY MATTHEWS

The National Institute of Dental Research estimates that 98 percent of all Americans have tooth decay, beginning at an early age.

The average Navy recruit in 1974 had 5.4 decayed teeth. Nine hours of dental care would have been necessary to treat the dental disease found in each recruit. To complete this task, it would have taken over 40 percent of the entire Dental Corps' officer strength.

"If we were to do everything that was needed to be done to correct the dental conditions of recruits coming into the Navy today, it would involve many hours to complete the 29 different dental procedures each recruit requires," said Captain R. D. Ulrey, DC, USN, head of the Dental Corps professional branch. Dr. Ulrey based his figures on a survey conducted at Great Lakes in 1976.

"It is no longer possible to get every recruit in Class I condition (requiring no further treatment) before he or she leaves boot camp," he said. "We just don't have the manpower to do it."

Dental health problems go back through the years. At the start of World War II, the rejection rate for dental defects was about 21 percent. "You can't fight a war without people so they had to lower the dental standards for entrance into the military,"

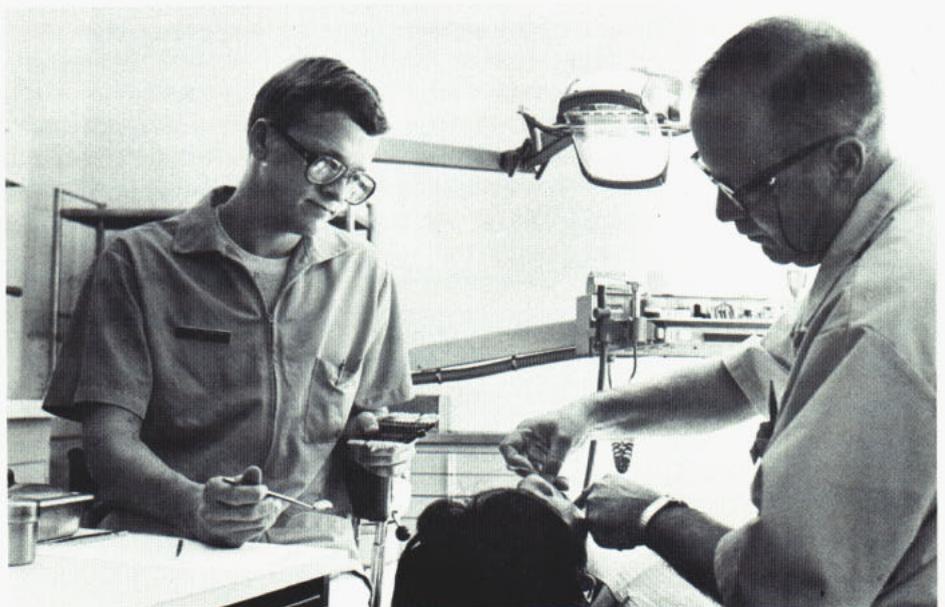
Dr. Ulrey explained. "Today, dental impairment accounts for about one-half of one percent of those rejected. We have studied the possibility of increasing entrance standards again, but with an All-Volunteer Force, the Navy cannot afford to turn away an otherwise eligible person just because his or her teeth may not be in the best condition."

Only those who have a severe malocclusion (irregular contact of opposing teeth in the upper and lower jaws) or are wearing active orthodontic appliances such as braces are restricted from entering the service. "Even those rulings are flexible to a certain extent," Dr. Ulrey said. "For the most part, it is left up to the examining dentist to

decide the severity of the malocclusion and in a few select cases surgical correction can be achieved while on active duty."

Dental standards for officers and those going into specialized programs such as diving, aviation, nuclear or submarine are higher. "It's a matter of common sense," Dr. Ulrey explained. "There isn't time in a junior officer's schedule for extensive dental work. Submarines go on long patrols and don't have the facilities for dental care. If a diver cannot hold a breathing apparatus in his mouth because of the condition of his teeth, it's obvious that he is not suited for that job."

In boot camp, a recruit is screened and immediate dental problems are



Right: DT3 David Hiles assists dentist during oral exam. (Photos taken at San Diego Naval Regional Dental Clinic by PH2 Bob Weissleder.)

cared for. If additional treatment needs to be done, it is entered in his or her dental record for completion at the next duty station. The recruit also gets a lesson in preventive dentistry—one that will be reinforced throughout a naval career.

“When you consider the condition of these young people’s mouths, it’s not surprising to discover that they

don’t know how to brush or floss their teeth,” Dr. Ulrey said. “Anytime we see a patient whose teeth are showing signs of neglect, we go over the preventive dentistry routine again in an attempt to reeducate their thinking—no matter if they have been in the Navy six months or six years.”

Routine checkups are an important part of preventive dentistry. “We

would like to give each active duty member an examination twice a year, but we just don’t have the manpower,” Dr. Ulrey explained. “We do conduct annual examinations and encourage patients to come in if a problem develops.”

Computers may soon make it easier to remind patients that they should have annual dental checkups. “Someday we hope to feed all dental records into a computer system,” he said. “Whenever an active duty member is due for an annual examination, a computer readout card will be sent automatically to his or her command. It is similar to the system used by our medical colleagues to inform members when they are due for certain inoculations.”

Although active duty personnel receive dental examinations before reenlistment or discharge from the service, it is their responsibility to make follow-up appointments. After leaving active duty, a person can still have *certain* dental problems cared for by the Veterans Administration.

Veterans whose dental conditions or disabilities are service-connected but not compensable must apply to VA within one year after discharge or release from active duty. “For example, if you had teeth extracted during your last tour of duty, you could be fitted for a prosthetic appliance under the VA,” CAPT Ulrey explained.

Veterans who meet one or more of the following stipulations may apply for VA-funded dental care within a longer time frame:



Left: DT2 Vicki Bryce prepares anesthetic.

- Have a dental condition or disability that is service-connected and compensable.

- Have a dental condition that is service-connected, resulting from combat wounds or service injuries, but not compensable (includes prisoners of war); or

- Have nonservice-connected dental conditions that are determined by VA to be associated with or aggravating a service-connected condition.

“Also, disabled veterans training under the Vocational Rehabilitation Act who need dental treatment may apply for care as needed,” Dr. Ulrey explained. “The program is rather complex and it’s best to check with a VA counselor for more information if you are about to leave the service or think you qualify for the dental care.”

Many who stay in the service assume they will receive unlimited dental care when they retire. “I’m afraid it’s a rude awakening when they discover that’s not so,” he said. “Dental care for retirees is available but the amount and type of care fluctuate from clinic to clinic. We do provide treatment for them, but only on a space-available basis.”

First priority for care goes to active duty members; dependents and survivors of active duty members (when care is authorized) are second; retirees and their dependents and survivors come last.

This policy was established by a congressional act passed in 1956. It stated, in part, that retirees could obtain care in military facilities “. . . based upon the space and facilities and the capabilities of the medical and dental staff.” The impact of this quali-

fying term was not felt until the 1960s, when the number of retirees increased at an unprecedented rate and their demands for care began to exceed the capabilities of military medical facilities.

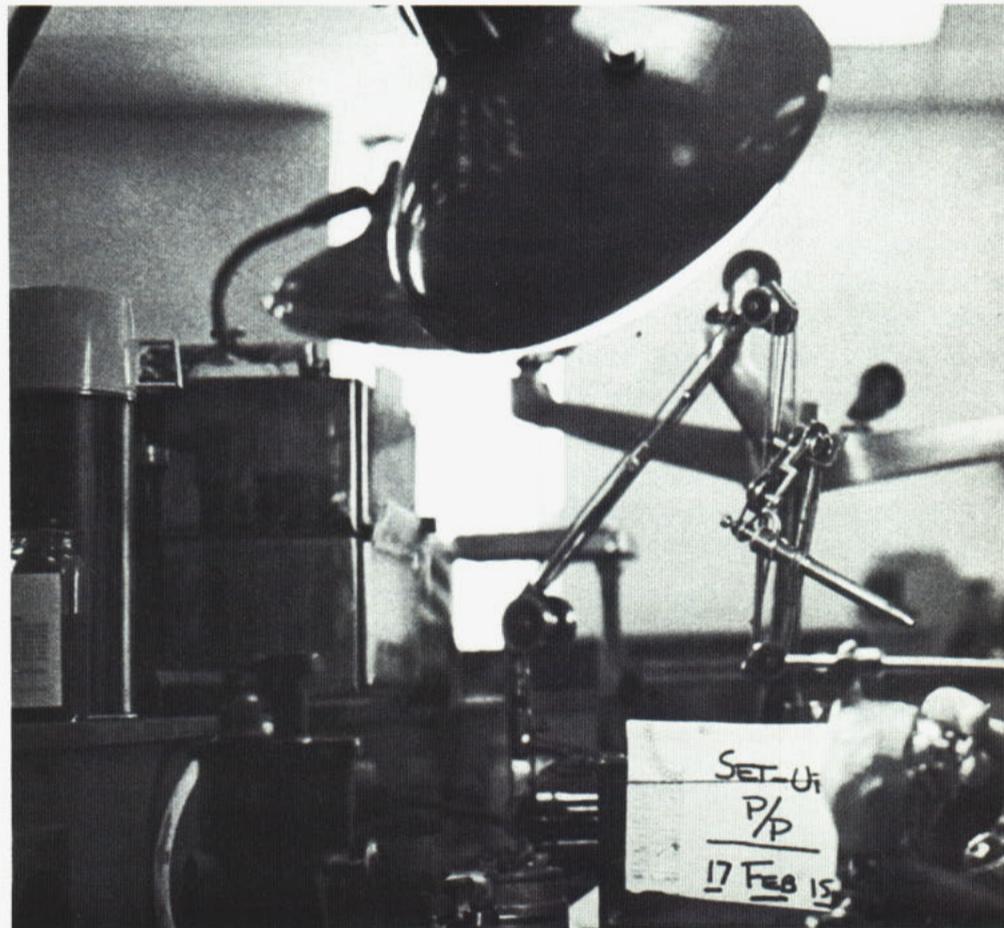
“There are 2.1 million active duty members in the Department of Defense and dental treatment capabilities are based on that figure,” Dr. Ulrey said. “The problem is that there are 1.1 million retirees vying for a dental care capability that just doesn’t exist.”

As part of their training, reserve dental units are providing dental care to retirees where possible. “However, these units have other commitments such as providing annual examinations for reservists,” CAPT Ulrey ex-

plained. “They, too, are limited as to how many retirees they can treat.”

CHAMPUS authorizes dental care for retirees and dependents only when it is a necessary part of medical or surgical treatment. That policy may change. CHAMPUS officials are studying the feasibility of some type of supplemental dental care program.

Normally, routine dental care for dependents is available only at overseas or certain designated locations in the United States on a space-available basis. “If it is an emergency, where relief of pain is involved, a dependent can go to any military dental facility and receive treatment. We also provide dental services if a dependent is under a physician’s care and he (or she)



Right: DT3 Antonito Bradley shapes prosthetic device.

certifies, along with a consulting dentist, that dental care is a necessary part of treatment," the doctor explained.

"For example, a dependent develops oral cancer and has surgery to remove affected tissue. If there is a dental procedure that can aid the person after surgery, and we can provide it, that dependent is entitled to use military facilities."

The Navy also has a program that takes care of the dental needs of active duty members serving away from treatment facilities—i.e., recruiters, NROTC members, or active duty personnel attached to reserve units. A civilian dentist is contracted to take care of the essential needs of these people.

The dental health program tries to



cover every need Navy men and women might have. "But we are hampered by a steady decline in the number of officers in the Dental Corps," Dr. Ulrey said.

Captain C. A. Brown, DC, who heads the personnel branch of the dental division, explains the problem.

"Currently, we have 1,704 billets to fill with only 1,634 dentists. If current trends continue, we will be short 50 or more dental officers by the end of this fiscal year and, perhaps, 300 or more by FY 81."

Many factors are contributing to this decline. When the draft ended, the Navy lost its primary source of dentists. In 1977, the dental portion of the Armed Forces Health Profession Scholarship Program was suspended, ending a vital source of quality personnel.

"In recruiting dentists, we have several negative factors we must deal with, including an increase in the amount of obligated service to three years and a slowdown in promotion opportunities," Dr. Brown said.

"We are concerned with the decrease in the quantity of dentists, but what is more important is that the maintenance of quality care may be affected if we cannot attract and retain highly qualified dentists. There are no simple solutions, but one must be found."

Dentists receive incentive or special pay under a provision of a law that expires this year. Congress is considering a proposal which, if passed, would continue special pay and bring it more in line with a civilian dentist's income. "Of course, this would be an asset to recruitment and retention of high quality dentists," Dr. Ulrey explained, "but there are many others to consider. In addition to opportunities for travel and no private practice administrative worries, Dental Corps of-

ficers have access to an advanced dental education program."

Such specialty fields as endodontics, oral surgery, prosthodontics and periodontics are open to Dental Corps officers. In addition, a limited number of dentists are given the opportunity to conduct research investigations.

"It's an extensive educational program—we are very proud of it," Dr. Ulrey said.

Enlisted dental technicians play a vital role in assisting dental officers in their daily practice.

Master Chief Dental Technician R. W. Mast, head of the Dental Technician section of the professional branch, reports that the number of dental technicians in the Navy is on the upswing "with full quotas at all the schools." In addition to the basic class "A" school, six class "C" schools in four specialties are available to dental technicians during their careers.

"We are relying more and more on dental technicians and we want to make sure they get all the training we can possibly give them," Dr. Ulrey said.

From its inception, the Navy Dental Corps has grown in professional standing in terms of more and better dental care, improved educational opportunities and the ability to conduct research programs related to the clinical needs of Navy and Marine Corps personnel. There is optimism about the state of the Dental Corps today that stems from dual reasons; the steadily improving capabilities and the people who make it go. They are the single greatest reason for confidence in the Dental Corps' ability to meet their responsibilities today. There still are many problems to be faced, but the Navy is determined to keep the quality—and caring—in its dental care program. ↴

Advanced Energy Utilization Test Bed

As part of the Navy's overall program to develop new sources of energy and new conservation methods, a unique project was started last year at the Civil Engineering Laboratory at Port Hueneme, Calif. Ultimate goal is to make the Navy more independent of commercial energy sources.

Known as the Advanced Energy Utilization Test Bed (AEUTB), it is the only site in the country designed and built solely to monitor and evaluate energy efficiency.

Scientists at Port Hueneme are attacking the problem of energy use from two angles—augmenting conventional power sources (gas, oil, etc.) with solar and/or wind power, and incorporating

energy-saving devices, practices and techniques. In the end, CEL scientists will be able to determine which sources or devices are best suited for use by the Navy.

At the test bed, both approaches may be tested simultaneously. By incorporating new energy concepts, testing and applying them to Navy needs, CEL scientists hope to arrive at an ideal power source and method of use for any type of building used by the Navy today.

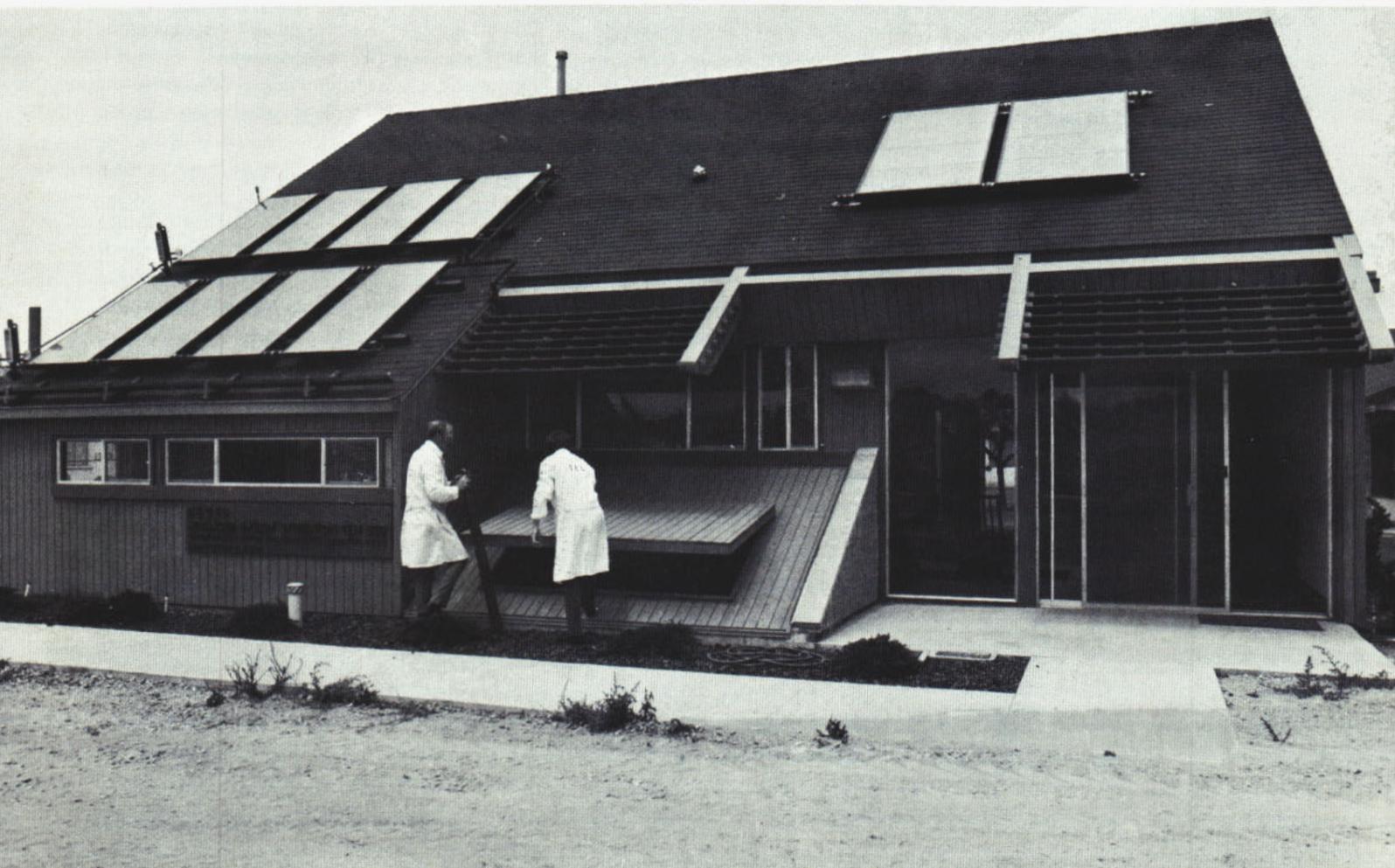
The AEUTB can be configured differently. One day its 1,350 square feet of space can be arranged into office spaces. By adjusting movable walls and ceilings, the space can be trans-

formed into a medical facility or a typical family housing unit equipped with hot and cold running water.

