

ALL HANDS

BUREAU OF NAVAL PERSONNEL INFORMATION BULLETIN

in this issue
FIFTY YEARS
of
NAVAL AVIATION



This magazine is intended
for 10 readers. All should
see it as soon as possible.
PASS THIS COPY ALONG

JUNE 1961



ALL HANDS

THE BUREAU OF NAVAL PERSONNEL INFORMATION BULLETIN

JUNE 1961

Nav-Pers-O

NUMBER 533

VICE ADMIRAL W. R. SMEDBERG III, USN

The Chief of Naval Personnel

REAR ADMIRAL A. E. LOOMIS, USN

The Deputy Chief of Naval Personnel

CAPTAIN F. R. WHITBY, Jr., USN

Assistant Chief for Morale Services

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CDR F. C. Huntley, USNR, Editor
John A. Oudine, Managing Editor

Associate Editors

G. Vern Blasdel, News
Jerry Wolff, Research
Don Addor, Layout & Art
French Crawford Smith, Reserve

• FRONT COVER: ALL STEAMED UP—An all-weather F8U-2N jet Crusader stands poised on steam catapult of attack carrier USS Forrestal (CVA 59) prior to launching as Navy pilots test their skill in carrier operation.

• AT LEFT: KING-SIZE CUSTOMER—USS Coral Sea (CVA 43) gets her tanks refilled via hoses from fleet oiler USS Manatee (AO 58) as the floating naval air station continues her operation at sea.

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CARRIER SCENE—Pilot of modern jet readies for blast-off from USS Forrestal (CVA 59) during flight operations.

Fifty Years of Naval

ON A SPRING DAY 50 years ago, a Navy captain in Washington, D.C., wrote requisitions for two items of wood, canvas, bamboo, rubber and metal. In short, for two airplanes.

One was to be equipped for arising from—or alighting on—land or water, to have a metal-tipped wood propeller designed for a speed of at least 45 mph, to have provisions for carrying a passenger alongside the pilot, and to have controls that could be operated by pilot or passenger.

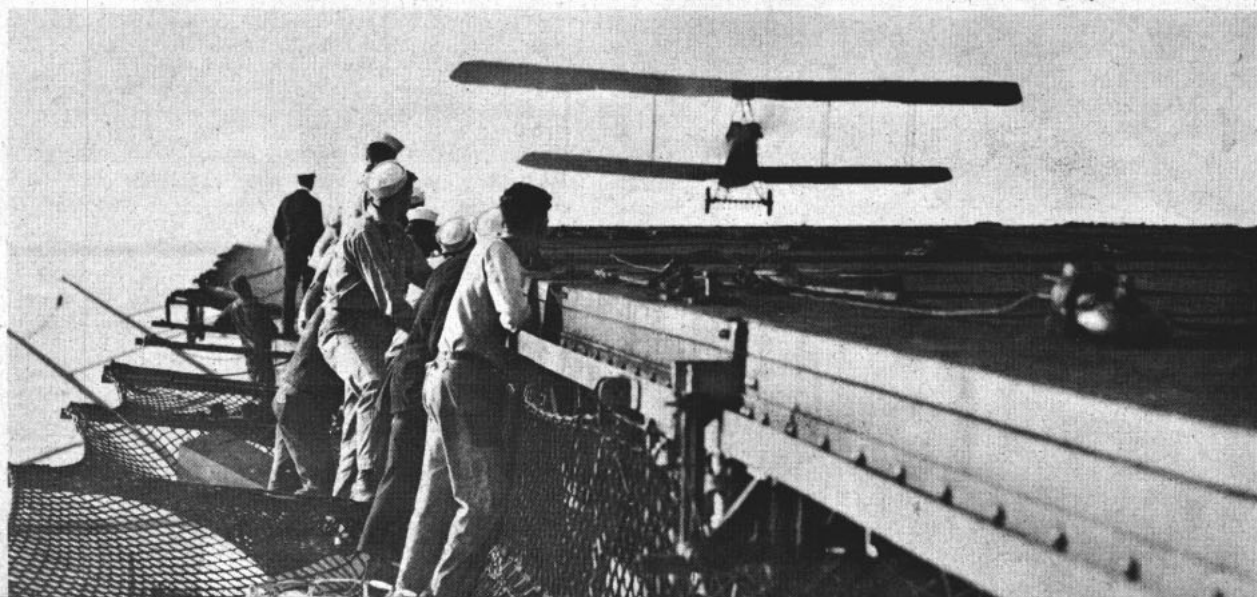
The airplane described here took form as the A-1. It was also named *Triad*, for its triple ability to fly in the air and land on either the ground or the sea. A-1 was delivered to the Navy on 1 Jul 1911, when it was flown by LT T. G. Ellyson, the Navy's first aviator. Lake Keuka, one of New York state's finger lakes, was the location. Twelve days later, the delivery of the A-1 was followed by the A-2 and Naval aviation had gotten off the ground.

The early years of the present

century—that is, from 1900 to 1914—have long been viewed as a sort of golden and tranquil age in our nation's development. For naval aviation, one of those years was a hot one... so hot and so eventful that the entire year now serves as a base marker for the present Golden, or 50th, Anniversary.

1911's FIRST MONTH, saw, on the 18th, civilian Eugene Ely land a primitive airplane on a platform rigged aboard USS *Pennsylvania*

'SAME' SCENE—Navy air pilot brings plane in for a landing on Navy's first carrier, USS *Langley*, in early '20s.



(ACR 4) in San Francisco Bay.

In February, on the 10th, the Navy Wireless Station at Point Loma, Calif., began experiments in the use of radio communications from airplanes.

On 4 March, \$25,000 was appropriated to the Bureau of Navigation (now BuPers) for aviation experimental purposes. These were the Navy's first funds for naval aviation.

CAPT W. I. Chambers, the Navy's "officer in charge of aviation," reported for duty with the Navy's General Board on 1 April. Thirteen days later his "office of naval aviation"—which consisted of him alone—was set up in BuNav. The following month he prepared the previously mentioned requisitions. In July he was ordered to the Naval Academy to help set up an aviation experimental station at nearby Greenbury Point. It was to develop into the Navy's first aviation base.

On 23 Aug 1911 a handful of offi-

Aviation

cers on flight duty at other locations were ordered to the Naval Academy "in connection with the test of gasoline motors and other experimental work in the development of aviation, including instruction at the aviation school."

The next month, on the 7th, LT Ellyson experimented with a launching device on Lake Keuka. He made a successful takeoff from an inclined wire running from the beach down to the water.

The A-1 was again in the news on 25 October. LTs Ellyson and J. H. Towers (Naval Aviator No. 3) attempted a durability flight from Annapolis, Md., to Fort Monroe, Va. After covering 112 miles in 122 minutes, they were forced down by a leaking radiator somewhat short of their goal.

AVIATION YEAR NO. 1 closed out on 29 December with the aviators at Annapolis being ordered to San Diego, Calif. They were to take their equipment with them and set up an aviation camp on North Island.