Another unique feature of the test bed is the adaptability of its energy-consuming systems. They can be powered by any of the three available sources—commercial, solar and wind—or by any combination.

By switching from one source to another, or by trying different combinations, Navy scientists can monitor

Below: The test bed with 10 solar collectors on roof. Eight are used for heating and cooling; two are for hot water. Photos by PH3 Richard Homesly.



and compare each source's efficiency, either individually or in conjunction with other sources or methods of conservation.

Scientists, for example, may ask, "Should we supplement a conventionally powered heating system with a solar heating system, or will a solar heating system combined with good insulation work just as well? Which will cost less?" With the AEUTB, the

scientists can try both to find out accurately which is better. The questions they actually ask, however, are more complicated. Many will take time to answer.

Within five years, it is expected the scientists will be able to fine-tune the systems and integrations to such a point that the test bed will be as energy self-sufficient as they can possibly make it. With the aid of computer

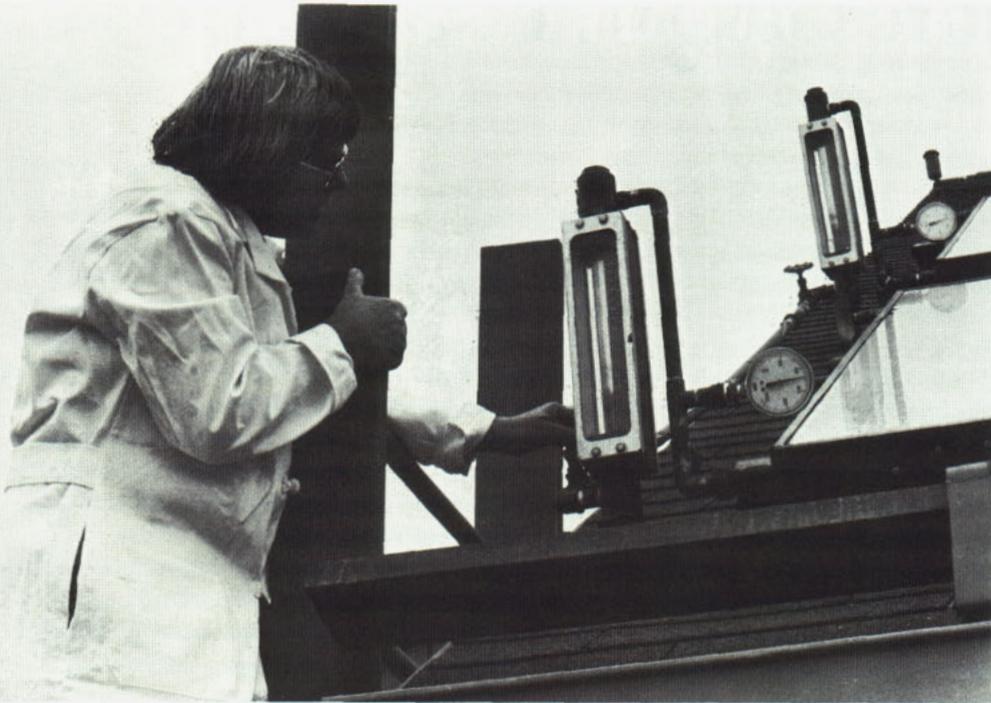
programs, they plan to apply results of their studies in California to other Navy areas involving different climates.

Because the project is still in the research stage, few definitive answers have been forthcoming. This is not to say there has not been significant progress. The researchers have installed complicated instruments which, in time, will tell them how much energy enters the AEUTB, how much is used and where the remainder escapes. From that point, technicians can develop ways to reduce energy losses.

When the research finally is complete, the Civil Engineering Laboratory will make recommendations to the Navy concerning the use of solar energy, wind power, cost-effective construction and lighting techniques, heating and cooling systems and control and monitoring devices.

Hopefully, the findings will result in a large reduction in the Navy's energy bill. Eventually, such savings could be passed on for more mission-minded purposes to supply energy for use by Navy's sea and air forces. ⚓

Left: Technician John Curry checks flow meter and pressure gauge leading to solar heating system. Below: Engineer John Durlak takes reading off automatic data logger. Hourly readings record 20 channels of information.



Above: Curry applies finishing touches to insulation around 300-gallon hot water tank, heated by solar collectors mounted on roof directly above.



Grains of Salt

Birth of the 'figure-8' rope

BY LT TOM WESTERLIN

There are times, even in a technological world, when the simplest approach is the best. Today's Navy, by the nature of its weaponry, is increasingly dependent upon ever more sophisticated control and informational systems.

Nevertheless, simplicity became the watchword among a few of us who were with Underwater Demolition Teams on islands off Fort Pierce, Fla., in World War II.

Those were the early years of underwater demolition in the United States Navy. A few teams had been trained and shipped out to the Pacific theater where they blasted through coral reefs and man-made obstacles to clear the way for landing craft.

In a typical UDT operation in those days, the teams disembarked from their ship at night into landing craft, which took them to within a mile or so off the enemy beach. There, they slipped into rubber boats which they paddled to the reef or obstacles.

The uniform of the day was face mask, flippers, swim trunks, one or more 20-pound backpacks of tetrytol, Primacord to link the charges for one blast, and a sheath knife for chance encounters. One man was responsible for carrying percussion caps or detonators, safety fuse and fuse lighters, and waterproofing—usually a supply of rubber balloons.

Setting and tying charges could take all night, so it might be dawn when the last man pulled the fuse lighter. The others had by then swum offshore a distance and were spaced out in a line to be taken aboard landing craft.

This phase was tricky, for the enemy



would be alerted by the blast and would lob mortar shells at the retrieval boats. The boats were comparatively easy targets because the coxswain had to stop for each man and maneuver to get him close alongside so he could be hauled aboard. At each stop the danger increased because the enemy's range improved and there were more men aboard the boat.

The problem was to find a way to get the men aboard the landing craft and out of mortar range quickly. It was clear the men must be recovered while the boats were under way.

This problem was given to Ensign Wade Theye and me. We were tucked away in a segment of demolition called research and development. We found ourselves carrying scientists, military brass and dignitaries in our small boat to observe exotic methods tried out to clear passages through reefs and destroy obstacles. At the time, the Nazis—to ward off invasions at the beaches—were ringing Europe with horned scullies, steel rails imbedded underwater in concrete at angles guaranteed to disembowel landing craft.

We tested a cumbersome gadget—called the Reddy Fox—a long explosive-filled tube which was secured to the bow of a small boat and pushed over a reef before being detonated. The theory was fine but, in practice, maneuvering a boat in breakers with a 75- to 100-foot tube strung out like a waterlogged bowsprit was next to impossible.

At another time, we stood in water while various underwater charges were detonated at varying distances. The object was to determine human tolerances. Our prayer was to survive with all our faculties unimpaired.

We dallied, too, with radio-controlled boats. Once, a drone, loaded with 8,000 pounds of tetrytol, refused

to obey the frantic wiggings of the switches on the control box and ran amuck, abandoning its target and pursuing us, in the mother boat, like a lovesick but highly dangerous walrus.

And, finally, as if to convince us that Thoreau's injunction to simplify should be our motto, we took part in a demonstration of mass bombing off the beach north of Fort Pierce, Fla. Our role was passive, we were spectators; but we were only a hundred yards or so off the beach, uncomfortably close to the scores of bombs that soon would rain down from highflying planes. Our only consolation was that we were in the midst of a small flotilla of landing craft bearing more admirals and generals than we ever imagined the Allies had on their roster. Surely, we prayed, the bombardiers wouldn't dare push their buttons too soon. They didn't.

The chaos ashore was deafening, impressive, but not convincing, because the bomb craters were as effective as the stubbornly surviving horned scullies in making the beach impassable.

By the time we inherited the problem of retrieving swimmers, Wade and I were cynics about complexity in combat. With my boat crew—Smitty, whose foghorn voice alerted all within sight, Bone, skilled at wheel and throttle, and our motor "mech" who read our diesel's health by its pulse—we set to work.

For starters, we secured a five-man rubber boat off the port side of the retrieval boat. Then we mounted a concoction of pipe and swivel onto a swinging arm on the gunwale. At the outer end, we slung a bight of manila line. The idea was for the swimmer to grasp the bight and be swung aboard by the boat's momentum.

It didn't work. Sometimes the swimmers were slammed into the side of

our boat. At other times, breakers careened our craft to starboard, lifting the rope out of reach.

Over a supply of beer ashore, we reconsidered. The pipe arrangement had to go. Why not station a man in the bow of the rubber boat? Why not give him a spliced figure-eight rope? Any demo man is a lot more versatile than a pile of pipe, we agreed.

Next day we gave it a trial run. It worked beautifully. The experiment was a success! I cannot reproduce the chorus of joyful profanity that rose among us as body after glistening body was torn from the waves and dumped into a churning mass of shouting men fighting to get aboard our craft.

Simplicity sounds suspiciously like common sense—in retrospect. But the figure-eight rope worked, and a version of it still does today. At the heart of it all, simplicity was our watchword in those early days of UDT. ↓



Life in the Light

BY JO1 DAN WHEELER
PHOTOS BY PH1 TERRY MITCHELL

Late one winter night more than a century ago, the Chesapeake Bay winds died and the temperature plunged into the 'teens. The two men off watch awakened around first light to the report of cracking ice as it crawled over the shoal and splintered into floes. Screw piles and beams screamed their resistance as the ice pushed and shoved its way past the lighthouse and out to sea.

In a wooden tower about 40 feet above the shoal, a brass kerosene lantern and the French-made lens it served both shuddered and tumbled to the deck. Months passed before the light shone again. Below the light, the lone keeper on watch balanced himself on slippery beams and chipped ice from the frozen pilings. Ice was a weight hazard that keepers—like sailors—were loathe to tolerate.

The freeze of 1877 had set in. Thomas Point Lighthouse was embedded in ice just as it has been at least once every winter since it was built. Originally, the light had been placed on land (1825) and had served well until the shoal grew too far into the bay and

became a hazard to navigation. After years of deliberation, the Lighthouse Board decided to move the light to the tip of the shoal, about two miles into the bay. When the light was damaged in 1877, the facility was temporarily moved back to the shore until the lens could be repaired.

In 1880, to guard against vibrations damaging the lens again and to protect the house from the fury of the winter sea, two piles of rocks were dumped next to the structure. Still, each successive generation of keepers had to hack ice from her screw pile stilts, polish her lens and keep their vigil while awaiting their reliefs.

"I don't suspect lighthouse duty—at least at this light—has changed much over the years," said Coast Guard Fireman Apprentice Edward O. Foster, one of four men stationed in the hexagonal, wood-frame lighthouse. "Sure, technology has altered some of our procedures, but we still stand around-the-clock watches, report the weather, are relieved every two weeks, and get just as lonesome as the oldtimers did."

So forget everything Hollywood has produced about lighthouse duty: the bespectacled old men with an affinity for rocking chairs, curved pipes and sea stories. Forget the Hardy Boys and their trips to haunted lighthouses and *Three Skeleton Key* with its man-eating Norwegian rats. Lighthouse duty is not thrilling; keepers are no longer old men; there are no ghosts that moan on soupy nights; and rats don't scurry and scratch from dusk to dawn.

Lighthouse duty is tedious and boring but necessary.

Thomas Point Light's main purpose is to be that proverbial "beacon in the night" which ships can use as a reference point in navigation. Of course, it also marks the area of the shoal—shallow water ranging in depth from

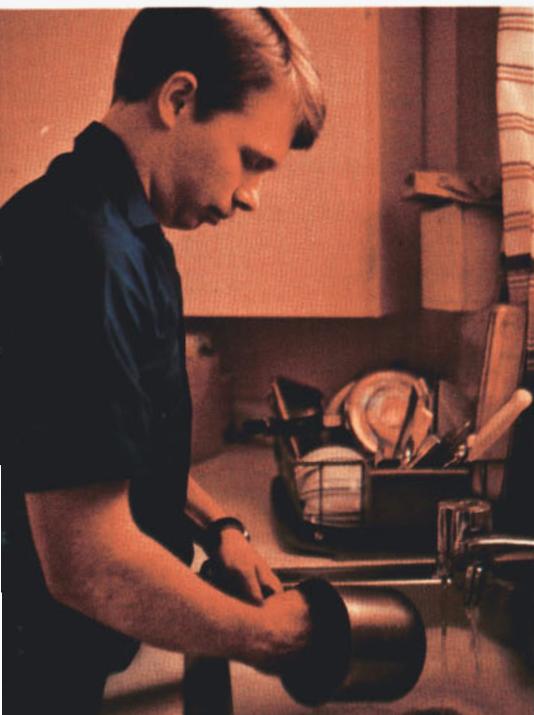
about 15 to three feet or less. The light itself, with the original lens, is a 250-watt lightbulb which generates 6,000 candle power and can be seen for 12 miles. If the bulb fails—and no replacement is available—the 150-year-old kerosene lantern is called back into service and all ships in the area are notified that Thomas Point Light will not be flashing at its normal six-second interval.

Thomas Point Light also provides a radio beacon calibrating service for commercial and military vessels.

Keepers' duties are fairly cut and dried. They report the weather conditions in the bay to Coast Guard Station Annapolis, which relays the information to other shore stations, ships and radio stations. Keepers monitor the movement of aids to navigation such as buoys and they report changes in position. The traditional duties of maintaining the light, ensuring it is on during periods of low visibility and operating the foghorn are also performed. Simple though the duties are, they are invaluable.

The Coast Guard acquired Thomas Point Light in 1939; it is one of 453 they maintain, 75 of which are manned. The vast majority of lighthouses are automated for economical reasons. Thomas Point Light was slated to be one of them before it was entered in the National Register of Historical Places by executive order in 1975, virtually assuring that it will be maintained in its original configuration and manned for as long as it stands.

"We try to maintain the original look outside and inside, too, wherever practical," said Boatswain's Mate First Class R. C. Owens, the officer in charge. "However, I'm not 103 years old and I don't want to cope with the inconveniences that 19th century keepers endured. Keeping the outside in mint condition is OK, but I can't see



Above: Located about two miles from shore, the Thomas Point Lighthouse in the Chesapeake Bay has been a beacon in the night for more than a century. Left: FA Edward O. Foster demonstrates one of his many duties—washing the dishes dirtied on his watch.

restricting us to living conditions inside that are inferior. We have made a lot of improvements inside such as installing a modern kitchen, a trash compactor, overhead heaters and toilet facilities—the outhouse is now used as a paint locker.”

According to the executive order, the Coast Guard can modernize the interior, but the exterior must remain exactly as it was when built. Further, all outside work must be performed with hand tools. These restrictions

present few problems since the six-inch-thick outer walls require a coat of paint only every several years.

And the paint glistens from upkeep. The keepers see to that because 90 percent of their drinking water is drained off the roof into four, 300-gallon storage tanks.

“When we know it’s going to rain,” said Fireman Apprentice Donald Franklin, “we get all of our laundry done, take normal showers, and otherwise use water freely so we can empty the tanks to make room for fresh water. When it’s not raining, we all work together to keep the gulls off the roof—we don’t want them messing up our water.”

As unsanitary and primitive as it

Right: FA Foster hacks ice away from the lighthouse's beams. If allowed to accumulate, the ice would soon put too much extra weight on the stanchions. Below: FA Donald Franklin climbs the spiral staircase leading to the light.

may sound, the water-gathering system is efficient and sanitary. Water is treated with chemicals in the tanks, a compressor keeps it circulating to prevent stagnation, and a sample is sent to a biological laboratory weekly to ensure that it's clean.

"Even so," Foster said, "I don't like to drink it—it tastes funny to me. Also, it makes me itch for a few hours after I take a shower."

Sewage is also purified before being dumped. Trash and garbage are collected in the trash compactor and taken to shore each Wednesday when one of the three always on duty is relieved by the oncoming fourth.

Each of the men stands a 14-day, staggered rotation watch except the officer in charge. At the end of two weeks, one man is relieved for a week of compensatory absence (CA) and the man previously off returns. Owens doesn't get CA. He works a five-day





Left top: BMI R. C. Owens, the officer in charge, makes some adjustments to the lighthouse equipment. Most of his day, however, is spent on paperwork necessary for supplies, maintenance and logs (below). Right top: FA Foster polishes the glass lenses of the light which magnify the intensity of the 250-watt bulb, thus generating 6,000 candle power.



week and goes home on Fridays via a regular Coast Guard run out of Station Annapolis.

"I guess the most frightening experience around here is when it's time for you to leave and Station Annapolis radios that the boat might not make her run due to high seas, thick ice or mechanical difficulties," Owens said. "I leave every weekend and stay on call, but the other men get so geared up to go home after two weeks of isolation that I don't think most could face another day."

On the whole, the duty is good. Each man is expected to clean up after himself, be sociable and do his job. "Anyone who was a mess at home and thinks he can be the same way out here won't last long," Owens said. "Sloppiness is the kind of thing that irritates people and we do everything possible to avoid irritants."

Over the years, the keepers have developed a system for minimizing



Clockwise from left: FA Foster puts the final touches on a plaque-polishing job outside the light tower. The original dedication plaque is still legible after 103 years. It says: "ATLANTIC STEAM ENGINE WORKS BROOKLYN N.Y. 1875." Three times a week, weather permitting, a small boat comes to the light from the Coast Guard Station ashore to transfer personnel and bring needed supplies.



friction. Rotation schedules are set up so that no man has to serve more than one week at a time with the same person (someone leaves for CA every Wednesday). Usually the midwatch has the head and shower to himself between weather reports and rounds. And each man has hobbies such as weightlifting or building models to keep him busy and out of everyone else's way.

"Most important," Foster said, "each man brings his own food and cooks it the way he likes. That way no one can complain about the cooking or the menu. If the food is lousy—and mine was for months—it's your own fault. We have plenty of cookbooks, but no cooks."

"If you come here with the right attitude," Owens said, "things work out all right. We hardly ever have any disagreements among ourselves, though, from time to time, we all get depressed. When that happens, everyone pitches in and tries to take the guy's mind off home, his girl or whatever is bothering him."

In fact, Owens sees his job "as a tool to help get things done." He feels that it is his responsibility to keep morale high and supervise lighthouse work.

"Let's face it, being cooped up out here is hard on a man, especially during the winter when he can't go outside to fish, swim, or take our small boat to shore for mail and provisions," Owens said. "I try to make things as easy as possible. I don't make busy work. When the men have finished their jobs, they are free to do whatever they like. Each man knows what has to be done and he does it."

There is plenty to do. Unlike a shore station or a ship, no maintenance department is handy and it would take Group Baltimore a while to send in experts. "So, we do it ourselves," Owens said. "That way we take the

pride and we get the credit. You'd be surprised at some of the work we've accomplished. For instance, we laid new linoleum in the kitchen and carpeted the two bedrooms and the radio room. When the water pipes went bad, we replaced them and installed the last water storage tank. We did it all and we're proud of it. What we do we pass on to the next keepers to make their jobs a little easier."

Fire is always a hazard at sea and it is especially feared in a wood-frame house sitting two miles into the bay. Thomas Point Light has 15 fire stations in the six-room structure and a smoke detector in every room. Just in case, a small boat is kept secured on the lower deck and there is a wet suit for each man. "If worse came to worse," Foster said, "we could probably survive on the rocks or in the water until Annapolis could get a boat here."

There has never been a fire at the light, but there have been some "hellacious" storms. "Once we got 60-knot winds from the southwest with five- or six-foot seas," Owens said. "Suddenly the wind shifted and the waves began splashing on the main deck. The light shook and I could feel each swell hit us. This place is over 100-years-old—you begin to wonder how much it will take.

"There was a cutter out there who radioed us to find out what was going on. No matter which direction she headed in, the seas changed. That ship was tossing every which way. It's frightening when you find yourself wondering what would happen if a ship was blown so far off course she ended up in your living room."

Save that happening, the light looks like she will stand forever. To a man, the keepers would like to see the Coast Guard completely restore it, outside and in (with a few modern conveniences, of course), and make it into a showplace.

"My main reason is self-centered," Foster said. "It would give us a change of scenery if we could have visitors. We'd get to see some new faces occasionally and that would sure relieve the monotony."

Except for an occasional call from a passing ship asking for weather information or that a message be relayed, the keepers have little to break the day-to-day routine. Reveille goes at 0700. At 0800, the mid-watch is relieved, the day watch is set, and the mid-watch goes to bed. At 1130, station work is secured for lunch. At noon, the mid-watch is awakened and eats. At 1230, it's turn-to until 1600 when the day watch is secured and knock-off sounded. At 2345, the mid-watch is set.

Actually, the daily routine is much more lax than the schedule indicates. If there is no work to be done, each man, except the watch, has free time.

In spite of the isolation, it's "better than shipboard duty," Owens said. "The Coast Guard tries to send only volunteers and when we've finished our 18 months we can usually name our next billet."

There is one hazard to lighthouse duty that could lend credence to the stereotyped image of keepers being hermits: "After a while," Owens said, "you get used to hearing only the sounds of the sea and little else. You begin to like the solitude and keep pretty much to yourself, even when you go home. Sometimes, it makes it hard to readjust to being on shore."

Others welcome the solitude. "It gives me a chance to get away from the hassles on shore and spend some time with myself," Franklin said. "When I've had enough time alone and things start getting to me—when I'm bored to tears—there is always the week off just a few days away. I like that." ↓

Bearings

Guadalcanal Revisited

On July 7, the South Pacific island of Guadalcanal gained its independence after 85 years as a British protectorate. USS *Harold E. Holt* (FF 1074) and USS *Whipple* (FF 1062) were there to join in the celebration.

"I wish I could describe the electricity that shot through the crowd when our Navy honor guard marched onto the parade ground," a Navy witness said. "The instant the American flag came into view, followed by white-helmeted, 12-man marching units from the ships, the crowd let go the loudest cheer of the morning."

Nearly 600 sailors streamed into the normally sleepy capital town of Honiara, Guadalcanal, in the Solomon Islands on July 5, to observe and participate in public dances, parades, beauty contests, receptions, sporting events and other independence day festivities. Many toured World War II battle sites still strewn with wreckage from the 1942 routing of the Japanese by Navy and Marine Corps units. Others visited out-of-the-way thatch-hut villages and mingled with islanders.

Holt and *Whipple* crew members were warmly received wherever they

went. In Vilu Village, Fred Kona, owner of the open-air war museum, excitedly shook each sailor's hand as he said, "Hello, hello, all my friends. All Americans my friends."

Many Navy men followed Honiara's dusty main road to Red Beach, where 11,000 U.S. Marines made their first amphibious landing of the war and

went on to capture Henderson Airfield, and to Bloody Ridge, where the Japanese fought unsuccessfully to retake the airstrip. The parade grounds, also on that road, were the site of the official ceremonies, attended by numerous international delegations.

As the ships prepared to get underway on July 8, islanders of all ages



ALL HANDS
HAS MOVED

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gathered silently at the pier. They stood or sat motionless. The young stared at the warships; the old had their eyes fixed not on *Holt* or *Whipple*, but on the horizon over which similar ships had come 36 years ago to rid Guadalcanal of the enemy.

Someone in the back of a pick-up truck turned on a portable tape recorder and the tinny, scratchy sound of an overplayed song marched through the crowd. The title of the cassette was "National Songs of the Solomon Islands."

The song was "The Marine's Hymn."—*JO1 Rich Sylvester*

Some Were Skeptical

Used to be, when a young fellow joined the Navy, he knew one thing was certain until he made rate. Make that two things—chipping and painting. Things may be different soon, even for sailors regularly assigned those duties, thanks to flame-spraying, an alternative to chipping and painting as a way to preserve metal.

Using available technology and equipment, experts at the Development and Training Center, Fleet Maintenance Group Pacific (DATC/FMAG) in San Diego developed a step-by-step instruction for flame-spraying aluminum onto clean metal. This process, long used in private industry, virtually stops corrosion and eliminates the need to re-treat metal continually by chipping and painting.

The flame-spray gun, similar to a painter's air brush, uses oxygen and acetylene to melt an aluminum wire in a small combustion chamber in the gun. High pressure air propels the melted aluminum onto the surface of the receiving metal. The process is quick and relatively easy for a person who knows the procedure.

USS *Schofield* (FFG 3), designated as a test platform for the flame-spray, is evaluating the process. Over two hundred items aboard the *Schofield*, from lifelines to diesel exhaust stacks, were treated at DATC/FMAG.

Some of the crew were skeptical about the new process. They doubted that the benefits were worth the work required to deliver, pick up and reinstall items flame-sprayed at DATC. But now, even the most skeptical are firm believers, and the enthusiastic crew is pursuing every possibility for expanding the use of flame-spray.

After over four months, *Schofield's* flame-sprayed parts have held up extremely well. The stern capstan, which was sprayed with tungsten and aluminum, no longer requires maintenance after each use. Other high corrosion

items appear to be the same as the day they were sprayed.

The Naval Sea Systems Command has approved continued funding for research and broader use. That means there may yet be hope for the sailors who have always claimed there had to be a better way.

A Golden Year

They call it the Midas touch—and Air Anti-Submarine Squadron 38 (VS-38) seems to have it. First, they won the Pacific Fleet's 1977 Golden Anchor award for their retention program. On top of that, they captured the Golden Wrench—CNO's Aircraft Maintenance Award for air anti-submarine squadrons.

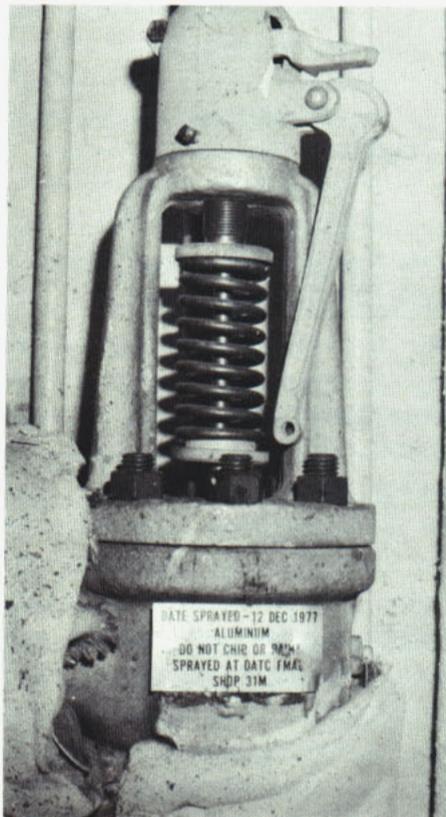
Anti-Submarine Squadron 38 achieved and maintained a higher average of operation readiness and "full systems capable" rates than any similar West Coast squadron to capture the coveted award during their first year of operating the highly complex S-3A *Viking* anti-submarine aircraft. They received their first aircraft in November 1976 and completed squadron transition from S-2G aircraft to the *Viking* in February 1977.

The squadron is stationed at North Island Naval Air Station, Calif., and deploys aboard USS *Enterprise* (CVN 65).

TraPac's Top Chief

Master Chief Storekeeper Margaret I. Gramlich recently assumed the billet of Command Master Chief for the U.S. Pacific Fleet Training Command (ComTraPac), San Diego—the first woman to fill one of 63 such billets in the Navy.

As Command Master Chief, Gramlich will function primarily as the prin-



Bearings

principal enlisted adviser to the commander. She is responsible for helping to keep the command aware of existing or potential situations, procedures and practices which affect the welfare, morale, job satisfaction and utilization of its enlisted members.

The 28-year veteran was attached to the staff of the Pacific Fleet's Surface Force before reporting to her present



duty. Previous duty stations include U.S. Naval Forces, Europe, London; Naval Recruiting Station, Richmond, Va.; and Eighth Naval District Headquarters, New Orleans, La.

Master Chief Gramlich considers her assignment to the Human Resources Detachment, Yokosuka, Japan, as one of her most interesting—and beneficial—duties. “Command Master Chief is basically a people-oriented job,” she explained. “My training with the Human Resources Detachment provided good background in this field.”

Awards for Bravery

The Australian government recently cited for bravery two U.S. Navy officers who fought an aircraft fire at a Royal Australian Naval Air Station in 1976.

In a ceremony on the other side of the world—at the U.S. Naval Station, Rota, Spain—Lieutenant Commander William J. Newton was awarded the Australian Bravery Medal. At another ceremony held at the Australian Embassy in Washington, D.C., Lieutenant James F. Rowe was awarded the Australian Commendation for Bravery. LT Rowe is now serving aboard the USS *Kitty Hawk* (CV 63)—see below.

LCDR Newton and LT Rowe, then on exchange duty with the Royal Australian Navy, in Norwa, Australia, took immediate action on the night of Dec. 4, 1976, following an explosion in a hangar containing 12 S2E *Tracker* aircraft and heavy equipment. They directed the removal of some aircraft from the burning area of the hangar, and then led fire teams in rescuing as many of the remaining planes as possible. Six of the burning *Trackers*, some with fuel tanks exploding, were pushed out by hand.

The commendations recognized the leadership and courage exhibited by Newton and Rowe in fighting the disastrous hangar fire.



Sailors of the Year

THE BEST IN '78

BY JOC DAN GUZMAN

Sailors of the Year (L to R): UTC Craig D. Bowles, ISC James S. Girardin and YNC Robert A. Laskowski are flanked by CNO Admiral Thomas B. Hayward and Secretary of the Navy W. Graham Claytor Jr., presenting the awards.



All had been first class petty officers; by virtue of their selection to Sailor of the Year, they received meritorious promotion to chief. They and their families received five days of rest and relaxation (R & R) at the location of their choice in the continental United States.

necessarily expecting something in return."

Sailors of the Year and their families are flown to Washington, D.C., where the men are formally named Sailors of the Year by the Secretary of the Navy and the Chief of Naval Operations. They then have an opportunity to

of the reason for their selection as the Navy's best for 1978.

"From here," said Girardin, "I'm going back to a SEAL team where I'll get TAD orders to the Navy parachute team out of Coronado. That's our special warfare group's personal recruiting team.

"We represent the Navy but we also plug the special warfare group, UDT and SEALs. I feel I could do more for the Navy there. I was with them once before for a year and a half."

In addition to qualifying as a Navy SEAL and UDT operator, Girardin is a parachutist, diving supervisor, helicopter rig/rappel master, helicopter swimmer dropmaster, and a photographer. His qualifications include several other related specialties developed as a result of his extensive military training in at least 19 different schools.

Numerous duties in the past for Girardin include three tours in Vietnam, a year in Thailand, assignment with SEAL Team Two in Puerto Rico, and being a member of the U.S. Navy Parachute Team (West). An expert skydiver, he represented the Navy in the 1973 Western Conference Parachuting Championship.

Girardin elected San Antonio, Texas, for his five days of R & R to be with his parents in nearby Longview.

"I always wanted to be a yeoman," says Laskowski, "It's a diversified rating and offers me the work I want. I'm in the people business. I like to work with people, to help them out when I can."

An important member of the Laskowski Navy team is Norma Laskowski, who believes that a Navy wife should support her husband's career and the Navy.

"I think a Navy wife should give her husband her complete support. She's the closest one to him and she would be the one to believe in him more than anyone else. My husband really gets involved in his work. If he's going to do something, he's going to do it right



ISC Girardin is congratulated by CNO as he is presented his Pacific Fleet Sailor of the Year certificate.

Chief Intelligence Specialist James S. Girardin: "Sailor of the Year is not something that you work toward. It is something that can happen if you do your job as best you can with as much dedication as you can give it. I'm a career Navy man and I just don't think you can be a career person unless you put everything you have into your job."

The Sailor of the Year Program was established in 1972 to recognize and reward the Navy's best active duty Navy men and women in paygrades E-4 through E-6.

Chief Yeoman Robert A Laskowski: "I thought all along that I was just doing my job. I never expected it. You just do your job and help out when something out of the ordinary comes along. Don't do just what is required. Give a little extra, take the initiative. Give that extra bit all the time, not

serve a year as assistant to their respective Master Chief Petty Officer of the Fleet. The Shore Establishment Sailor of the Year may choose to serve with the Master Chief Petty Officer of the Naval Education and Training Command.

Chief Utilitiesman Craig D. Bowles: "Initiative! Always take the initiative! Keep your goals high, keep up the initiative, never say 'die,' and always have a 'can do' attitude!"

The three Sailors of the Year for 1978—Girardin for the Pacific Fleet—from SEAL Team One, Amphibious Base, Coronado, Calif.; Laskowski for the Atlantic Fleet—from Naval Mobile Construction Battalion 74, Gulfport, Miss.; and Bowles for Shore Establishment—from the Naval Air Station in Bermuda, follow the same code: initiative and dedication to one's job and to the Navy! This is without a doubt part



Senator John Tower (R-Tex.), who is a chief petty officer in the Naval Reserve and a member of the Armed Services Committee, meets YNC Laskowski and his wife, Norma.

and get totally involved," Mrs. Laskowski said.

"As Navy wives, we can help our husbands and the Navy by knowing and understanding his work and standing by him," she said.

Past duty stations for Laskowski include duty aboard USS *Charles Berry* (DE 1035), deployment with Naval Mobile Construction Battalion 74, Rota, Spain; Okinawa, Japan; and Diego Garcia. Laskowski has earned the NEC of Court Reporter and Legal Clerk, as well as the NEC of collateral duty Career Counselor. In addition, he has completed several correspondence courses and schools and taken Spanish at the University of Maryland.

The Laskowskis spent R & R visiting San Diego's Sea World, the San Diego Zoo, a Hollywood movie studio and a full day at Disneyland.

"I originally wanted to go into the aviation field," said Bowles, "but, unfortunately, I was colorblind and the Navy offered me the Seabees instead. My father was in the Seabees during World War II, so I took it; I have never regretted it. I enjoy the travel, the work, and the people. My wife enjoys this life also."

That is an understatement. Mrs. Bowles is Navy all the way and not hesitant saying so. "I was so thrilled and proud when he brought the message home," she said. "I told our daughter, 'Your daddy made chief!' I was also very excited that he had been selected as Sailor of the Year."

Bowles has his Associate of Arts Degree in Business Management from the University of Maryland (Bermuda

Campus) and is certified by the State of California to teach freshman and sophomore high school workshop air-conditioning and refrigeration.

"My wife really helped me a lot," says Bowles, "I was gone six nights a week teaching and studying and she never complained. She kept the kids busy while I studied at home and she still found time to type a lot of my papers for me."

In her reply, perhaps Rose Bowles best demonstrated why these three men were able to accomplish their jobs in such a way as to bring them to this high point in their careers: "The Navy wife is very important to her husband's career and to the Navy. We're a part of the Navy and I'm proud of it!"

The Bowles also took the same R & R trip offered Chief and Mrs. Laskowski.