Five more planes were added to the Navy's air force in 1912. One of these was the Navy's first flying



ALL TOGETHER—Navy planes of 1923 vintage set out on training flight.

boat, the C-1. A 75-horsepower job, it had a chain-driven propeller.

Naval aviators (who until 22 Mar 1915 were "Navy Air Pilots") engaged in Fleet operations for the first time in January 1913. They took their eight planes to Guantanamo Bay, Cuba, and set up an aviation camp at Fisherman's Point. The airmen demonstrated the ability of their aircraft in scouting, in detecting submerged submarines and mines, and in aerial photography.

In March 1914 the early aircraft designation system which could give

an aircraft and a submarine the same letter/number was changed to one using two letters and a number. The forerunner of our present system, it was one in which the first letter indicated class; the second letter, type within class. Classes were four: A, heavier than air; B, balloons; D, dirigibles; K, kites. Within the A class, the breakdown was: L, land machines; H, hydro-aeroplanes; B, boats; X, combination land and water machines; C, convertible airplanes.

When the United States entered

ON THE ALERT—Carrier men scan sky as F6F Hellcats line flight deck in WW II.





ON THE PROWL—*Banshees* from USS *Essex* (now CVS-9) hunt enemy in Korea.

World War I, on 6 Apr 1917, the Navy's aviation establishment was quite small. There was only one air station—at Pensacola, Fla. Only 38 qualified aviators and student aviators were on hand. There were 163 men assigned to aviation. And the total count for Navy/Marine Corps aircraft was 54.

BY 11 NOV 1918 the Navy's aviation force in Europe alone numbered 1147 officers and 18,308 enlisted men. During the 19 months of conflict, naval pilots made 22,000 flights, covering three million miles of war patrols and dropping 100 tons of explosives. They sank or damaged 12 U-boats.

Until American airplanes could be built and shipped to Europe, the aviators had to use various foreign-made machines. Later, larger flying boats began to arrive from the U.S.

As the century's teens closed out, a Navy episode made international headlines. The first crossing of the Atlantic by air took place in the spring of 1919. NC-4, a flying boat, departed Trepassey Bay, Newfoundland, and later arrived—via the Azores, Portugal and Spain—at Plymouth, England. Total flying time: 53 hours, 58 minutes. (See *ALL HANDS*, October 1955, pp. 59-63 for a more complete story.)

In 1919, on 19 August, aircraft insignia were changed back to the pre-war design. Wartime aircraft had a concentric circle design on the wings and a vertical red, white and blue design on the tail. Though the tail design was kept, a blue circle inside a white star inside a red circle reappeared on the wings.

THE YEARS FOLLOWING World War I were, in many ways, a period

of rapid development in naval aviation. The beginnings of the carrier fleet lie in this period, and some startling aeronautical innovations took place. Among these were folding wings (for aircraft carrier stowage), improved catapults, and an accurate bombsight. The water-cooled, in-line engine gave way to a radial, air-cooled engine.

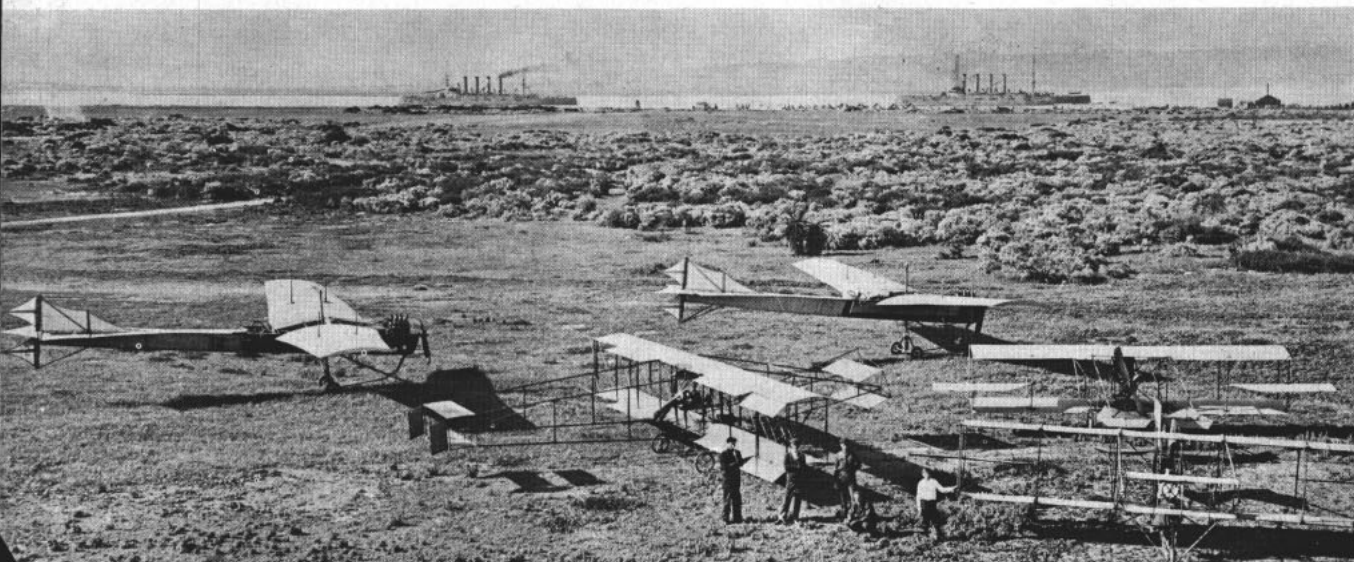
At this time, the first of the aviation ratings came into being. Aviation Carpenter's Mate, Aviation Machinist's Mate, Aviation Metal-smith and Aviation Rigger commenced 7 Jul 1921. These four were followed, on 13 Mar 1924, by Aviation Pilot and Aerographer. (During World War I, men assigned to aviation were designated specialists after passing their courses and examinations, but they were still expected to keep up with their regular ratings.)

Tactics, too, were changing. Dive bombing was in use even before it had a name. Navy pilots of the twenties worked out techniques in torpedo attack, scouting, gunfire spotting and advance base operations. They turned to on a variety of duties, including polar exploration and photographic survey.

In 1922, Fleet aviation commands—whose titles had previously been changed from "Air Forces" to "Air Squadrons"—were retitled Aircraft Squadrons of the Scouting and Battle Fleets. In October of that year, USS *Langley* (CV 1) stood out to sea, the Navy's first aircraft carrier.

Most of her earlier work was experimental, but on 22 Nov 1925 she received squadron "Fighting Two" (VF 2). This marked the beginning of her operations as a unit of Aircraft Squadrons, Battle Fleet.

IN THE BEGINNING—Field at what is now NAS North Island looked like this in 1911 when flyers began to set up camp.



CARRIER AVIATION took a big leap forward with the commissioning in November and December (1927) of *uss Saratoga* (CV 3) and *Lexington* (CV 2) (Perhaps the finest warships of their era, they helped carry naval aviation through the doldrums of the 30s and through the critical days following the Japanese strike at Pearl Harbor.)