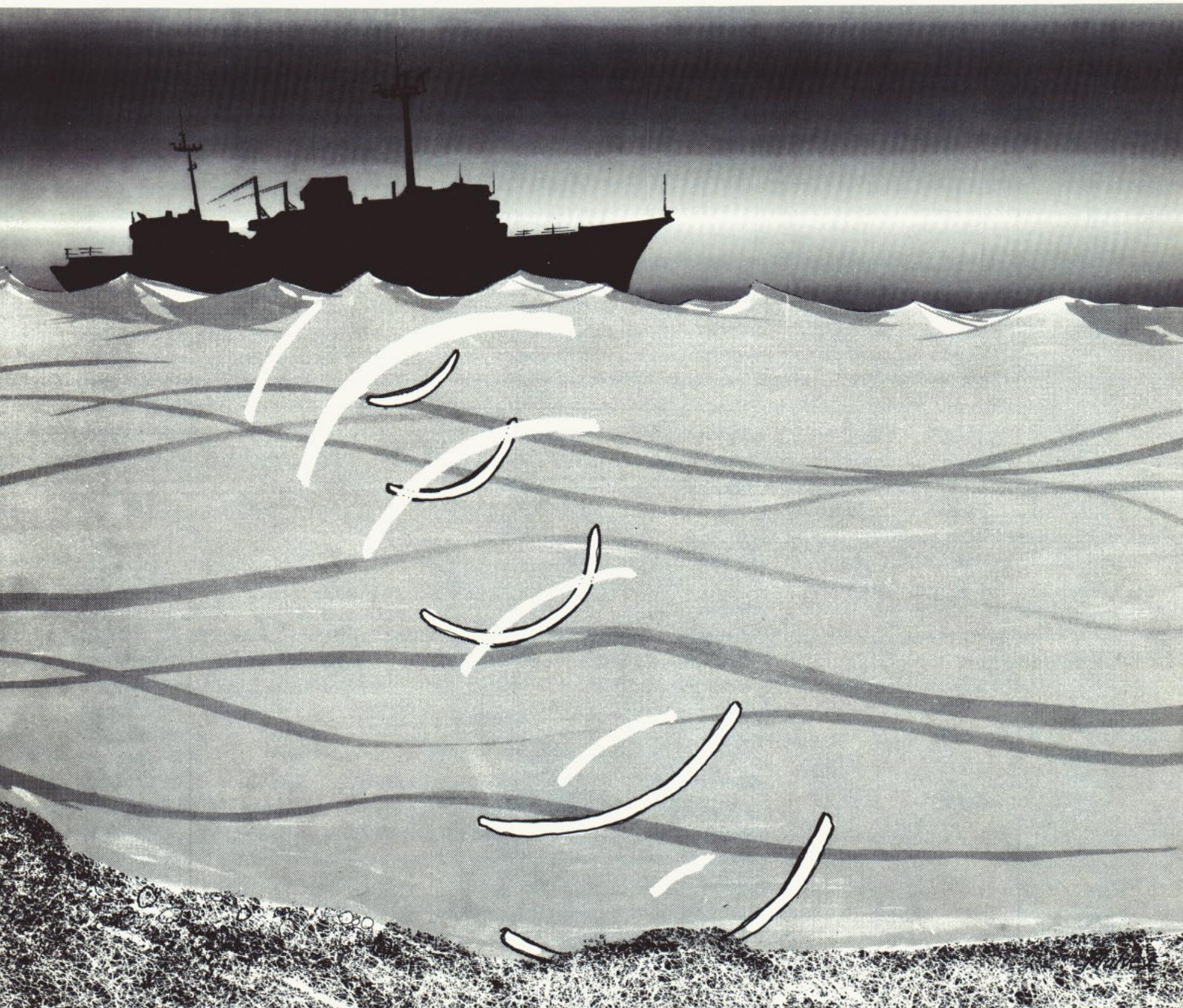
A 12-year veteran of the Naval Reserve, Yeoman First Class Gustav J. Stangline was named the Outstanding Enlisted Naval Reservist for 1978 and was advanced to chief yeoman.

Stangline, an instructor at Lackawana Junior College, Scranton, Pa., drills with the Antilles Defense Command Detachment 104 at the Naval Reserve Center, Avoca, Pa. He has an extensive record of youth and civic involvement. ↴

Fleet Reserve Association National Financial Secretary Glenn F. Glezen presents UTC Bowles and his wife, Rose, with a check to cover expenses for their Sailor of the Year trip to San Diego's Sea World, the San Diego Zoo, Hollywood and Disneyland.



SURVEYORS *of the SEA*



BY RAY HAGEN

If you mention hydrographic surveys, the first step in charting the seafloor, you're not apt to fire one's imagination with scenes of heavy action at sea. On the other hand, when a battle begins, any Navy ship, even a survey ship, is fair game for a piece of the action.

It wasn't her normal duty that called on the USS *Sumner* (AG 32), during the attack on Pearl Harbor, to be the first Navy ship to "survey" a Japanese torpedo plane right out of the Sunday morning sky. Later, in 1945, crewmen of the *Sumner* (then AGS 5)—surrounded by sniper fire—erected the first survey signal tower on Mount Suribachi only three days after the Marines raised the American flag on its summit.

Throughout World War II, Navy survey ships often operated without escort, carried very little armament, and found themselves frequent targets of enemy bombing runs. *Sumner* was bombed 40 times without being hit. The information she collected was so valuable to Navy operations that a plane or a PT boat was dispatched every week to pick it up so the data wouldn't be lost if the survey ship was sunk.

The *Sumner* went into that war as the first Navy ship to be equipped with a 24-inch film camera, a 17- by 22-inch offset lithographic press, and other equipment needed to produce charts aboard ship. She surveyed waters around more than 50 Pacific islands stretching from Bora Bora—in the Society Islands—to Okinawa and Iwo Jima.

More than 200 charts, containing information collected from Pacific surveys conducted by *Sumner* and other

Navy ships, were produced and distributed to the operating fleet during WW II.

Our picture of the seafloor has been filled in with many details since those WW II years precipitated stepped-up hydrographic survey collections in operational areas of the fleet. However, the sea covers nearly three-fourths of the earth's surface and there's a staggering volume of seafloor acreage that remains unsurveyed and largely unknown to the seafarer skimming over water-covered valleys and peaks.

As with many other aspects of knowledge about the sea and its basins, the Navy led the way in developing survey technology and skills dedicated to the collection of data needed to see what lies beneath the surface of the oceans. Today's survey efforts are assisted by an exciting variety of advanced technology that relies heavily on the use of underwater sound for drawing a picture of ocean depth and seafloor features.

Other advancements in ocean technology enable us to get right down to the seafloor, to eyeball underwater cliffs, mountain ranges, valleys, trenches and an assortment of other features that generally imitate what we

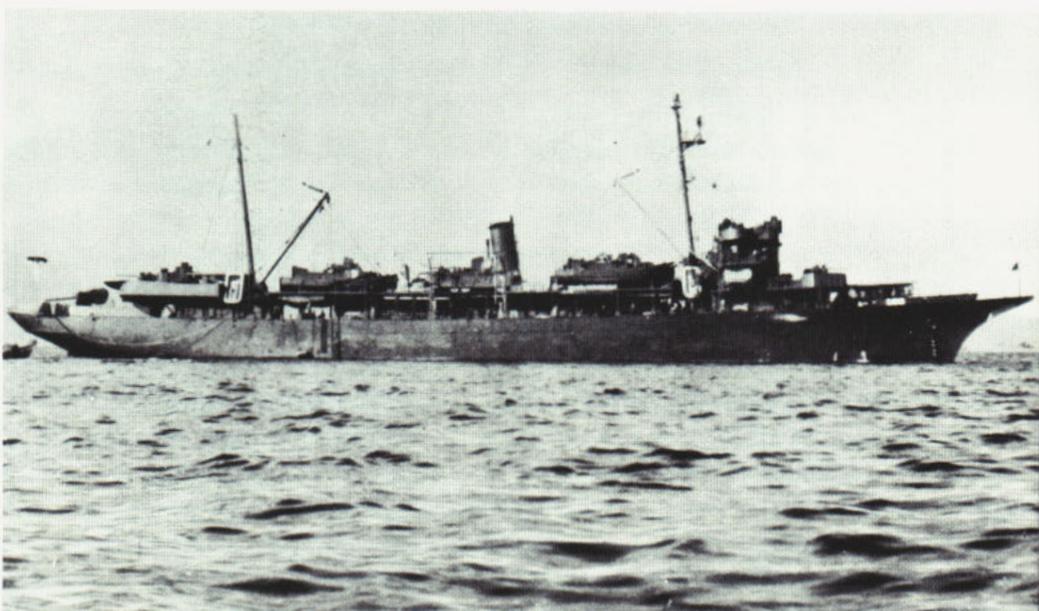
see, all around us, in more familiar continental land masses.

A long-range objective in ocean survey operations is to map the seafloor as accurately as earth land areas have been mapped. On land, the task has been accomplished with greater speed than in the ocean through aerial and satellite photography. The ocean yields its secrets far more slowly.

Light energy, imperative to conventional photography, and electrical energy, used in radar sighting, dissipate much too rapidly in the oceans to be of any practical use for underwater survey operations.

The most reliable and widely used technique for determining bottom depth and features is echo-sounding—measuring the time for a sound signal to travel to the bottom and return to the surface—which easily translates into distance or depth. Modern depth-sounding sonars can delineate the seafloor features in detail along a wide swath, while the survey ships steam along at speeds up to 12 knots. While this has significantly increased the data

USS Sumner (AG 32), whose exploits in the South Pacific during World War II helped provide invaluable chart information to the fleet, continues to map the ocean's floor.



collection rate, only a small part of the ocean floor has been adequately surveyed and much remains to be done.

As the survey ship's sonar beam sweeps along the seafloor and the echo returns to the ship, the signals are fed into an automated system which amplifies and processes the signals to operate a chart plotter. Lines representing bottom depths in contours are drawn by a moving stylus on the plotter as it responds to data coming in from the sonar sweep.

Completed charts from the automatic process provide a graphic illustration of the topography of the seafloor surveyed.

Who are the people aboard survey ships that make these road maps of the oceans available? First, one must realize that the product of these surveys is charts, rather than maps. In simplest terms, charts are what one works on and maps are what one looks at. An example of work on a chart is the plotting of a ship's course in which lines as well as other notations are drawn directly onto the chart by the ship's navigator.

Personnel aboard the Navy survey ships represent a wide variety of skills, ranging from shipbuilding to scientific interpretation of ocean data during survey operations. They all work together in a closely knit seagoing community to produce the finished charts so essential to mariners.

Navy survey ships are operated by the Military Sealift Command which is responsible for providing an efficiently functioning platform from which to conduct the survey. MSC ships are crewed with civil service personnel with experience equal to and even surpassing merchant seafarers plying the seas in commercial ships all over the world's oceans.

While the civilian crew operates the ship, scientists and Navy personnel conduct the surveys and make initial, on-the-spot evaluations of data coming in. Enlisted Navy men performing jobs as electronic technicians, quartermasters, yeomen, data technicians, lithographers, photographers, seamen, engineers and engineer's aids serve as part of the embarked Oceanographic Unit (OCUNIT). Commanded by naval officers, the OCUNITs work along with civilian scientists and technicians as part of an integrated element of the survey team.

Most of the civilian scientists and technicians working in hydrographic surveys are employed by the Naval Oceanographic Office. They divide their time between sea and shore duty.

Two of the coastal survey ships are equipped with small boats which Navy people man as they take soundings in water too shallow for the mother ship to enter. They are equipped with sonar and automated systems that record exact positions and depth soundings along the survey's course.

Because of costs, the Navy tries to plan the most productive schedule by combining as many survey tasks as possible during one voyage.

Such a combination is to schedule weather observations along with selected oceanographic surveys. Thus, acoustic properties of an area can be investigated at the same time as a hydrographic survey is in progress, or between hydrographic surveys while transiting to a new area.

Included among the personnel of the survey ship's complement are geodetic survey teams and Navigation Aids Support Teams (NAVAID). Their job is to set up and operate signal equipment and geodetic control points for the electronic navigations networks. Some of the geodetic survey teams consist of Navy, Marine Corps and civilian personnel.

Most of the Navy's hydrographic survey work is conducted in waters off the coasts of foreign countries. Agreements are made with other nations to survey their harbors and coastal waters. This provides the Navy with finished charts needed for operations and, at the same time, the host nation gains knowledge of its territorial waters and harbors.

Charting the oceans is a task too big for one nation to attempt alone. Cooperative survey and charting operations among nations have existed for many

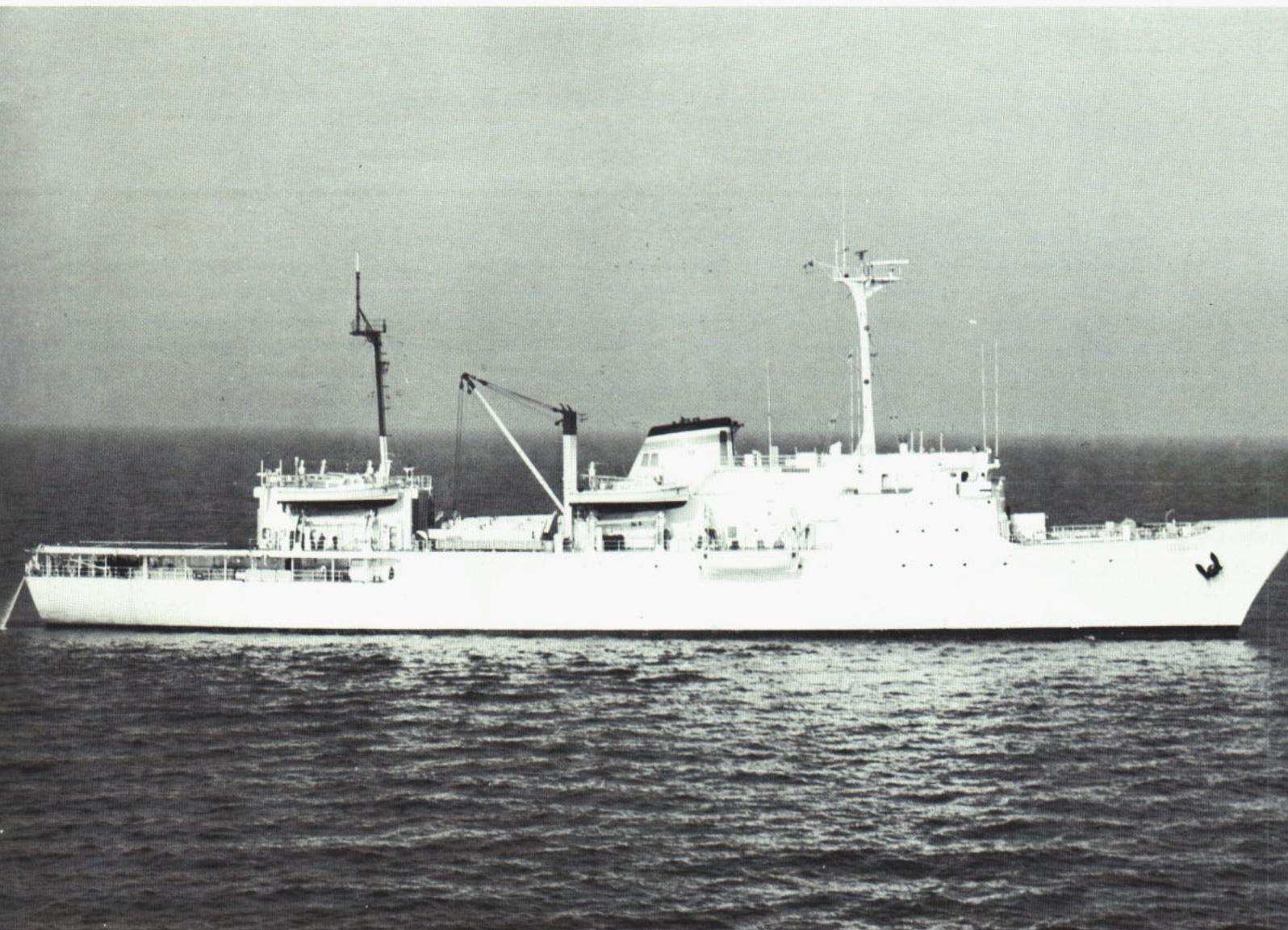


Constantly adding to the store of oceanographic knowledge, Navy survey teams update hydrographic charts so essential to world mariners.



years. A major center for exchange of hydrographic information since the turn of the century is the International Hydrographic Organization (IHO), headquartered in Monaco. Established in 1901, the organization is made up of representatives from many nations. The IHO works to bring uniformity into ocean charting and to provide a central point through which information essential to safety and economy of operations at sea can be made easily available to mariners worldwide. The United States regularly provides a rep-

The theodolite measures vertical and horizontal angles. Below: At the request of the Egyptian government, USS Harkness (T-AGS 32) surveys the approaches to the Suez Canal.



representative to the IHO and contributes funding to support its operations.

The Navy's combat fleet is the largest in the free world and, because of its operations, has a requirement for charting the oceans throughout the world. Since many maritime countries have few, if any, survey resources, the Navy must accomplish surveys itself to obtain the vitally needed data—otherwise the work would probably not be done at all, or at least not for some years to come.

A fine example of cooperative charting of coastal waters in foreign areas is that of the Harbor Survey Assistance

Program (HARSAP). The Navy provides advanced technology, survey platforms and skilled personnel, and the host country provides a complement of its own people to work with and learn from the U.S. survey team. When designated harbors have been surveyed and charted, the information becomes available both to the host nation and to the United States. Currently, 11 Central and South American nations have participated in the HARSAP program and a twelfth will soon join them.

Another cooperative survey being conducted at this time responds to a

request from the government of Egypt for updated charts of the approaches to the Suez Canal. Oil tankers are getting bigger and the Suez Canal is not deep enough to safely accommodate them when they are fully loaded. A solution to the problem is to offload much of the oil at El Sokhna, the Gulf of Suez oil pipeline terminus. The lightened ship then proceeds through the canal while the pipeline carries the offloaded oil north to the Mediterranean terminus where the tanker reloads and proceeds to Mediterranean and North Atlantic delivery ports.

USNS *Harkness* (T-AGS 32), a modern Navy survey ship equipped with advanced survey and charting technology, is conducting the survey in the approaches to the Suez Canal and will be engaged in that project for the next several months. Geodesy teams from *Harkness* are already set up along the shoreline and the survey is under way.

A finished chart of any coastal area is not the end of the need for further survey. Coastlines and the seafloor itself change with time and dynamic actions within the earth's crust. Those fundamental changes are further complicated by constant man-made changes such as sunken ships and other hazards to navigation.

Although charts are periodically updated, weekly *Notices to Mariners* are published and distributed worldwide to provide the most immediate information.

In the final analysis, there is a contribution to Navy hydrographic charting from a variety of Navy skills and advanced Navy technology. While it may not strike the novice as front-line Navy action, the contribution is one of the most essential elements in keeping our fleet ready for action in time of need. ⚓

Geodetic survey teams, set up along the shoreline, receive supplies via helicopter.



Henry the Navigator

BY JO1 (SS) PETE SUNDBERG

During early times, as boats grew into ships, myths of the dark and unknown sea dominated the minds of men. Some of the most learned were convinced that the sea could not be navigated and that it was a dark and fearful realm of sea monsters, everlasting nights and boiling waters.

Fortunately, there were also scientifically minded and practical men who had the courage to search out and destroy those myths. One was Prince Henry of Portugal, better known as Henry the Navigator. He was so well-versed in the nautical sciences that he trained others, designed new ships and planned voyages that spread his fame throughout the globe.

Henry was born in 1394 in Porto, Portugal; he first appears in history in 1415 when he won knighthood in the Crusades by capturing the Moslem fortress of Ceuta, in Morocco, on the African coast opposite Gibraltar. For his victory, he was given the southern province of Portugal, the kingdom of Algarve.

A passionately religious man, he believed in a legend concerning a powerful Christian kingdom ruled by a man named Prester John. Supposedly, this kingdom existed somewhere southeast of the Nile Valley. Henry was obsessed with finding a sea route around Africa, outflanking the Arabs and joining forces with this man.

The search for the legendary kingdom not only played an important role in Henry's life, but led to some of the most important maritime discoveries of the time.

Henry went to the small port of Sagres, tucked under the cliffs where Cape St. Vincent fronts the Atlantic Ocean. To accomplish his dream, Henry knew he first had to improve the methods of navigation.

First, he established a navigation school at Sagres (the world's first) where he collected all available charts



and material. Then he assembled a faculty of astronomers, mathematicians, cosmographers, chartmakers, ship designers, master mariners and pilots.

Henry's next concern was finding a suitable ship. Until then, navigation consisted of following known coastlines. He conceived the idea of sending a ship where no man had been before—a ship large enough to survive the roughest seas, capable of supporting a crew for up to two years, yet small enough to be easily handled by that same crew even if weakened by illness or reduced by death.

His ship had to carry enough sail to drive her at a reasonable speed when the wind was fair and also maintain a

headway when it was foul. Her hull had to be deep, yet shallow enough to operate safely among unknown shoals and reefs, and she had to have speed and maneuverability.

Whether it was luck or sound judgment, Henry found a ship that met his basic needs right there in Sagres—a lateen-rigged caravel. Backed by the best ship designing brains and the most skillful shipbuilders he could find, he redesigned the craft. In fact, during 40 years of work at Sagres, Henry continuously designed and redesigned ships and their rigging.

Having solved the problem of ships, Henry then faced the task of finding crews. Here again, he was lucky, or

maybe just a little more perceptive than other organizers; he was able to choose his crews from seamen of Sagres.

The average seaman was clever with his hands, a great improviser and tough. What he lacked in culture and social graces, he made up for by being shrewd. Not overscrupulous, he owed allegiance to few men. Generally, he

served other interests only when they coincided with his own.

Henry was aware of the type of men he had to deal with, but he was convinced that through discipline he could change them. He did. The Prince made his ships and their crews the best disciplined the world had known and, in doing so, he changed the whole status of the seafaring profession.

For every offense, Henry had a punishment. A ship's clerk was liable to branding on the forehead, the loss of his right hand and the forfeiture of his property if he willfully made a false bookkeeping entry. A sailor who fell asleep on watch was put on bread and water. If the offense occurred in enemy waters, he was stripped, flogged and ducked three times. If he were an



officer, he had a pail of water flung over his head—not a bad punishment unless you consider that water was very unpopular in non-bathing times.

While vessels and crews were being readied, Henry's men at Sagres worked to improve charts, compasses and shipboard instruments. They also devised astronomical tables. The first statesman to realize that oceans were

not barriers but great highways for commerce and that sea power could also mean world power, Henry was ready to send his men to sea.

In 1418, Henry ordered Joao Goncalves Zarco, the first sea captain to use artillery on board a ship, to sail the Western Ocean in search of new lands. Zarco departed, but was driven off course by a storm and came upon the island of Porto Santo. When he returned in 1419, he informed Henry of his discovery. The following year Zarco was sent back to the same region and discovered another island, Madeira. Henry soon sent settlers to colonize and farm the island.

On orders of the tireless scientist-prince, his sea captains continued to probe the ocean. New lands were discovered, the west African coastline was explored and, above all, new methods of navigation were tried.

Although the discoveries of Madeira, and, later, the Azores were triumphs, Prince Henry considered it of secondary importance within the overall framework of his projects. His sights were set on what lay beyond Cape Bojador, southeast of the Canary Islands.

When the Navigator began his work, the African coast fronting the Atlantic had been explored from the Pillars of Hercules to Cape Bojador. According to sailors' tales, no one had penetrated and returned from beyond that point. Bojador was the limit, a mystical, magical point beyond which no mere mortal could pass.

Convinced that the lands and seas he searched for really existed, Henry explained his calculations to one of his captains, Gil Eannes. A vessel was equipped and manned and Eannes was sent on the first of two attempts to reach beyond Bojador. The first voyage failed—Eannes came in sight of the cape but his sailors refused to round it. Again, in 1434, Eannes sailed back to the much-feared cape, this

time with a different crew. When he saw the water off the cape boil—as he had seen previously—he sailed bravely on, skirting it. He discovered the boiling water was caused by an ebb tide racing over coastal shoals, and thus ended the foolish legends and superstitions concerning Cape Bojador.

It had taken Henry 19 years to get his first ship past Cape Bojador—less than a thousand miles from Sagres.

Continuing his explorations was costly. Most of the revenues of his province went into financing his voyages. From 1444 to 1446, for example, the Prince licensed 30 voyages.

The colonization of the rich and fertile islands of Madeira and the Azores, the discovery of gold dust on the Guinea coast, the beginning of trade—all these provided new means of finance. But all this also caused his captains to take more interest in turning a profit than in making discoveries. To Henry, exploration was the only thing.

And explore he did. Cape Verdes was colonized and Henry's small ships pushed on. They rounded the bulge of Africa, past Cape Palmas and eastward, past the Ivory Coast, Ghana, and still further.

Though he died in 1460 without ever going to sea himself, Henry's work continued on a grand scale. His seamen explored and mapped the coastline of West Africa to a point beyond the River Gambia. His captains became the best trained and most experienced navigators in Europe. Nautical science developed to such a degree that it allowed the Portuguese to navigate without fear.

All the Navigator's work culminated, finally, in a long-sought-after goal achieved by others shortly after his death—the Portuguese discovered the water route to India. The dream of finding the mythical kingdom of Prester John went by the boards, a small price to pay for the riches of the Orient. ⚓



← Courtesy of National Geographic.

PHILLY'S SILENT NAVY

BY PH1 TERRY MITCHELL

They wait, in clusters of twos and threes, retaining their strength only in numbers. Pigeons roost in hawse pipes over missing hull numbers, painted out as if to conceal their embarrassment.

Once they proudly sailed with the best of the world's fleets. Now they lie

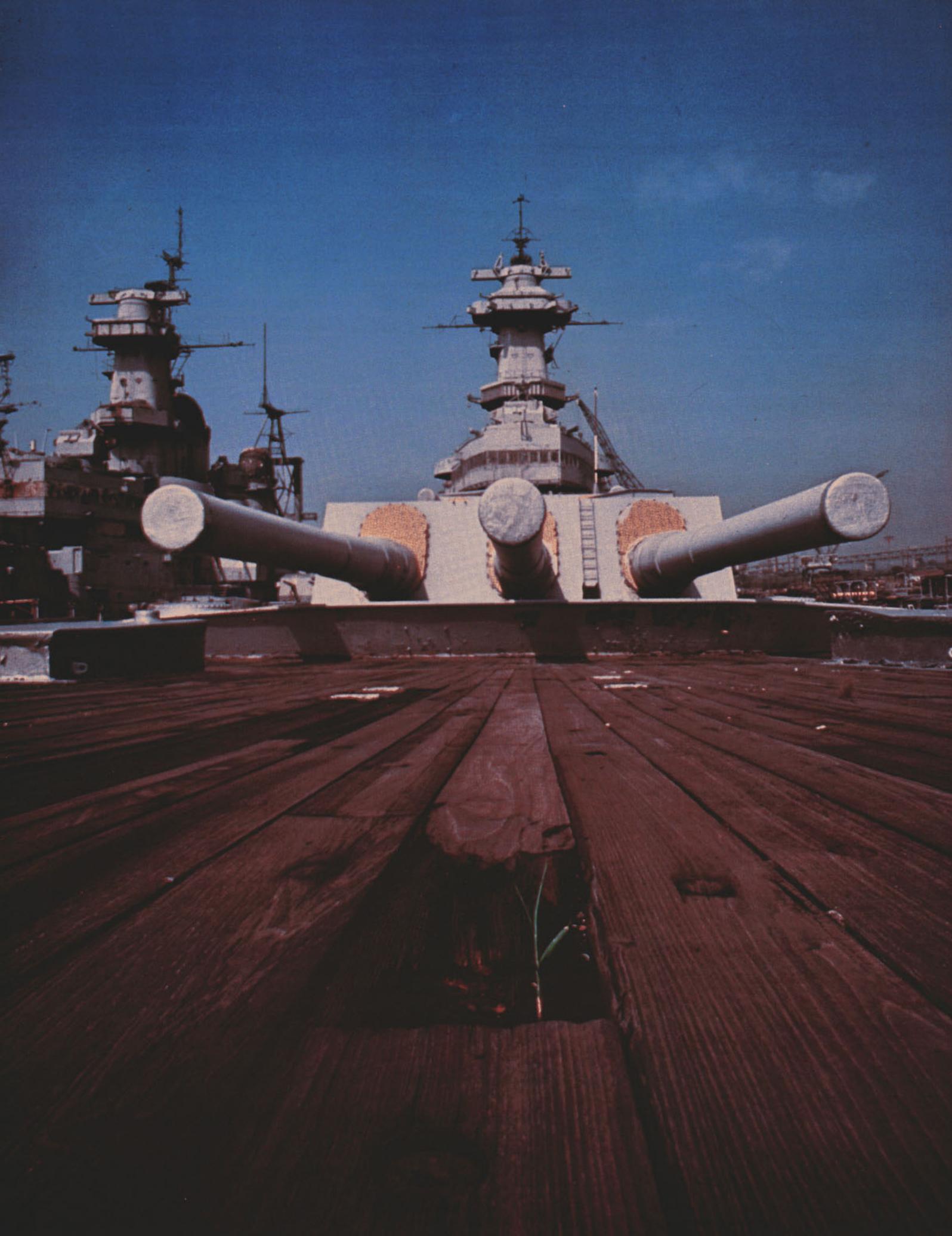
forever at rest as they wait the call back to active service.

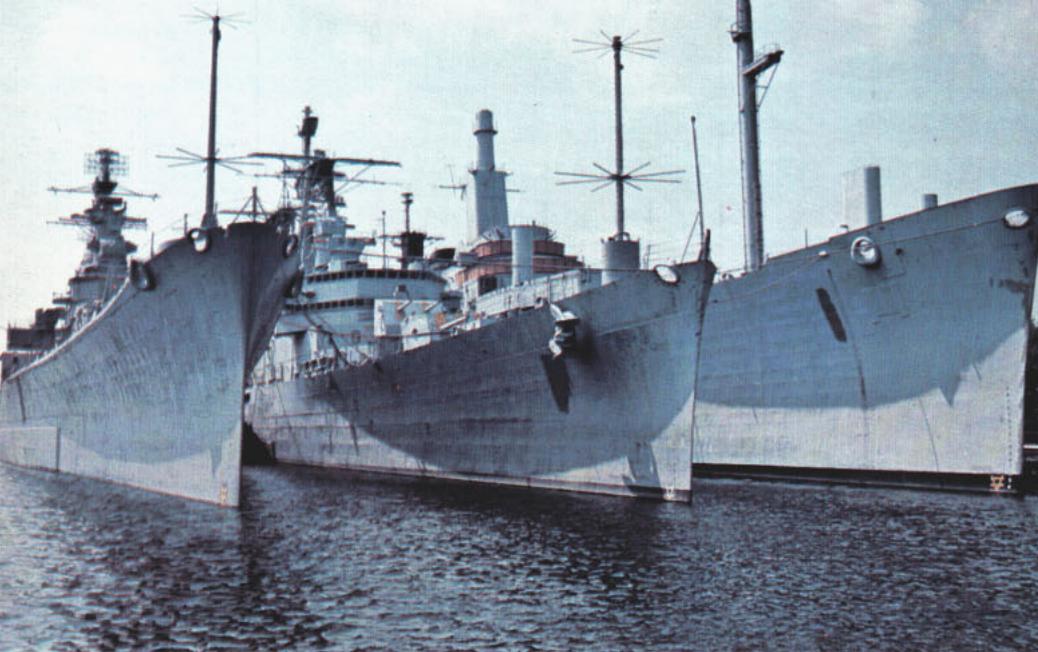
Battlewagons, cruisers, carriers, tin cans, subs, auxiliaries—they are the ships of the Inactive Ships Facility Detachment, at the Naval Base Philadelphia. For many of them, the only call is likely to be a wrecker's yard, where they'll be torn apart bit by bit.

Without the crews to give them life, their paint blisters, curls and finally peels off. No man-made noise disturbs the silence of the passageways.

Then a metallic click of a switch breaks the stillness. The whirring of a
Below: Ships which saw action in World War II make up part of the nation's mothball fleet in this 1947 photo taken at the Philadelphia Naval Shipyard.



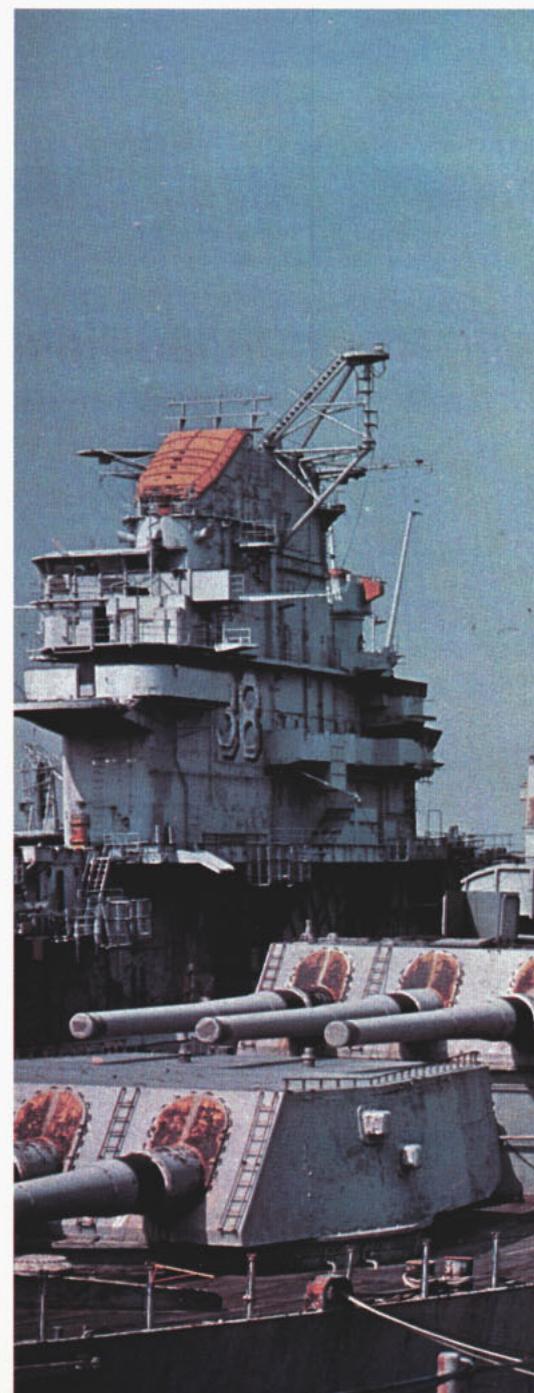




fan gaining speed says the dehumidifying machines are on again. The dehumidifiers are the first line of defense for the ships, now in their only war—the war against corrosion. Keeping the internal air at 30 percent relative humidity drastically reduces rust forma-

Left: Their hull numbers painted out as if to conceal their embarrassment, the cruisers Newport News, Springfield and Northhampton have only the gentle lapping of the basin's water against their sides to remind them of the sea.

Below: The Wisconsin (center) and the Iowa (right), are ironically flanked by the Shangri-La, one of the carriers that made the battleship a weapon of the past.



tion. Boiler tubes, fire mains, compartments, offices, gun mounts, voids and even some of the interiors of kingposts out on deck receive the dry air treatment.

Small, white Styrofoam balls dot the bilges. The balls are actually the simplest part of an elaborate warning system. Should the compartment flood, the balls would float and rotate to their weighted side, tripping an internal mercury switch.

Heat sensitive cable is wound around dehumidifying machines and active electrical panels to detect fire. The flooding and fire warning systems on all mothballed ships are connected

to a panel on the quarterdeck of the USS *Everglades* (AD 24).