In 1928 "Lady Lex" received the first torpedo planes to go aboard a carrier.

Progress in lighter-than-air aviation was keyed by an event of the mid-20s. The rigid airship *uss Shenandoah* made fast to a mooring mast built on the stern of *uss Patoka* (AV 6).

The 1930s were years of economic depression. To a large degree this was reflected in the Navy. In brief, the Navy was getting along but it was not humming. Funds were not easy to come by. Yet advances continued to be made. Super-charged power plants, controllable-pitch propellers, more powerful—yet smaller radios, better bombsights, hydraulic arresting gear and catapults—all contributed to the progress of naval aviation.

A major step concerning personnel was taken 15 Apr 1935 when the Naval Cadet Act was passed. By 1938 some 605 NavCads were in training. (Five years earlier, only 30 student pilots were in training.) The Naval Reserve Act of June 1939 provided for a maximum of 6000 Reserve aviation officers.

Representative aircraft of the late 30s were the F3F-2, SBC-3, TBD-1, and PBV-2. The F3F-2, a fighter, had a 260-mph speed and a 720-mile range. It weighed 4550 pounds and had an 850-hp engine. The SBC-3 was a scout bomber with a two-man crew. It could carry a half-ton of bombs.

The TBD-1, first large monoplane designed to operate from carriers, could carry either a 21-inch torpedo or a ton of bombs. A three-seater, it had a 225-mph top speed. Able to carry two torpedoes or two tons of bombs, the PBV-2, a patrol bomber, had a 4000-mile range and a crew of seven.

AS THE 30s MERGED into the 40s the war situation grew more serious. After the fall of France, in June 1939, Congress authorized the immediate purchase, first, of 4500, then 10,000, and finally 15,000



SOME CHANGE—LT Ellyson, Naval Aviator Number One, would be amazed at the complicated gear and the flying machines used by present day flyers.

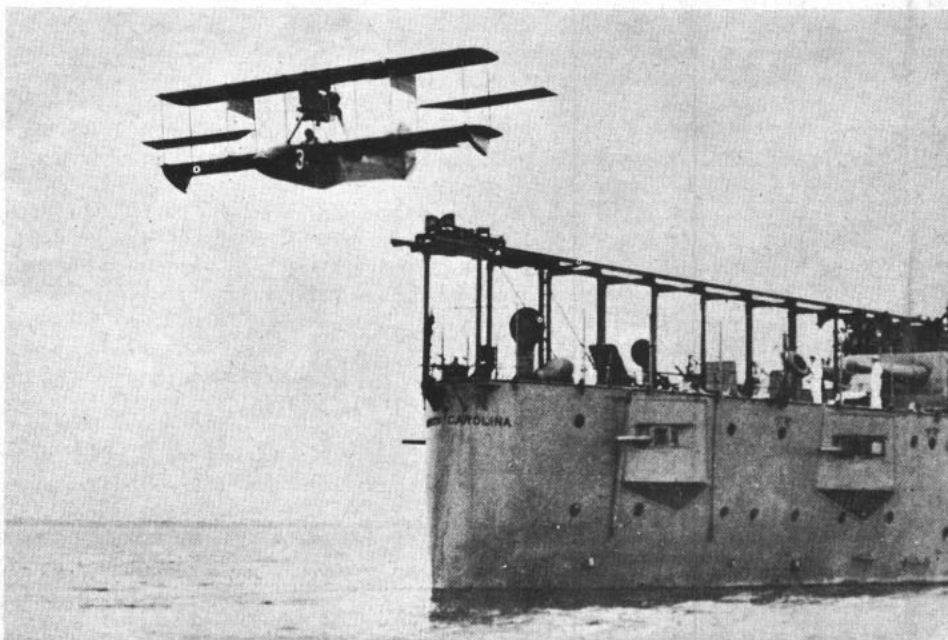
naval aircraft during that year. Passage of the Lend-Lease Act in 1941 brought up the need for patrol aircraft to protect ships after they left East Coast ports. On 6 Aug 1941 Patrol Squadrons 73 and 74 started routine air patrols from Iceland.

Earlier in the year, non-aviation personnel began to notice a change in aircraft insignia. The red circle inside the circled star had been dropped while the circled star was appearing on both sides of the fuselage or hull. (Before long, horizontal white bars were to lead from each side of the star.) Colored tail markings were discontinued.

When the U.S. entered World War II, on 7 Dec 1941, it could muster eight aircraft carriers, 5233 aircraft, five patrol wings and a few advance bases. In personnel, the total Navy/Marine Corps count was 5900 pilots and 21,678 enlisted men. By the date of Japan's surrender (2 Sep 1945) naval air power consisted of 437,000 personnel (of whom 61,000 were pilots), 99 aircraft carriers and 41,000 planes.

Navy and Marine aircraft alone destroyed more than 15,000 enemy aircraft in the air and on the ground, 161 Japanese surface warships and 13 submarines, and 447

A FIRST—Navy plane catapults from deck of old *USS North Carolina* in 1915.





POWERFUL A3D Skywarrior attack plane comes home during air exercise.

Japanese merchant ships. In the Atlantic they destroyed 63 submarines.

Of a total of 110 carriers, 11 were lost. Six of these were unarmored escort carriers. The loss of our carrier aircraft in aerial combat stood at 451.

NAVAL AVIATION'S combat role during the war included four important missions:

- During their air strikes, planes attached to fast carrier task forces made possible the most powerful demonstration of offensive sea-air power the world had ever known.
- As a part of the Navy's antisubmarine warfare, hunter-killer planes flew from small carriers to search out and destroy enemy submarines.
- Fast and escort carrier aircraft supported amphibious operations by providing close air support.
- Land and tender-based aircraft helped to locate and track enemy forces and observe their movements and attacked enemy shipping and shore installations.

Though naval aviation of World War II will always be best remembered for its fighting record, rapid progress was made along other lines:

- Ever-faster, more rugged, and higher-performance aircraft came off the production lines.
- Night fighters were developed. Radar equipped, they could be launched at night to intercept attacking airplanes, to act as night intruders over enemy positions, and even to bomb at night. They could also do these jobs by day; through a heavy cloud cover.

- JATO or jet assisted takeoff was introduced.

- Helicopters appeared on the scene.

The F4U Corsairs are a good example of aircraft of this period. Within the basic airplane there were many models, the F4U-4 being a fine specimen. This gull-winged, single-place fighter had a 41-foot wing span, a 1500-mile range, a 400-mph (plus) speed and a 2100-hp engine. Four 50-cal. wing-mounted machine guns were its main armament.

PISTON-DRIVEN AIRCRAFT did a top-notch job during World War II, but as the war closed out, increased attention was given to the jet engine. The first mass operation of jets from a carrier took place in 1948. On 10 Mar, two FJ-1 Furies landed and took off from USS Boxer (CVA 21), off San Diego. Three months later a squadron of FH-1 Phantoms qualified for carrier operations on USS Saipan (CVA 48), off Quonset Point, R. I., to mark the operational debut of jet aircraft in the Fleet.

By this time Navy task forces, each built around one or two carriers, were supporting U.S. policy in the Mediterranean (Sixth Fleet) and the Western Pacific (Seventh Fleet). Thus, USS Valley Forge (CVS 45) was able to launch air strikes shortly after 25 Jun 1950, the date on which Red forces launched their attack against South Korea.

A slight idea of naval aviation's punch during the next three years is shown by these figures. Sorties—275,912; target runs—850,114; bomb-drop tonnage—176,929. At the end of the conflict there were 23,193 pilots, 5664 aviation ground officers

and 187,174 enlisted in naval air.

Helicopters truly came into their own during the Korean conflict, demonstrating their ability as the most versatile of all aircraft.

THE END OF A WAR or major conflict offers a good reference point for a period of history. Therefore, the period from 1954 to the present may be considered as the most recent of several development periods of naval aviation.

Scientific and technical advances of this period have been proportionately greater than of any other. Aircraft speeds have leaped from subsonic to supersonic. Air-to-air missiles have, to a large degree, replaced guns. More and more aircraft have a nuclear-weapons capability; more and more ships are able to accommodate helicopters.

In size alone, aircraft carriers tell a story. At the beginning of the period, Midway-class carriers (51,000 tons, standard displacement) were the top. Now the big boys are those of the Forrestal class (60,000 tons); while the 75,700-ton, nuclear-powered USS Enterprise, CVA(N) 65, readies herself for her commissioning.

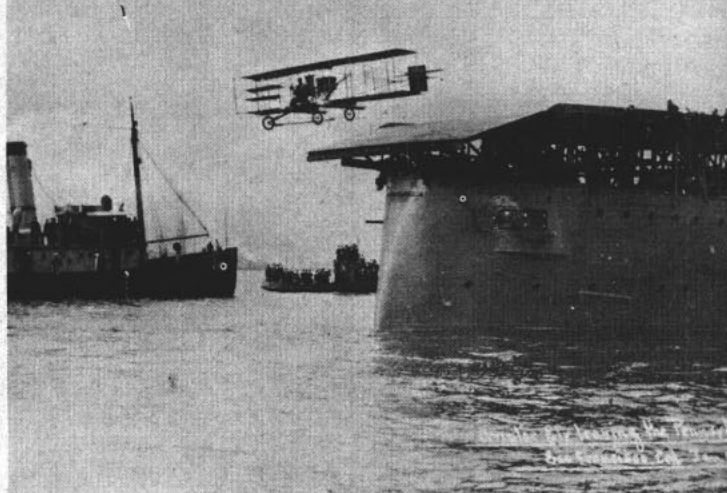
Advances in operational matters were reflected by a reorganization of carrier aviation in March 1948. It created uniform air groups and gave a given group a more permanent assignment to a given ship. The following month Task Group Alfa received its first operation order. An Atlantic Fleet outfit, TG Alfa had been formed to speed up the development of antisubmarine tactics.

Along the same lines, on 1 Apr 1959, Antisubmarine Carrier Groups 53 and 54 were commissioned at San Diego, bringing about a major change in antisub aviation.

The history of naval aviation is one that does not close out. Its past 50 years have seen it grow from nothing at all to a major component of the Navy, a key factor in the nation's defenses.

Many things go into the making of such a history—and in this brief rundown just a small number of the numerous highlights have been touched upon. Naval aviation itself has, fortunately, one of the best documented of all histories. Those who wish to learn more about it will find good books on the subject in their ship or station library.

—Wm. J. Miller, JOCM, USN.



MAKING HISTORY—For the first time a plane lands on and (right) takes off from deck of a Navy ship.

First CarQuals in 1911

DURING 1961 the Navy will be celebrating the 50th anniversary of naval aviation and several dates will be specially noted. One of these, 18 January, marked perhaps the most significant event of all.

This was the landing on—and taking off from—the deck of the armored cruiser, *uss Pennsylvania*, by Eugene B. Ely, a civilian aviator, in his light, single-engine flying machine. Although 50 years have gone by since that day there is a man still connected with the Navy who can tell of the event from first-hand experience.

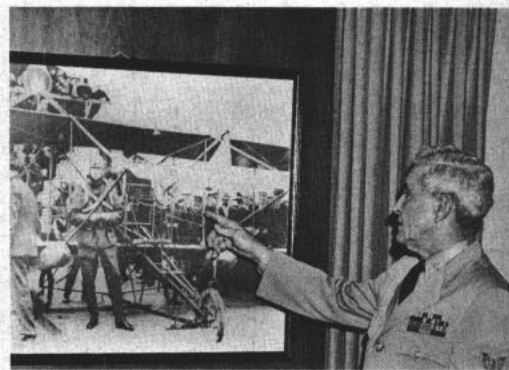
He is Chief Machinist's Mate (Aviation) Clayton W. Gillespie. The chief, although retired from active Navy service, and even retired as a Civil Service employee of the Navy, is still a member of Seabee Reserve Unit 8-13. He attends drill regularly at NAS Corpus Christi, Tex., and makes his active duty training tours.

As a seaman in *uss Pennsylvania*, he recalls that in preparation the ship went to Mare Island where a wooden deck was rigged above the main deck from stern to superstructure amidships.

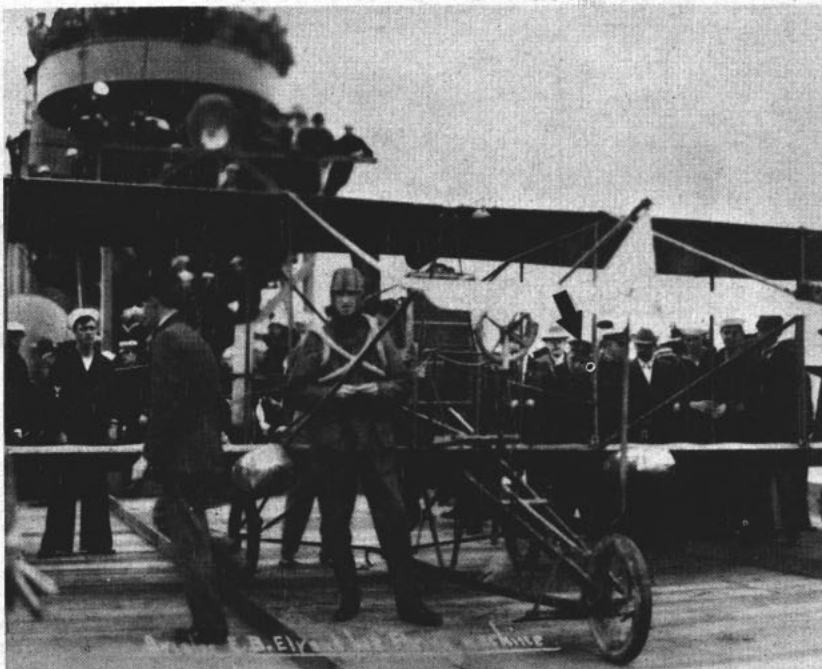
Gillespie says that rain fell early in the morning, and there was talk of postponing the trial. However, prior to noon the rain stopped and word was passed to the airfield where Ely was waiting. In a few minutes the aircraft appeared over San Francisco Bay. A short turn to the left pointed the plane up the ship's deck, and in a few seconds the wheels touched down. Murmurs of "He's not going to make it," were

heard on the deck. The specially installed hook caught several of the arresting lines and the plane slowed to a stop just 15 feet short of the stern superstructure.