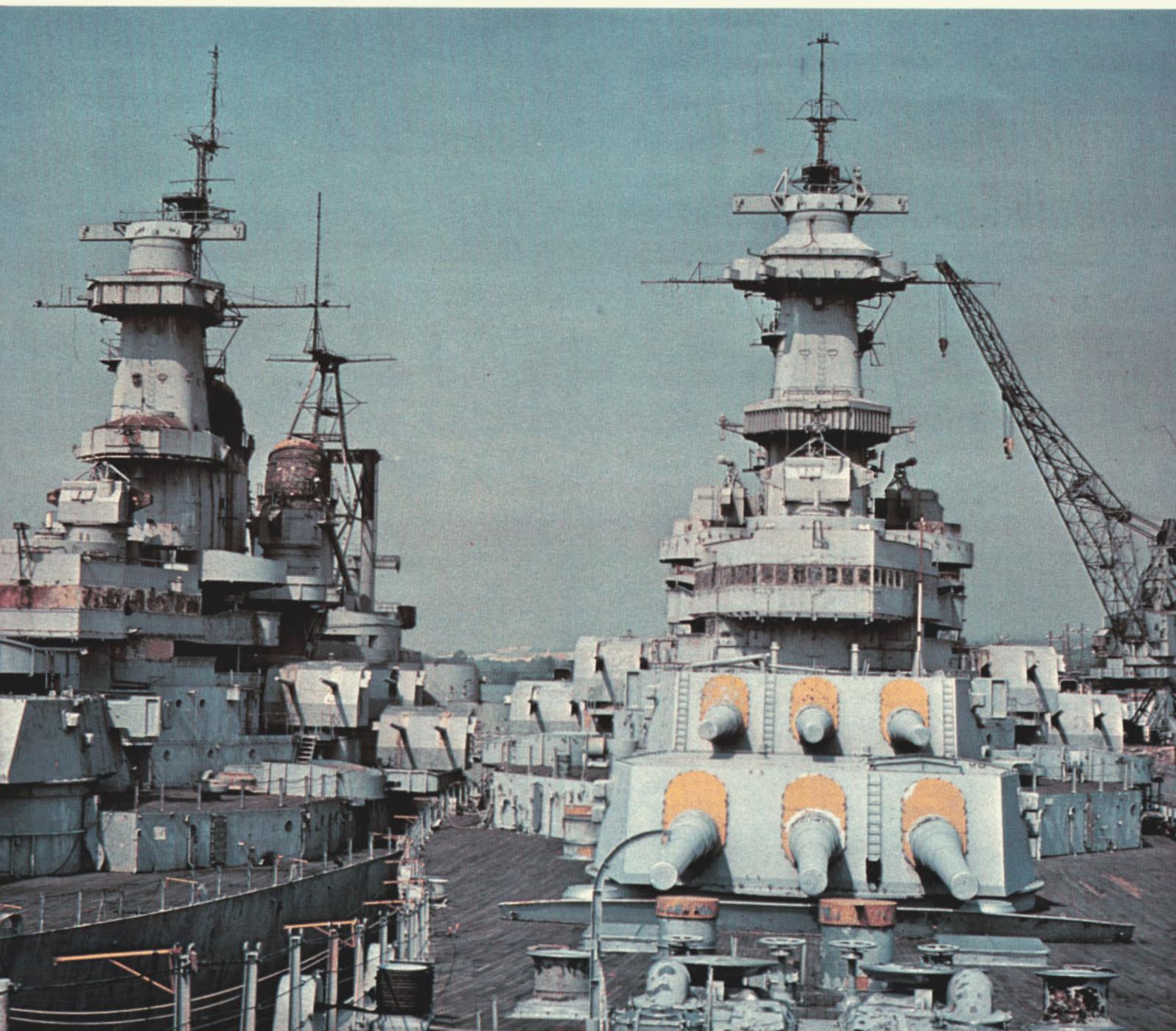
Selected offices and machinery spaces on the mothballed *Everglades* serve as headquarters for the Philadelphia detachment. The rest of the ship is sealed and dehumidified like her sister ships in the basin.

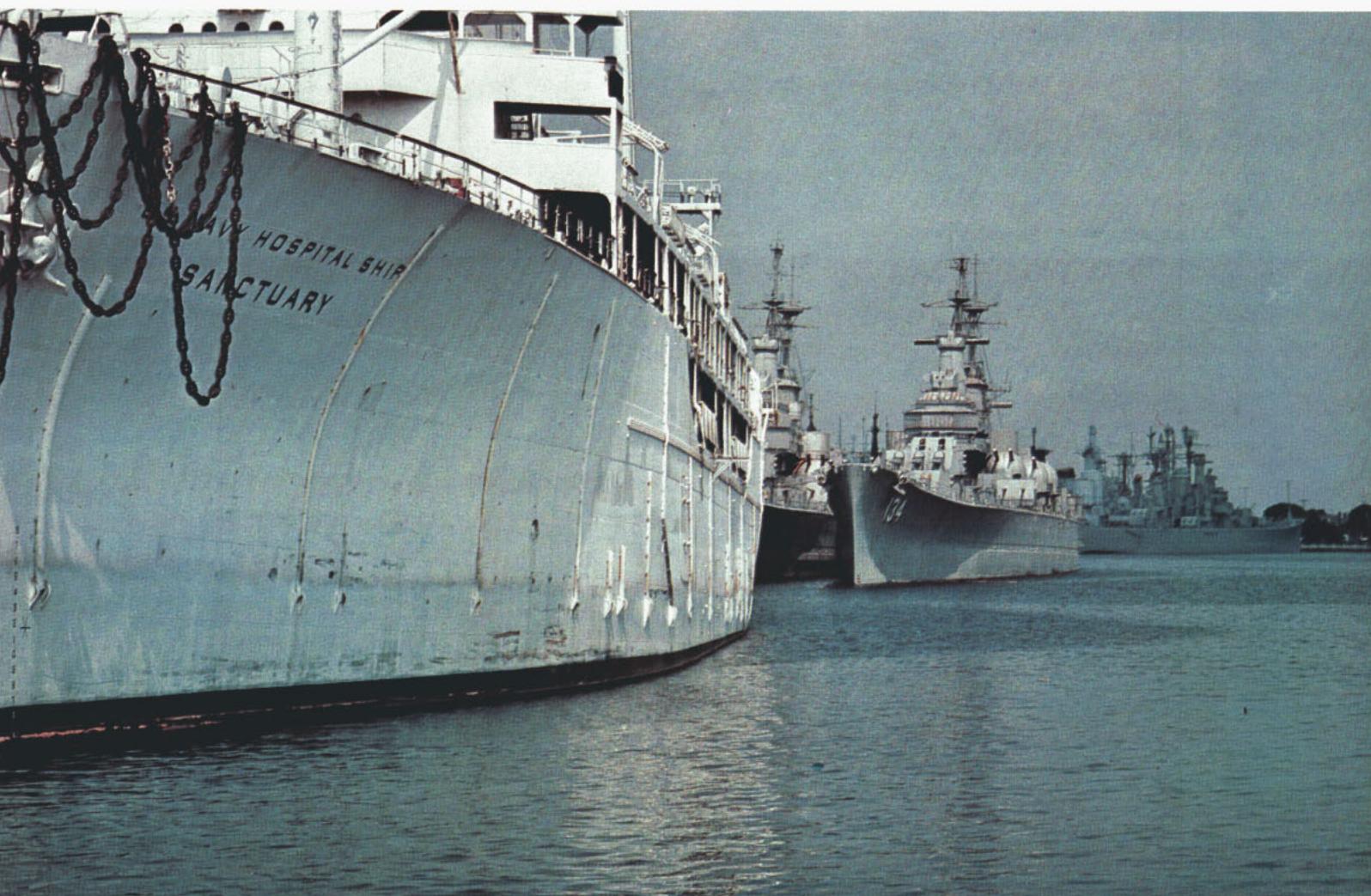
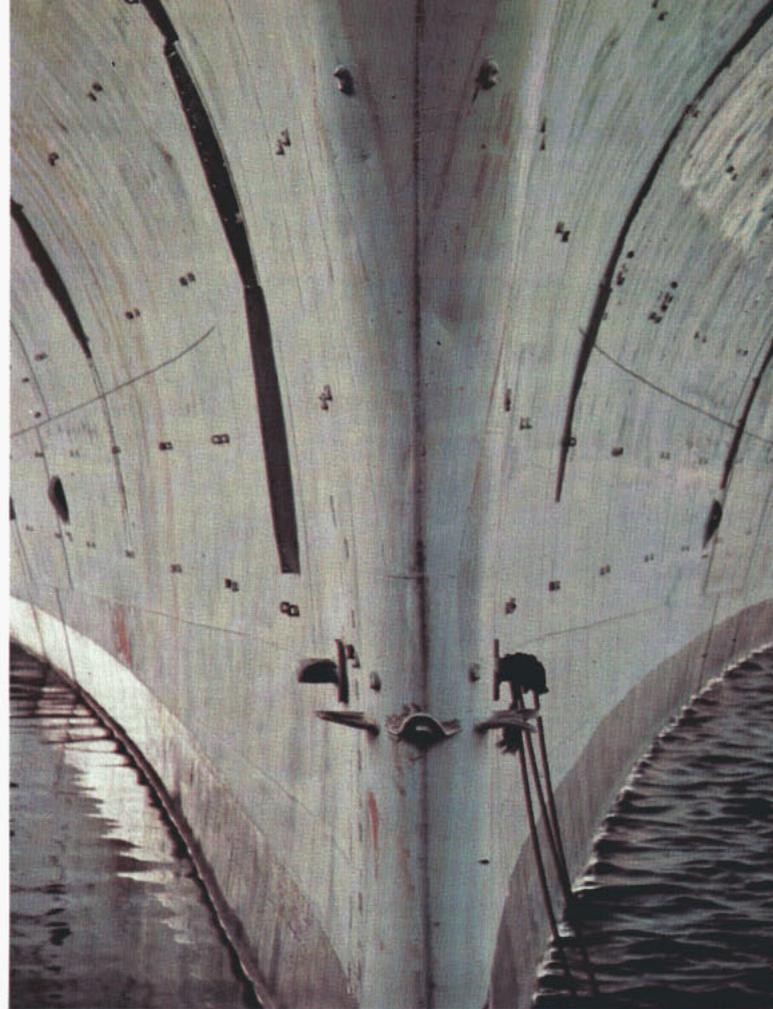
The appearance of the *Everglades* isn't much different from the rest of the ships. Sealant, long since oozed and dry, covers every crack, hatch, gun barrel, port hole and chink. It acts as a barrier to the deadly moisture-laden air. Painting, done for preservation and not for the sake of appearance, results in a patchwork of grays

not unlike a camouflage scheme.

Cables snake across decks, diverge into smaller wires and disappear over the side into the water. Connected to underwater anodes near the hull, they are part of the cathodic protection network. The anodes' minute electrical current flow toward the hull, curtailing underwater corrosion.

The days are a blur; occasionally a former crew member will come by and try to capture a part of his past. He walks up and down the pier, squinting at "his" ship to see if something is still there. As he walks away, he turns around and looks back—one last time. The scene becomes silent once more.





Port of Call - New York

BY JOSN HOWARD SAMUELSON

It was the beginning of Independence Day weekend as USS *Saipan* (LHA 2) steamed into the mouth of New York Harbor and slowly sailed up the channel.

Saipan dipped her upper mast to allow passage under the Verrazano-Narrows Bridge and then lifted it as a passing greeting, as it were, to the Statue of Liberty.

With a successful month of battle-readiness training in Guantanamo Bay, Cuba, tucked under their ball caps, *Saipan's* crew eagerly anticipated some well-deserved rest and relaxation in New York. The Navy's newest amphibious assault helicopter carrier had been chosen as the Navy's Independence Day representative for the New York City Harbor Festival. She was the city's major attraction during the holiday weekend.

Saipan lowered her brow for general visiting on July 2 and thousands of tourists, in a line which extended for several city blocks, entered her hangar deck. Although July 3 and Independence Day were rainy and cold, visitors continued to visit the mammoth am-



phibious assault ship. The tour route led crowds from the hangar bay up a steep vehicle ramp to the flight deck.

On the flight deck the visitors viewed a static display of three Marine helicopters (CH-53 *Sea Stallion*, CH-46 *Sea Knight*, AH-1J *Sea Cobra*) and *Saipan's* own UH-1H *Iroquois*.

Main attraction however, was an AV-8 *Harrier*, a jet which can lift-off, land and hover like a helicopter, but is able to fly more than 600 miles per hour.

Special visitors—New York City Mayor Edward Koch, six of Radio City Music Hall's Rockettes and movie actress Gloria Swanson—were given guided tours of the ship's medical, berthing and dining facilities.

Late each afternoon, as the last of the visitors left the ship, the crew members who missed the morning liberty call quickly prepared for their own visit to the city. In addition to the many activities the city had to offer, the USO on Broadway, along with the New York Naval Support Activity, sponsored a dance for the crew at a local facility.

On July 5 *Saipan* got underway for the short voyage back to her homeport at Norfolk.



Solid Shield

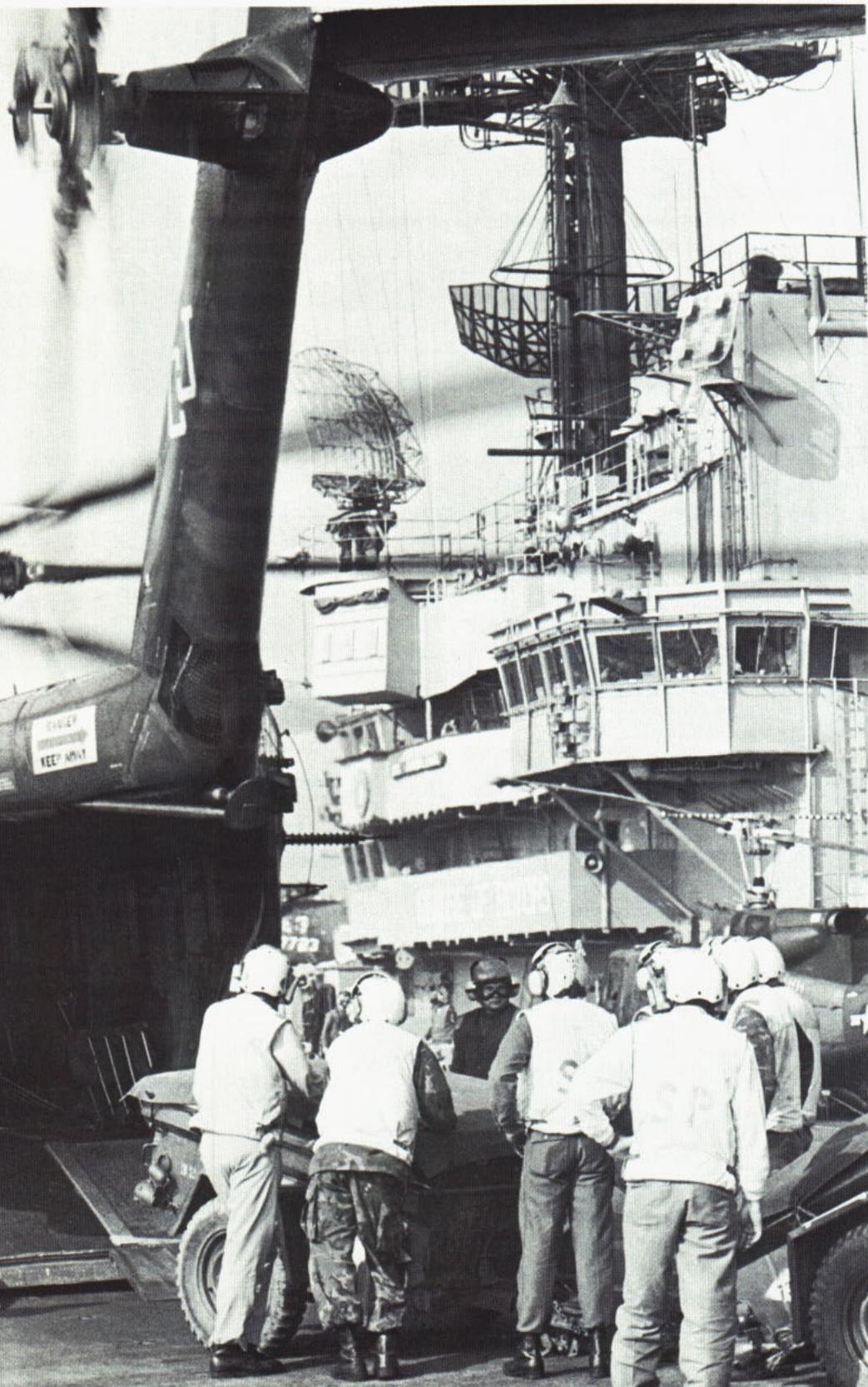
BY LCDR JOE MANCIAS
PHOTOS BY PH3 JAMES L. JONES

Atlantis, the legendary island in the Atlantic west of Gibraltar, stopped being legendary for Navy and Marine forces of the Atlantic Fleet when it became an assault area for 18 days last May.

Atlantis, actually Camp Lejeune, N.C., was the focal point for the Atlantic Command's amphibious and airborne operations in a joint service exercise named Solid Shield 78. Sailors in Atlantic Fleet ships and Marines of the Fourth Marine Amphibious Brigade responded to a simulated, but realistic, sequence of events designed to test command and control.

Solid Shield also tested the rapidity of employing our forces in response to an international crisis.

The situation—according to the exercise's scenario—that prompted our response came as Atlantis, deteriorat-



tests rapid response

ing from terrorism and the guerilla warfare tactics by subversive agents of an enemy country, requested help in accordance with our mutual defense treaty. The military objective for Joint Task Force 122 was to prevent enemy buildup of military supplies in Atlantis. This was accomplished by establishing control of seaward approaches, a tactic which prevented the enemy from capturing Stewart Island (Ft. Stewart, Ga.). It also repelled enemy forces and insurgents operating in Atlantis.

A reality during the exercise was the presence of a Soviet ship which monitored various phases of Solid Shield. The joint service amphibious assault went off on schedule, however, with a smooth meshing of supply and troop movements.

The USS *John F. Kennedy* (CV 67), with six surface ships and two subma-

rines, set up an integrated anti-submarine warfare (ASW) screen. Using LAMPS helicopters, sonar, sonobuoys and other ASW equipment, the task force detected an "enemy" submarine and kept it at bay.

At the same time, the task force also had to defend against air attacks. The *Kennedy's* radar and aircraft provided the early warning necessary to intercept the incoming aircraft.

In the amphibious operating area, 11 ocean minesweepers kicked off the largest coordinated mine countermeasures operation in recent years (see accompanying article). According to Captain Edward F. Jardine, Jr., Commander of MINERON Twelve, Solid Shield covered a broad spectrum of mine countermeasures, from traditional surface minesweeping to state-of-the-art equipment and techniques.

Evacuation procedures and the establishment of a naval quarantine/blockade also were employed as part of the training exercise. Under the threat of a simulated wartime condition, evacuation of U.S. citizens was carried out. Concurrently, along a 300-mile arc seaward of Atlantis, four destroyers set up a quarantine.

According to Captain G. M. Carter Jr., Commander Destroyer Squadron 36, "You need three things to carry out an effective quarantine: aircraft, good ships' radar, and good communication."

Since no enemy vessels transited the barrier set up by the destroyers, all three commitments were met.

Early on May 21, Commander Task Force 124 passed the word to "land the landing force." Flight quarters were sounded at 2:30 a.m. It was D-Day off Atlantis and the USS *Guadalcanal* (LPH 7) and USS *Inchon* (LPH 12) were ready.

On the *Guadalcanal*, Commander John Thurston, operations officer, remarked with the confidence born of five similar exercises, "We've never gotten the feet of the Marines wet yet."

Visibility was the main concern of Captain A. W. Crandall, commanding officer of *Guadalcanal*. As it turned out, ground fog limited visibility to 1.5 miles but only two helos in the first wave momentarily couldn't find their landing zones.



Far left. A trailer is loaded aboard a CH-53 Sea Stallion helicopter on the flight deck of USS *Guadalcanal*, (LPH 7). Left: Marines board a CH-53 to take part in Solid Shield 78.

For Commander David McCulloch, the ship's air boss, timing was essential. Then, a pilot ready to launch signaled for 1,500 pounds of fuel—a request certain to delay the first wave of helos. But tension quickly turned into relief when the fuel gang reported a faulty fuel gauge. On time, Marines ran across the ship's flight deck to the turning helos.

As the exercise progressed, the ship's medical teams received their first simulated casualties. For Hospital Corpsman Second Class John D. Winchester, it marked the beginning of testing medical procedures proven to have saved lives.

The work carried out with professional assurance on board the *Guadalcanal* during the landing was a micro-

cosm of Navy and Marine Corps activity throughout the operational forces. Sailors and Marines, using Solid Shield as a practice exercise to sharpen personal and fleet readiness, were a study in team cooperation. Solid Shield proved that the ability of the Navy to respond rapidly to any threat depends in great part on the capabilities of our ships and personnel.

As Solid Shield 78 came to a close, Vice Admiral Wesley L. McDonald, Commander Joint Task Force 122 on board USS *Mt. Whitney* (LCC 20), said, "Across the board, the air, sub-surface and surface responses by our forces showed outstanding and significant efforts. I was very pleased with the full spectrum of training we achieved." ⚓



Above: USS Mount Whitney (LCC 20). Top and bottom right: Scenes taken during Exercise Solid Shield.



NAVY Concept

BY LCDR JAMES A. McCLURE

“General Quarters. All hands man their battle stations.

“Set material condition zebra throughout the ship.

“Now set condition One Mike.”

For the Reserve Force ocean minesweepers of Mine Squadron Twelve, Solid Shield was under way.

In their traditional role of leading the fleet, the wooden ships escorted the advance force command ship, USS *Austin* (LPD 4) to a safe anchorage in the practice minefield. Seven minesweepers streamed gear to sweep a 10-square-mile anchorage for the amphibious assault fleet.

Taking part in the three-day sweep were: USS *Dash* (MSO 428), USS *Detector* (MSO 429), USS *Exultant* (MSO 441), USS *Fearless* (MSO 442), USS *Impervious* (MSO 449), USS *Influct* (MSO 456) and USS *Exploit* (MSO 440). They cleared 45 magnetic and acoustic mines. They streamed a combination sweep to simulate both the magnetic “signature” of a deep-draft ship and the sound of its screws.

Once the minefield had been swept, they laid buoys to mark the limits of the swept area.

A separate minefield seeded with shallow-moored mines was the target of USS *Affray* (MSO 511) which used its mine-hunting sonar to locate and identify the mines. EOD personnel, dropped by parachute, assisted the minesweepers.

Farther out at sea, USS *Adroit* (MSO 509), USS *Engage* (MSO 433) and USS *Fidelity* (MSO 443) cleared mines from below the surface. *Fidelity*, the only active-duty minesweeper involved in the exercise, used an experimental mine neutralization vehicle.

This submersible vehicle goes down to take a closer look at a mine and neutralizes it either by laying an explosive charge or by cutting the mine’s mooring cable.

In addition to the extensive surface mine countermeasures operations, MINERON Twelve units also coordinated activities with a helicopter mine countermeasures unit.

“We could not have undertaken such an ambitious mine countermeasures operation without the support of our reserve units,” Captain Edward F. Jardine Jr., commander of MINERON Twelve, said. “The ships depend on their reserve crews to keep their watch sections up to strength, and reserve officers play a key role in the command and control of the operation.”

Two reserve officers served with the MINERON staff embarked in USS *Austin*. Another reserve officer and four enlisted reservists from the staff’s

reserve component supported operations at the squadron’s headquarters in Charleston, S.C.

“Solid Shield confirms that the *One-Navy concept* works—and works well—in the mine force,” CAPT Jardine said.

The Reserve Force minesweepers are commanded by active duty officers. Each has an active duty complement of three other officers and 36 enlisted men. The reserve crews, designed to bring the ships up to wartime manning levels, consist of an executive officer, two other officers, and 44 enlisted men.

“These ships have the same operational commitments as an active ship,” CAPT Jardine said. “By steaming every reserve drill weekend—and very often steaming with only the nucleus crew aboard—the minesweepers are meeting their commitments.” ⚓



Rights & Benefits

Mortgage Insurance Saves Cash

Few subjects discussed on the fantail cause as much angry response these days as the rising cost of housing. In many areas, mortgage payments on a single-family dwelling exceed the base income of lower-ranking Navy people, and then there are still taxes and insurance to pay.

Uncle Sam can't do anything to lower the price of houses, but he is doing something to take the bite out of mortgage insurance costs for military purchasers. Navy men and women who qualify for and purchase their home with an FHA-insured mortgage loan don't have to pay mortgage insurance premiums. This benefit, paid for by the Department of Defense, could easily save a purchaser several thousand dollars in insurance premiums over the term of a 30-year mortgage.

To qualify for premium-paid mortgage insurance, Navy people—regardless of paygrade—must finance their home with a Federal Housing Administration Section 222 mortgage. Applicants must have completed at least two years of active duty; have a good credit record; have sufficient income to meet mortgage payments, normal household and family expenses; have sufficient cash to pay closing costs and a minimal down payment; and apply for a Certificate of Eligibility (DD Form 802). Application for DD Form 802 is made through the unit commander to the headquarters which maintains the applicant's personnel records.

After a service member has been issued a Certificate of Eligibility, he/she must find a house in the price range and location desired, and then apply for a loan from any FHA-approved lender. Once the application is accepted, the lender processes the mortgage at the prevailing interest rate and makes necessary arrangements with the FHA. Once a mortgage is insured, the interest rate remains the same for the duration of the loan.

As an additional service, FHA offices will provide service members with information about availability of houses in the desired area, price ranges, the local economy, and other factors that may influence a buyer's decision.

An FHA Section 222 mortgage can be used to purchase a one-family dwelling which will be occupied as the service member's personal home. Property being eyed for rental purposes or immediate resale is excluded. The house must be located in the United States, Puerto Rico, Guam, Trust Territory of the Pacific Islands or the Virgin Islands.

Additionally, a Section 222 loan cannot be used to refinance a home which is already owned by a service member. Other requirements and restrictions include:

- **Maturity**—Maximum maturity of an FHA-insured mortgage is 35 years, or three-fourths of the FHA estimate of the remaining life of the property, whichever is less. The majority of homes insured under Section 222 are for 30 years and an FHA directive provides that a 35-year loan will not be granted if a borrower qualifies for a 30-year loan.

- **Amount**—The maximum insurable mortgage is \$60,000 except in specially designated areas where FHA-insured loans may be as high as \$90,000. (Any local FHA office will have current information on these areas.)

While there is no limit on the price a service member can pay for a home, the member must pay in cash any excess over the FHA maximum of \$60,000.

- **Down payment**—A down payment is required on FHA-insured mortgages and is determined by the price of the house, when it was built, and by the FHA's involvement in construction. For example, on a \$60,000 home which was built under an FHA preconstruction commitment, the purchaser would have to pay three percent of the first \$25,000 and five percent of the value over \$25,000.

- **Closing costs**—These may be paid by the seller or the buyer or a combination of the two.

Since service members are subject to frequent transfers, there comes a time when most members will want to sell their FHA-insured homes. To do this, the member can obtain an FHA conditional commitment through an FHA-approved lender. This conditional commitment, which costs the member about \$50.00, will include an estimate of the value of the property. Since the service member's house is covered by an FHA-insured mortgage, the arranging of financing on the house sale is important.

There are two ways an FHA-insured house can be sold:

- The buyer can pay cash or finance the purchase with a new mortgage, ending the service member's liability.

- The buyer can make a down payment of the difference between the selling price and the unpaid mortgage. If the buyer is acceptable to FHA and the lender releases the service member from liability, the lender can substitute the new buyer's name on the mortgage. (If, however, a member sold his property over a year earlier and has obtained a DD 803, FHA would have no objection to processing another application for the member.)

Once either of these two ways of selling has been accomplished, the FHA will consent to the service member's release from liability.

As in all legal matters, Navy men and women considering the purchase of a home should contact the nearest installation's legal assistance office for advice and assistance. ↓

for the Navy Buff

BY JO1 DAN WHEELER

Here again, especially for those who are incurably hooked on nautical trivia, is another installment of FOR THE NAVY BUFF.

Q. Which American ship was responsible for sinking the heavily damaged USS *Lexington* (CV 2) after the Battle of the Coral Sea?

A. That sad task fell to USS *Phelps* (DD 360), named for Civil War Admiral Thomas Stowell Phelps and commissioned on Feb. 26, 1936.

Following *Phelps*' shakedown cruise, she escorted USS *Indianapolis* (CA 35), which carried President Franklin D. Roosevelt to the 1936 Inter-American Peace Conference in Buenos Aires.

Undergoing repair in Pearl Harbor on Dec. 7, 1941, *Phelps* was under way in less than five hours and remained on patrol and search missions until Jan. 31, 1942, when she joined Task Force 11, built around *Lexington*. Constantly under attack, *Phelps* was credited with helping destroy 16 enemy planes before returning to Pearl Harbor.

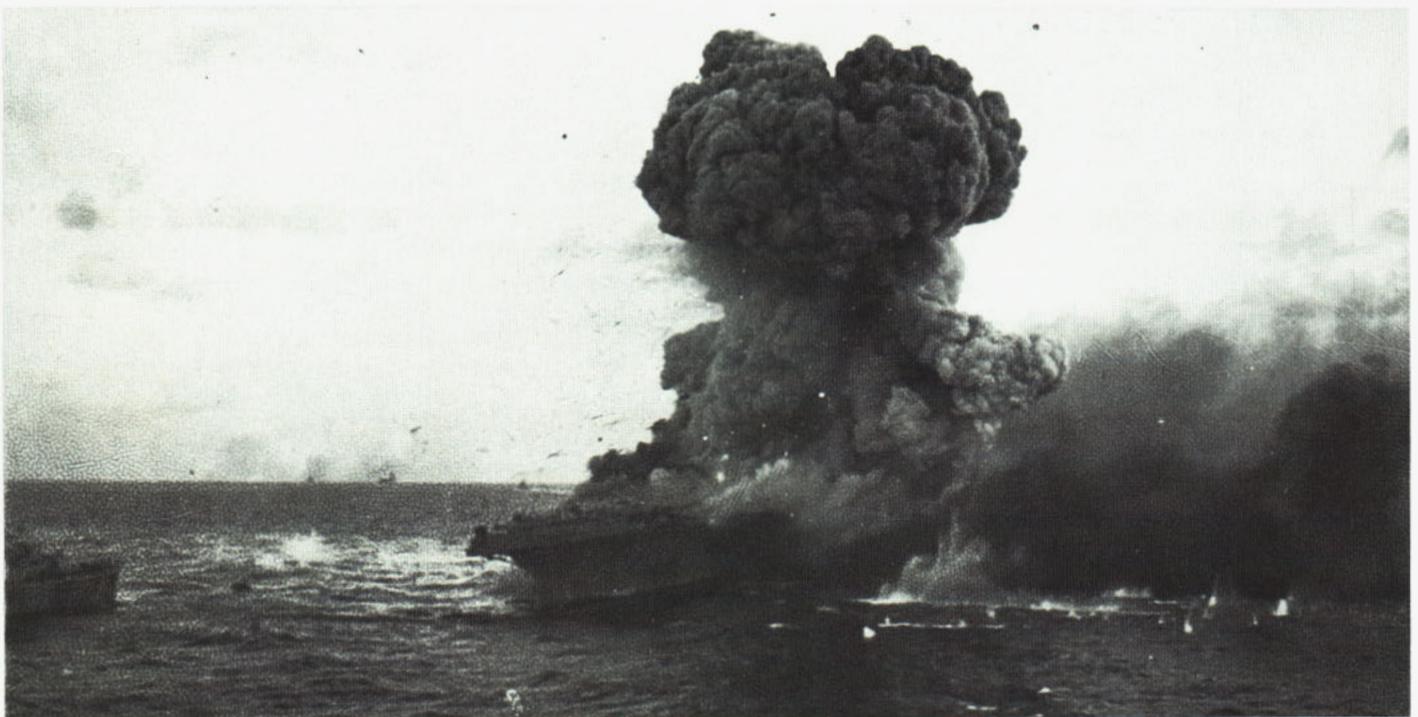
On April 15, 1942, *Phelps* was once again in action off Guadalcanal. From there, she steamed to the Coral Sea, where, in May, it became necessary for her to sink the heavily damaged carrier *Lexington*.

Following Coral Sea, *Phelps* participated in many actions in both the Atlantic and Pacific and was decommissioned on Nov. 6, 1945, a few months after the Japanese surrendered.

Q. In H.C. Christy's famous World War I Navy recruiting poster bearing the caption, "Gee!! I wish I were a man . . . I'd join the Navy," who was the model?

A. The 13-year-old model for the 1918 poster is today Mrs. E. Leroy Finch, a grandmother living in Centerport on Long Island, New York. As a teenager, Mrs. Finch acted in movies and posed for several noted artists.

Navy officials credited the Christy poster with attracting thousands of young men into the sea service. Perhaps some of the credit for the poster's success rightly belongs to





Navy recruiters who added to the poster's challenge by including the words "BE A MAN AND DO IT."

The original poster was first presented to the battleship USS *Texas* and today is on exhibit in the U.S. Naval Academy Museum.

Q. *I've often read about and heard sailors talk about "sailing the seven seas." What are they?*

A. The expression "seven seas" dates to ancient times and usually refers to the seas known to the Mohammedans before the 1400s. "Seven" being a magical number thought to indicate completeness, ancients thought their seven seas included all major bodies of water in the world. They were the Mediterranean Sea, Red Sea, East African Sea, West African Sea, China Sea, Persian Gulf and Indian Ocean.

Rudyard Kipling used the term "seven seas" as a title for a book of poems and thus popularized the expression. Today, the seven seas generally are taken to mean the Arctic, North Atlantic, South Atlantic, North Pacific, South Pacific, Indian and Antarctic Oceans.

The International Hydrographic Bureau at Monaco lists 54 seas in the world and some of the seas are seas within seas. For instance, the Mediterranean, according to the bureau, contains seven seas within itself.

Q. *Why is the Cape Hatteras area known as the "graveyard of ships"?*

A. Sudden storms, shifting sandbars and strong currents

have earned that appellation for Cape Hatteras. Alexander Hamilton, who sailed past the area while still a young man, was said to have dubbed the area "Graveyard of the Atlantic" and, later, while Secretary of the Treasury, used his influence to have a lighthouse erected there.

In recent times, due to modern navigational aids, considerably fewer casualties occur near the cape, but, being open to the sea for more than 180 degrees, Cape Hatteras is susceptible to severe storms with little warning.

Q. *There has been much talk in recent years about the "law of the sea." When was the first time that laws of the sea were actually compiled and observed?*

A. The first recorded law of the sea was called *Lex Rhodia* and all subsequent maritime jurisprudence is based, at least in part, on this text written in Rhodes around 500 B.C. Rhodes, an island situated at the crossroads of Mediterranean trade routes, was a nation of seafarers whose judgment in maritime matters was considered final.

Though some of the laws enacted by the document have been lost through numerous transcriptions, most of it is intact and considered so reliable that the British High Court of Justice referred to it in a case tried near the end of the 19th century—2,300 years after *Lex Rhodia* was written.

Q. *Lighthouses have always been important to safe coastal navigation—when and where was the first lighthouse erected?*

A. Around 280 B.C., Ptolemy II of Egypt erected a 400-foot-high marble tower on a peninsula called Pharos of Alexandria. That structure became the world's first lighthouse and one of the Seven Wonders of the World. The lighthouse, which became known as the Pharos of Alexandria, acted as a point of reference for shipping during the day and, at night, a fire in its top was a leading mark for ancient navigators.

Q. *On the ancient galleys propelled by sails and oars, how many men did it take to man a single oar?*

A. It depended on the size of the oar. On the double quinquereme *Syracusa*, built for Ptolemy Philadelphus of Alexandria around 250 B.C., there were 10 banks of oars on each side—800 oars in all—manned by 2,000 men. (Single quinqueremes had five banks of oars.) The longest oars, 84 feet, were manned by four men simultaneously; the shortest were 20 feet and manned by one. *Syracusa* is

believed to have been capable of carrying 4,000 troops in addition to her rowers. Interestingly, no ship of this size is ever mentioned in ancient records of sea battles, leading most historians to conclude that *Syracusa*-class ships were simply showpieces built to enhance Alexandria's prestige in the ancient world.

Q. *What are the Rules of Oleron?*

A. Around 1200 A.D., Richard the Lion-Hearted of England revised the *Lex Rhodia* (Rhodes' law of the sea). Some major contributions to sea law listed in Richard's *Rules of Oleron* are: owners, masters and merchants are warned not to overload ships; valuables had to be declared to the captain or there could be no replacement or reimbursement in case of loss or damage at sea; ships anchored in port were required to have the crew sleeping aboard; if a crew member missed movement, he earned no pay until he rejoined the ship; all crew members participating in a cruise had to vow to remain with the ship until the voyage's end; and captains were legally responsible for the safety of their crews and admonished not to mistreat ship's company.

Q. *What was the most destructive storm at sea ever recorded?*

A. No way of telling for sure, but one of the most destructive occurred in 1703 in the English Channel. In 24 hours, the English lost 150 merchantmen and 13 warships, most of which were wrecked on the infamous Goodwin Sands.