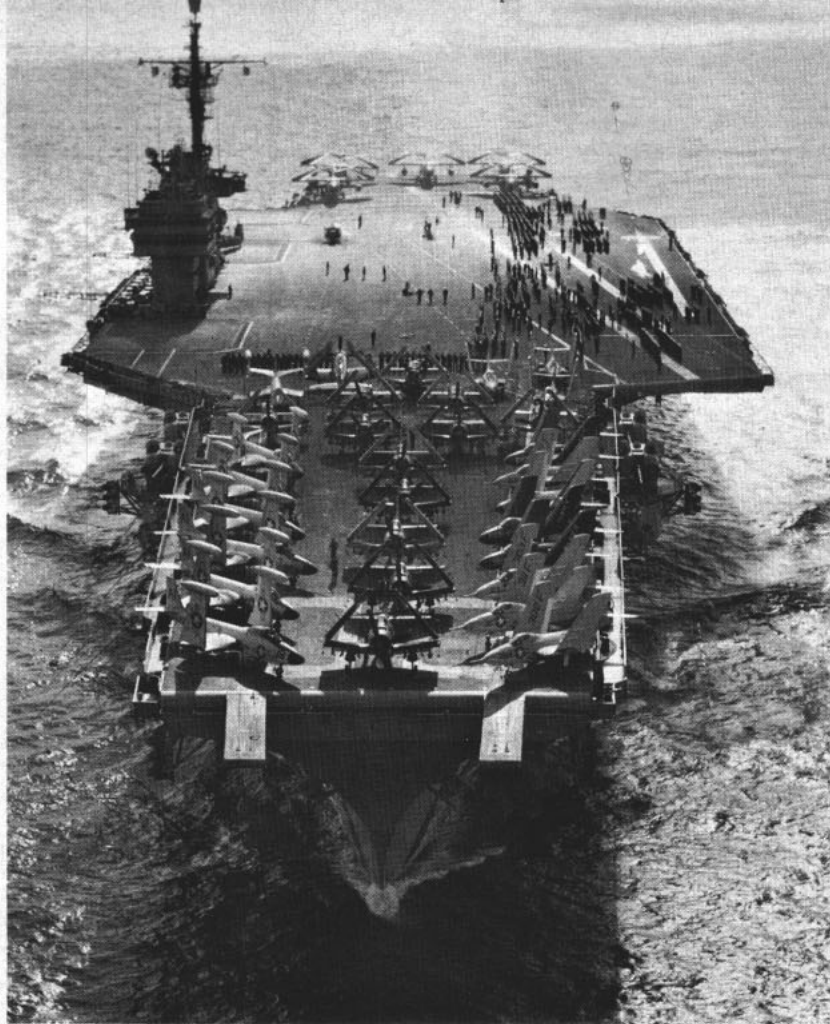
Crewmen of *Pennsylvania*, including Seaman Gillespie, picked up the light plane by hand, turned it around and cleared the deck for takeoff. Fifty-seven minutes after landing the aviator was again airborne, having proved the possibility that aircraft could use a ship's deck for an airfield. Naval aviation was on its way.



THAT'S ME—Chief Gillespie points to himself in historic photograph.



FAMOUS PHOTO—Ely and plane pose for picture. Arrow points to Gillespie. Ely landed on specially built deck of armored cruiser *uss Pennsylvania*.



MODERN CARRIERS form a hard-hitting and mobile striking arm of the Fleet.

CHRONICLERS of the rise and development of the U. S. aircraft carrier, and of the entirely new concepts of naval warfare which have evolved as a result, have several alternate choices from which to begin such a narrative.

For example:

✓ *George Washington Parke Custis*—A balloon boat of Civil War vintage. Only 122 feet long, its total cost was \$150.

✓ *uss Birmingham*—It was from a specially constructed 83-foot wooden platform on the bow of this cruiser that a civilian aviator named Eugene Ely, flying a Curtiss biplane, staged history's first takeoff of a plane from a ship. The date was 14 Nov 1910, and *Birmingham* was anchored at Hampton Roads, in Chesapeake Bay.

✓ *uss Pennsylvania*—If you prefer, there is another feat by the same Ely just a short time later (18 Jan 1911). The armored cruiser *Pennsylvania* was anchored in San Francisco Bay. Ely took off from shore, flew out to *Pennsylvania*, and landed on a 120-foot strip which had been

constructed on her deck. A short time later he took off and returned to shore, completing the first shore-to-ship-to-shore flight.

✓ *uss Langley*—The starting point preferred by most. *Langley* began her Navy life in 1913 as the collier *Jupiter*. She commenced conversion to carrier status in 1919, and in March 1922, fitted with a 534-foot by 64-foot flight deck, was commissioned *uss Langley* (CV 1).

IF YOU ACCEPT *Langley's* commissioning as the birthdate of the U. S. aircraft carrier, you realize with somewhat of a shock that it has taken only about 40 years to progress from her rude planking-over to the 75,000-ton nuclear-powered floating island of potential destruction which is scheduled to go on active duty in 1962 as *uss Enterprise*, CVA(N) 65. Contained in that relatively short span of years is the story of the development of both the aircraft carrier and of the fast carrier task force concept—a revolution in the art of sea warfare which made America, in World War II, the

world's leading naval power, and keeps it so today.

It's a story of a glorious past, a strong and ready present, and an as yet unlimited future. It would take several volumes to record properly the exploits of the 50-odd attack class and the upwards of 100 escort class carriers which have thus far served the U.S. Navy. We will attempt to hit the high spots.

With *Langley's* assignment to the Fleet in 1922, the balance of the '20s and '30s became a period of experimentation. In her first years, *Langley's* role was entirely experimental, as the Navy worked to develop better catapults for use on battleships and cruisers, to improve arresting gear, and to train its pilots in night flying, squadron tactics, etc. LT V. C. Griffin and LCDR G. deC. Chevalier made the first takeoff and landing, respectively, from and on *Langley's* flight deck in late October 1922.

On 18 Nov 1922 CDR Kenneth Whiting, piloting a PT seaplane, made the first catapult launching from *Langley*.

IN MID-FEBRUARY 1923, aircraft handling tests conducted aboard *Langley*, with Aeromarines operating in groups of three, showed that it required about two minutes to prepare the deck after each landing. In the best time for the day, three planes were landed in seven minutes.

In January 1925, VF 2, the first squadron trained to operate as a squadron from a carrier, began landing practice operations aboard *Langley* off San Diego.

This marked the end of *Langley's* employment as an experimental ship, and the beginning of her operations as a unit of the Battle Fleet. Other *Langley* landmarks—the catapulting of a landplane from her deck on 2 Apr 1925, and first night landings at sea on 8 Apr 1925.

In 1927, carriers No. Two and Three joined the Navy—*Lexington* (CV 2) and *Saratoga* (CV 3). They were built on battle cruiser hulls unfinished as a result of the Washington Disarmament Conference of 1922, and, at 33,000 tons, were by far our largest carriers until the advent of the *Midway* class CVBs (Air-

AIRCRAFT CARRIER

craft Carriers, Large) in the mid-'40s.

By contrast, *Ranger* (CV 4), commissioned in 1934 and our first carrier built as a carrier from the keel up, weighed but 14,500 tons. Others which joined the Fleet prior to World War II were *Yorktown* (CV 5), *Enterprise* (CV, later CVS 6) and *Hornet* (CV 8), all at 20,000 tons, and *Wasp* (CV 7), a 14,700-tonner.

WHILE THERE WAS STEADY, if not always spectacular, progress made in the field of carrier-based aviation in the period between the two World Wars, and backers of the aircraft carrier continued to plug for its continued development, all was not peaches and cream, either. There were many in the Navy, for instance, who were so impressed with the capabilities of the flying boat that they urged that these be adopted as the major naval air arm. Many others continued to feel that aircraft should be catapulted from combatant ships (battleships, cruisers, etc.) at sea, rather than building ships designed exclusively for aircraft operations; that is, aircraft carriers. Still others remained almost exclusively enamored with the potentialities of LTA. There were many who envisioned the role of the airplane, including

carrier-based aircraft, in any future conflict as merely that of scout and spotter for the Battle Fleet.

Thus, when the Japanese attacked Pearl Harbor on 7 Dec 1941, the Navy had but seven aircraft carriers (*Langley* had been shifted to seaplane tender status), only three of them active in the Pacific. There had been a speed-up in shipbuilding since the outbreak of hostilities in Europe in 1939, and 11 carriers were building or on order, including many of the new *Essex* class 27,000-tonners. *Essex* (CV 9), namesake of that famed class, was commissioned on 31 Dec 1942.

The sneak Sunday morning attack, which for all practical purposes destroyed our Battle Fleet at Pearl Harbor, fortunately occurred when all three of our Pacific-based carriers were absent from the Islands. *Saratoga*, just out of overhaul, was moored at San Diego. *Lexington* was at sea southeast of Midway, toward which she was heading to deliver a Marine Scout Bombing Squadron. *Enterprise* was 200 miles west of Pearl Harbor, en route from Wake Island. Her Scouting Squadron 6, launched early in the morning and scheduled to land at Ewa airfield, arrived during the attack and engaged enemy aircraft, fighting courageously against overwhelming odds.

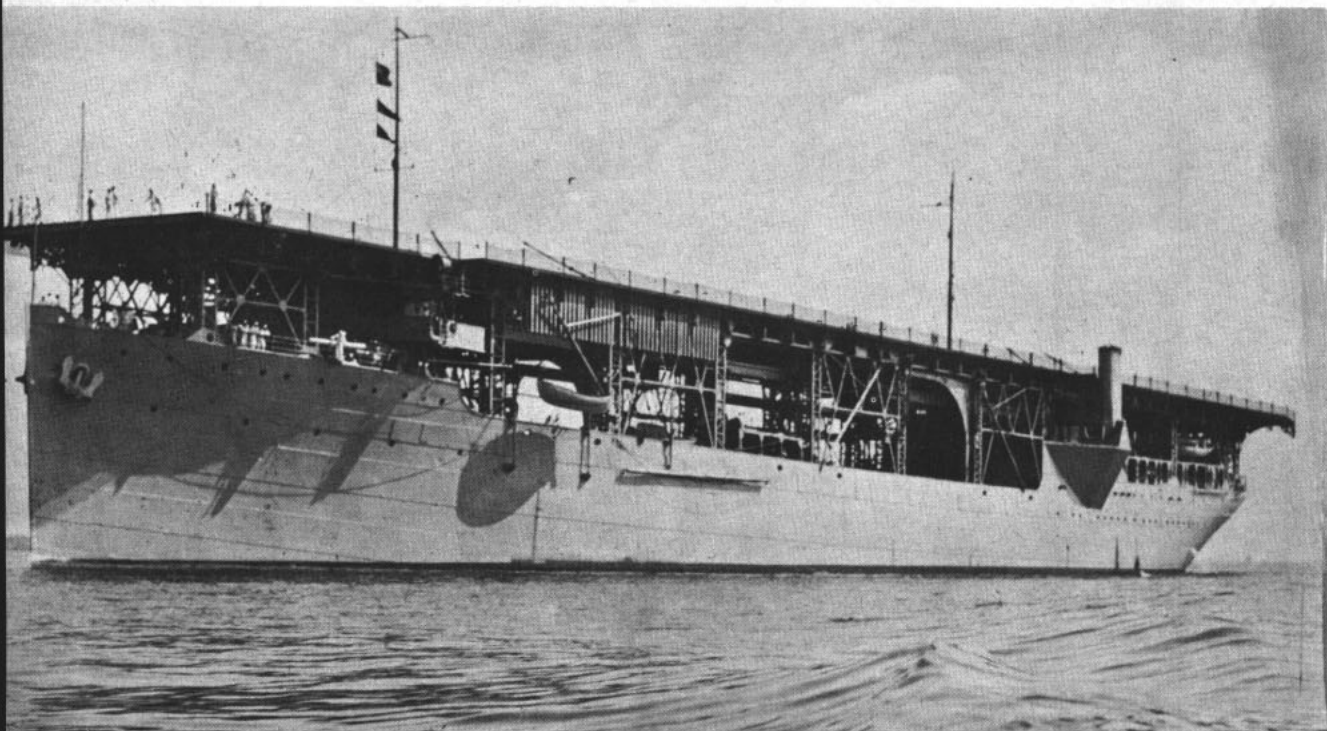
THAT ATTACK accomplished several things, aside from the obvious fact that a majority of our attacking power was sunk or heavily damaged. It demonstrated, conclusively, that the airplane and the aircraft carrier had forever made obsolete the classic concept of naval warfare—that of large battle fleets steaming in formation against the enemy.