Q. *Why were the 19th century "clippers" called by that name?*

A. By the mid-1850's, steamships had come into their own right and were able to attain respectable speeds while carrying heavy cargoes. If sailing ships were to compete, shipbuilders had to build bigger and faster ships. The clippers were designed to "clip" days off the time required for voyages by earlier sailing ships, hence the name.

Q. *When was the international distress signal "S.O.S." first used?*

A. At about ten minutes past midnight on April 15, 1912, a wireless operator named Phillips transmitted the official "C.Q.D."—Come Quick, Danger—followed by "MGY"—*Titanic's* call sign. Next, the radio operator transmitted "S.O.S.," a new distress signal never before used. Little

more than two hours later, *Titanic* stood perpendicular, with her stern silhouetted against the North Atlantic sky, and slid into the ocean. Fifteen-hundred-and-two persons died in the iceberg-ship collision.

Q. *What is the fastest that a modern ship of considerable size has ever been built?*

A. Ten days. She was the Liberty ship *Joseph N. Teal*, constructed by the Oregon Shipbuilding Corporation, Portland, Ore.

Q. *What is the origin of the "Pledge of Allegiance to the Flag"?*

A. The wording of the pledge used today varies slightly from the original written in 1892 in the office of *The Youth's Companion* magazine in Boston. It was first used in the public schools in celebration of Columbus Day, Oct. 12, 1892.

The pledge received official recognition by Congress in an Act approved June 22, 1942. The phrase "under God" was added by a Congressional Act on June 14, 1954. At that time, President Dwight D. Eisenhower said that "in this way we are reaffirming the transcendence of religious faith in America's heritage and future; in this way we shall constantly strengthen those spiritual weapons which forever will be our country's most powerful resource in peace and war."

Q. *Is it true that the national ensign flown from USS Missouri's (BB 63) flagstaff during the formal Japanese surrender ending World War II was not her own, but a flag brought in especially for the occasion?*

A. Yes. It was the flag which flew over the Capitol in Washington the day Pearl Harbor was attacked. This same flag was raised again on Dec. 8, 1941, when war was declared on Japan, and three days later at the time of the declaration of war on Germany and Italy. President Roosevelt called it the "flag of liberation" and carried it with him to the Casablanca Conference and on other historic occasions. That very flag was the one which flew from USS *Missouri's* flagstaff on Sept. 2, 1945, the day Japan formally surrendered to the Allies.

An even more historic flag was used in the Japanese surrender ceremony than the one which flew from *Missouri's* flagstaff. Fleet Admiral William F. Halsey secured the loan of a special flag for the event from the U.S. Naval

Academy in Annapolis, Md., and used it as a backdrop for the ceremony's signing table. It was the flag flown by Commodore Matthew C. Perry on his historic voyage to Japan in 1853 to open that nation to world trade.

(Still another historic flag is the one which flew over Pearl Harbor on Dec. 7, 1941. It also flew above the United Nations Charter meeting at San Francisco and over the Big Three Conference at Potsdam. This flag was flying over the White House on Aug. 14, 1945, the day Japan accepted surrender terms.)

Q. *When were automatic dishwashers first used on Navy ships?*

A. Mess cooks on duty on USS *Missouri* (BB 11) in 1904 were, no doubt, jubilant when Paymaster George P. Dyer brought the first dishwashing machine aboard a Navy ship. Later, he also added the first automatic potato peeler, ice cream mixer, and meat slicer. Those items seemed like godsend to overworked messmen at the turn of the century.

Q. *I've heard that in the early days of the 20th century, "conduct classes" were held aboard Navy ships. What were they?*

A. In those days, conduct classes were in effect aboard Navy ships, but they weren't classes in the sense of school call. According to a man's conduct, he was rated special first class, first class, second class, third class or fourth class. A man's conduct rating affected the amount of shore liberty and the amount of pay he could draw. Special first class men were entitled to get liberty every day while in port; first class received liberty every other day; second class, twice a month; third class, once a month; and fourth class, once every three months. This system was a forerunner of the liberty card system.

Q. *What was the purpose of the rattan cane carried by boatswains in the "Old Navy"?*

A. Early boatswains were appointed by warrant and were among the more important men in the ships. The boatswain was usually a grizzled old salt who wasn't timid about giving orders. He was assisted by his mates and carried a silver boatswain's call and rattan cane that identified his position.

His call (the actual notes are called the pipe) was the sailing ship's PA system, or 1MC. It could be heard 120 feet up in the rigging and down in the deepest, darkest hold. His cane was an instrument of persuasion which, it was said, "cured more scurvy than the doctor, made cripples take up their beds and walk, and made the lame skip and run up the shrouds like monkeys."

Q. *What is a Specialist (X)?*

A. At the outbreak of World War II, the Navy had so many new, emergency ratings that adjustments were necessary to meet technological advances and the specialized needs of a Navy at war. Construction battalion ratings were added and various existing ratings were split into specialties. For instance, radiomen were split into radiomen



and radio technicians. Later, some radio technicians were transferred to the new sonarman rating. Before World War II, there were 30-odd ratings; by VJ day there were nearly 200 wartime categories.

Because there were so many jobs, the specialist ratings were established, and the famous Specialist (X) rating eventually became the catchall for jobs which could not be fitted elsewhere into the rating structure. There were the Specialist (P)(VM) for V-Mail, the Specialist (P)(MP) for Motion Picture Production, and Specialist (X)(KP) for Key Punch Operator.

Many of these ratings eventually were removed from the X rating and became job specialties of today. One—the Specialist (X)(PI)—didn't survive the transition. SPX(PI)s were pigeon trainers and, appropriately, were assigned to the aviation branch of the Navy.

Q. *Is it true that a Navy plane—and not Lindbergh's*



Spirit of St. Louis—made the first solo, non-stop flight across the Atlantic?

A: No, not true. However, it was a Navy plane, the Navy flying boat NC-4, which was the first plane to complete a trans-Atlantic flight. She landed in Lisbon, Portugal, on May 27, 1919, and continued on to Portsmouth, England, the entire trip taking less than 71 hours' actual flying time. Though neither solo, nor non-stop, it was still quite a feat for the early days of aviation.

Q. *Just out of curiosity, how much did it cost to build and outfit USS Constitution?*

A. On Oct. 21, 1797, USS *Constitution* slid down her ways, just three years after her keel had been laid. Total cost of the ship, her guns and furnishings was \$302,718. We'll leave it to the mathematicians and economists—considering inflation and dollar value—to determine if *Constitution* was actually considerably less expensive to build and outfit than today's modern destroyer.

Q. *USS Constitution has been restored and refurbished many times during the last 150 or so years. How much of the original ship still exists?*

A. Today, only about eight percent of the original *Constitution* still exists and much of that is the live oak which has virtually held her together and made restoration possible.

Q. *The famous photograph of the flag-raising on Iwo Jima—was that the first attempt to raise our national ensign on Mount Suribachi?*

A. On Feb. 23, 1945, Marine Colonel Harry Liverseed sent a 40-man detachment from the 28th Marine Regiment to scale Mount Suribachi on Iwo Jima. The detachment was attacked by Japanese survivors still holding out on the opposite side of the volcano and a fierce skirmish developed. In the midst of the battle, a Marine lashed a small American flag to a length of iron pipe and raised it. The flag, which the Marine had carried in his pocket, was too small to be seen from a distance.



Commodore Stephen Decatur

Meanwhile, a larger flag was on its way up the mount; it was the battle ensign from LST 779, beached near the base. A Marine carried it up the mountain and an AP photographer, Joe Rosenthal, arrived just in time to shoot the famous picture of the second flag-raising on Iwo Jima. Three of the six Marines who raised it died in subsequent fighting.

Q. How large was the U.S. Navy, in terms of manpower, when World War II ended?

A. When World War II began, the Navy had a total manpower strength of about 750,000; the Marine Corps—part of the Navy in time of war—about 28,000. On Aug. 31, 1945, the Navy had 316,675 male officers, 8,399 female officers, 2,935,695 enlisted men, and 73,685 enlisted women; the Marines had 36,851 male officers, 813 female officers, 427,017 enlisted men, and 17,350 enlisted women.

Q. What is the story behind the Decatur-Barron duel in which Decatur was mortally wounded?

A. The duel which was fought on March 22, 1820, between Commodore Stephen Decatur and Commodore James Barron actually was precipitated by an event which occurred in 1807. Barron was the CO of *Chesapeake*. En route to the Mediterranean, *Chesapeake* was stopped by the British frigate *Leopard* which demanded the return of several alleged deserters from the British navy. Barron refused to comply and *Leopard* opened fire. The American sailors were thrown into confusion and Barron surrendered *Chesapeake* to prevent her destruction.

Before *Chesapeake* struck her colors, Lieutenant William H. Allen fired a single shot and protested the surrender of *Chesapeake* without a fight. The British seized four sailors and *Chesapeake* limped into Hampton Roads, severely damaged.

The impressment caused a public outcry and was one of the more important events leading to the War of 1812. As a

result of LT Allen's accusations against Barron, Barron was court-martialed in 1808 for negligence and cowardice. Acquitted of the cowardice charge, Barron was convicted of negligence and suspended from duty for five years, during which time he served in the French navy.

When Barron returned to the U.S. Navy, he found that he was denied command at sea and advancement in rank. Frustrated and bitter about the *Leopard* affair and what he considered unwarranted stifling of his career, Barron accused Commodore Decatur of leading the intrigue against him. Subsequently, Barron challenged Decatur to a duel in which Decatur was killed and Barron badly wounded.

Barron recovered from his wounds but found himself universally condemned and an outcast. He was on inactive status in the Navy until his death in 1851. The one good thing that did come out of Barron's duel with Decatur is that following the death of Decatur, the Navy outlawed dueling in the service.

Q. Is it true that commanding officers in the early days of steam had to pay for the coal used for official purposes on Navy vessels?

A. Yes and no. Within one year following the Civil War, the Navy was reduced from 626 vessels to a paltry 30. The ensuing 20 years are often referred to as the doldrums of the Navy. Most of its ironclads were scrapped or sold, and steamship captains were ordered to use sail power exclusively unless circumstances dictated the use of their ship's steam engines. If, upon return to port, the Navy Department didn't agree that the use of the ship's engines had been justified, the commanding officer was charged for coal his ship had used.

Q. Why is it considered not nautical to whistle on Navy ships?

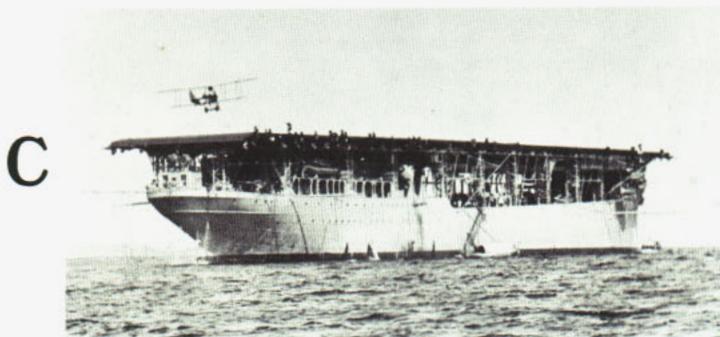
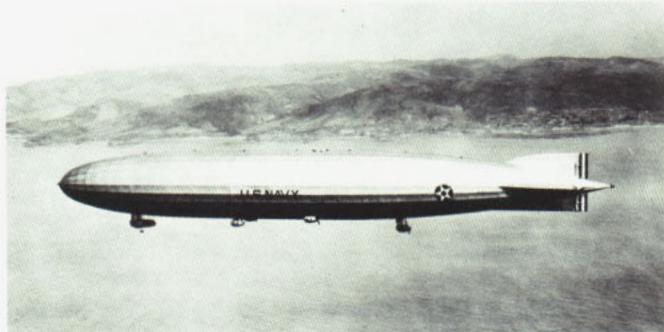
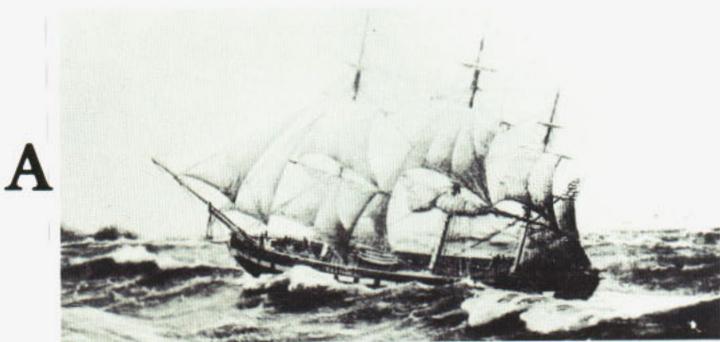
A. There's an old Navy saying: "Only damn fools and boatswain's mates whistle." Though Naval Regulations do not forbid whistling aboard ships, it has always been considered unseamanlike and contrary to tradition and custom to whistle while on duty at sea. So strong was this admonition that some Navy officers even forbade it on land, as in the case of Captain W. W. Gilmer, naval governor of Guam, who issued this order: "The practice of whistling is an entirely unnecessary and irritating noise which must be discontinued."

Authorities generally agree that whistling was originally forbidden for a good reason. In sailing ships, it was necessary to remain as quiet about the decks as possible to hear orders above the sound of the wind, especially if sailors were aloft. Another reason for the prohibition was to prevent a sailor from hearing a few notes of someone else's tune, think it was from a bosun's call, and, consequently, take action endangering the crew.

There were times, however, when whistling was allowed. When a sailing vessel was becalmed, sailors were encouraged to "whistle up a wind." The theory was that whistling incited the wind gods and caused them to make the wind blow. Once the sails began to billow, however, the order was immediately passed to "belay whistling" and turn-to.

Stern Shots

This is a month for naval "firsts." In the photographs below, see how many of the historical occasions you recognize. Each took place for the first time in October. We've made it easy by putting the photographs in chronological order, so name the naval ship as well as the event.



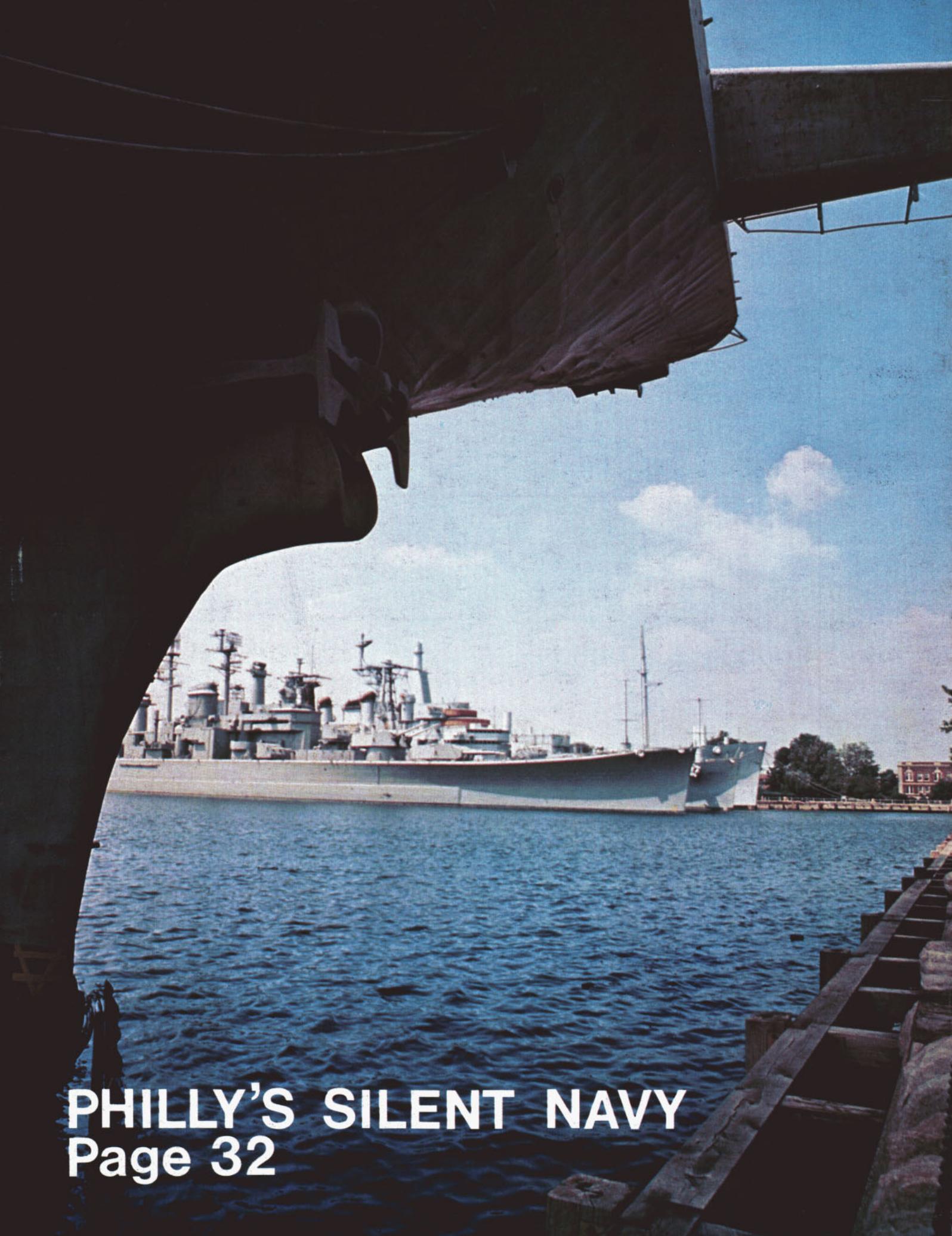
A — First U.S. Navy cruise began into Pacific Ocean by frigate USS Essex (Oct. 27, 1812); B — USS Fulton, first steam warship is launched (Oct. 29, 1814); C — first carrier takeoff made by airplane from USS Langley (CV 1) (Oct. 17, 1922); D — First American-built airship, USS Shenandoah (ZR 1), commissioned as a combatant ship (Oct. 10, 1923); E — first guided missile experimental and test ship, USS Norton Sound (AVM 1), placed in operation (Oct. 1, 1948); F — first "super" carrier, USS Forrestal (CV 59) commissioned (Oct. 1, 1955).

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