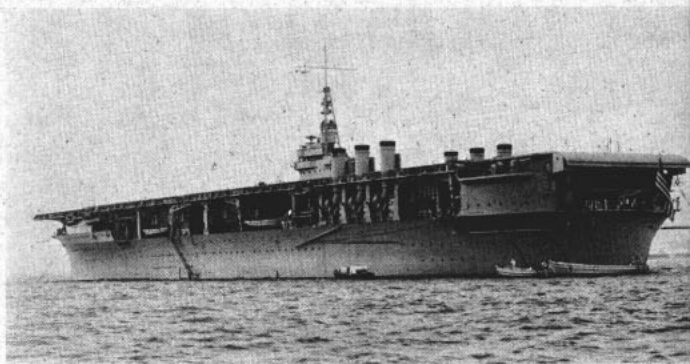
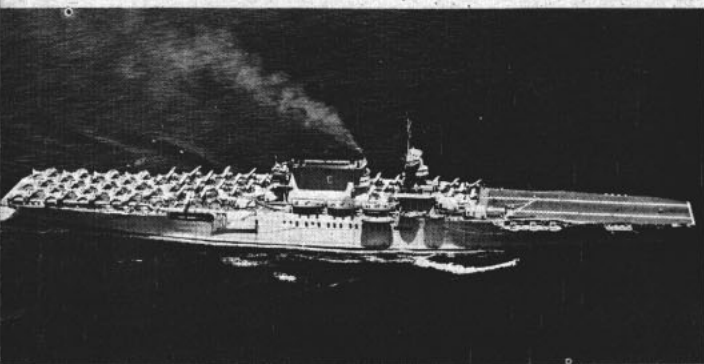
Too, it left us with no such battle-fleet—in terms of striking power we had nothing left but the few carriers and cruisers. For defense, we had those, plus a handful of valiant submarines.

Forced to the defensive the greater part of the first two years of the war, we were still able to make some potent offensive thrusts through the ingenious use of carriers, operating singly or in pairs, accompanied by a thin shield of cruisers and destroyers (see p. 27).

Those small and patchwork task forces bore little resemblance to the mighty armadas the U. S. was able to muster up in 1944 and 1945. For example, when ADM W. F. Halsey raided Wake Island in February 1942, he had *Enterprise*, plus two cruisers and seven destroyers. By 1945, a typical fast carrier task force was made up of 12 to 15 carriers (CVs and CVLs), six to eight fast battleships, at least a dozen cruisers,

NAVY'S FIRST CARRIER — USS *Langley* (CV 1), converted from the collier *Jupiter*, joined the Fleet in March 1922.





TWO AND FOUR—USS *Lexington* (CV 2) cruises in 1938. Rt: USS *Ranger* (CV 4) was first built as CV from keel up.

and as many as 75 destroyers—a potent force.

We paid a price, of course, in those uphill first months of Pacific warfare, when our badly outnumbered forces were spread so thinly over thousands of square miles of ocean. A bitter price, indeed—*Lexington* in the Battle of the Coral Sea, May 1942 (when the enemy also lost a carrier); *Yorktown* at the Battle of Midway, June 1942 (where Japan lost four carriers); *Wasp* while escorting a troop convoy to Guadalcanal, September 1942; *Hornet* during the Battle of Santa Cruz, October 1942. Yet at every one of those junctures, planes from those and our other carriers more than held their own in this new and revolutionary form of warfare, in which fleets grappled to death—sometimes for days—without ever sighting each other except from the air. They stopped the enemy's advances toward Australia, Hawaii and the Aleutians, and by early 1943 had sent him onto the defensive—where he stayed.

THE FAST CARRIER TASK FORCE was designed to meet a definite situation. For the first time the huge Pacific had become a major battleground. The U. S. Fleet faced the necessity of creating an area of immunity in which our amphibious forces could operate.

The general notion of the naval task force was an old and familiar one—a group of ships assembled to do a specific job, possessed of the fire power, speed and defensive characteristics essential for that job. The chief ingredients of the new type of task force the U. S. built for use against the Japanese in the Pacific were mobility and surprise—important ingredients when the enemy has you outgunned in heavy-gunned ships. The brilliant job turned in by our carrier task forces in World War II amply justified the faith of those far-sighted proponents of the carrier who had, way back in the '20s and '30s, envisioned the shape and scope a future war would encompass, and had planned accordingly.

HANDLERS move F4D-1 to hangar deck of USS *Bon Homme Richard* (CVA 31).



Sixteen of the 24 *Essex* class (27,500-ton) CVs were completed in time to take part in World War II Pacific action, as were nine light carriers (CVLs) built on *Cleveland*-class cruiser hulls. Both of these classes could make in excess of 30 knots, thus the appellation fast carrier task force, to emphasize the speed of the force in contrast to the more numerous, but slower, escort carriers (CVEs.)

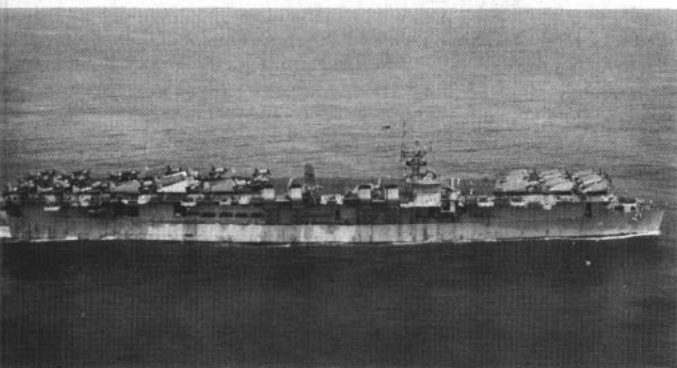
THESE THREE TYPES of carrier—*Essex* class CVs, CVLs and CVEs, along with the unsinkable old *Enterprise* (CV 6) and, at times, *Saratoga* (CV 3), comprised U. S. carrier strength in the Pacific after 1942.

Essex class CVs were: CVs 9 through 21—*Essex*; *Yorktown*, *Intrepid* (later a CVA); *Hornet* (later CVS); *Franklin* (later AVT 8); *Ticonderoga* (later CVA); *Randolph* (later CVA); *Lexington* (later CVA); *Bunker Hill* (now AVT 9); *Wasp* (now CVS); *Hancock* (now CVA); *Bennington* (now CVA); *Boxer* (now an LPH)—and *Bon Homme Richard* (CV, now CVA 31); *Antietam* (CV, now CVS 36); and *Shangri La* (CV, now CVA 38.)

Light carriers were CVLs 22 through 30—*Independence*; *Princeton*; *Belleau Woods*; *Cowpens* (now AVT 1); *Monterey* (now AVT 2); *Langley*; *Cabot* (now AVT 3); *Bataan*, and *San Jacinto* (now AVT 5).

More than 100 CVEs of several different sizes, weights and classes were constructed to fill a myriad of needs. Many of them were built on merchant-type hulls (such as the *Bogue* class); a few from tanker hulls (*Sangamon* class) and some were built as carriers from the keel up (*Casablanca* class).

While these small (7000 to 12,000 tons mostly) flattops couldn't compete with the CVs and CVLs in



CVLs LIKE USS Cowpens (CVL 25) and CVEs like USS Sangamon (CVE 26) were small but played big role in WW II.

over-all effectiveness and capabilities, and weren't meant to, they racked up a superb record of accomplishment in all of the tasks they were called upon to perform, and exceeded the expectations of even their staunchest admirers.

IN THE BEGINNING, a majority of the work assigned CVEs involved convoy escort (ASW), aircraft ferrying, and training, both in the Atlantic and Pacific. In time, however, a good many of them were called upon to fulfill missions which had not been contemplated for them at the time of design. Necessity eventually dictated their use in combat operations, for instance, where they demonstrated an ever-increasing ability to provide support and air cover for amphibious landings.

In North Africa, the Aleutians, the Gilberts, Marshalls, Philippines, Iwo Jima and Okinawa, the little CVEs and the fighting crews which manned them refused to allow either the limitations imposed upon them by lack of size or improvised design, or the kamikaze and submarine attacks loosed upon them by the enemy, to deter them from doing a man-sized job.

By 1944 and after, as we've said, the stream of new construction pouring out of U. S. shipyards made the fast carrier task force a much larger and more potent aggregation than the impromptu forces available in the early years of the war.

The fast carrier task force of those later war years formed, in reality, a powerful surface fleet of its own, although it remained a task force within the Fleet as a whole. It was organized around and took its character from the carriers rather than the heavy gunned ships, which operated chiefly in support roles to the carriers. New battleships (the *South*

Dakota and later the *Iowa* classes), the new large cruisers of the *Alaska* class, and the new destroyers all possessed enough power to enable them to keep up with the CVs and CVLs, even at flank speed. With as many as 15 carriers in the task force, there were as many as 1000 operational aircraft available. Refueling and replenishing at sea, another U. S. innovation born of necessity and perfected under combat conditions, had reached such a stage of development that the task force could be maintained at sea almost indefinitely.

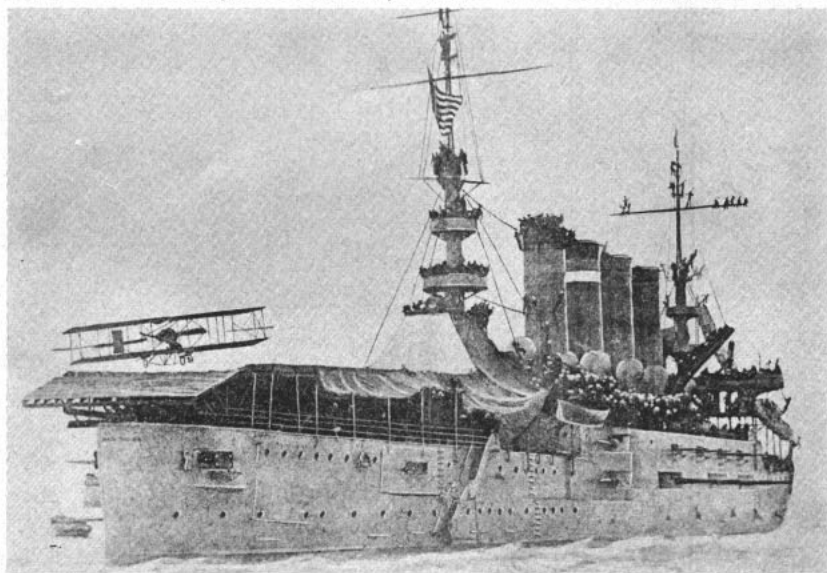
THUS THE FAST CARRIER TASK FORCE formed what in reality was a gigantic air base afloat—able to fling concentrated power at enemy bases and land-based aircraft in the Solomons one week, the Marshalls the next.

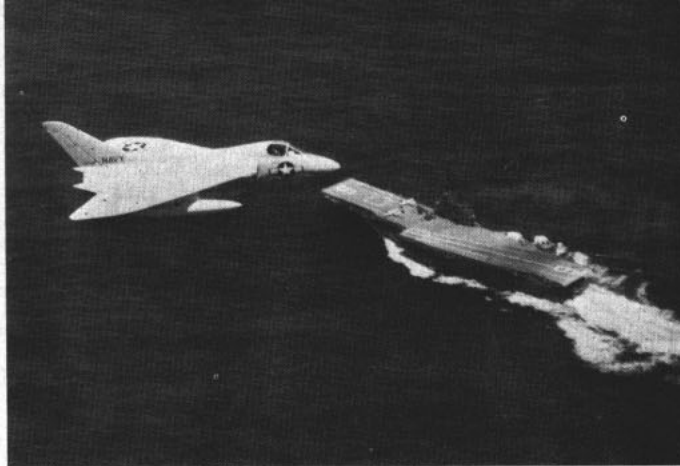
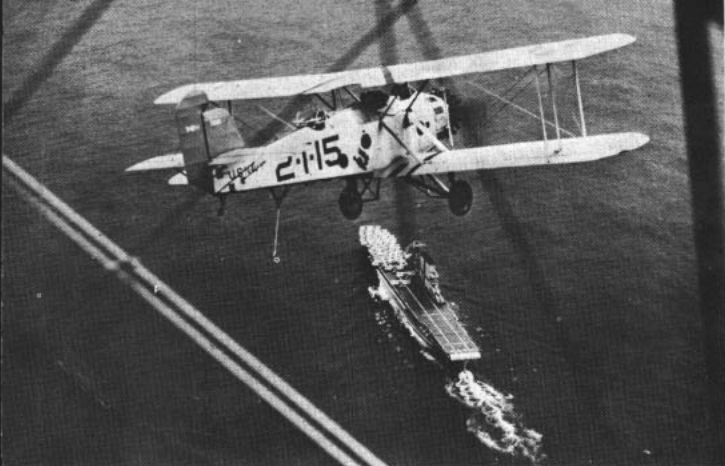
Most of the 16 *Essex* class carriers which saw World War II service, plus the eight others of that class—*Leyte* (CV 32, now AVT 10); *Kear-*

sarge (CV, now CVA 33); *Oriskany* (CV, now CVA 34); *Princeton* (CV 37, now LPH 5); *Lake Champlain* (CV, now CVS 39); *Tarawa* (CV, now CVS 40); *Valley Forge* (CV, now CVS 45), and *Philippine Sea* (CV 47, now AVT 11) — commissioned in the last days of the war or in the immediate post-war period, are still in active service. In the interim, many of them were laid up in the Reserve Fleet for a spell. All of them have undergone extensive modernization and conversion, so that today their sizes, shapes, weights and capabilities bear little resemblance to the original. A lot of them saw extensive action during the Korean conflict—many of them coming out of mothballs to do it. Many of them have experienced three and four changes of designator.

Princeton (CV 37), for example, began as a CV, became an attack carrier (CVA), then an antisubmarine warfare support carrier (CVS) before assuming its present role as an amphibious assault ship (LPH).

FIRST STEP—Landing on USS *Pennsylvania* in 1911 opened way for carriers.





THEN AND NOW—Navy fighter of '32 heads for USS Saratoga (CV 3). Rt: Jet fighter circles in for carrier landing.

Franklin, Bunker Hill, Leyte and Philippine Sea, meanwhile, also did stints as CVAs and CVSs, and are now designated auxiliary aircraft transports (AVTs).

Eleven of them—Valley Forge (Hull No. 45), Tarawa (No. 40), Lake Champlain (No. 39), Antietam (No. 36), Kearsarge (No. 33), Bennington, (No. 20), Wasp (No. 18), Randolph (No. 15), Hornet (No. 12), Yorktown (No. 10) and Essex (No. 9), after long service as CVs and CVAs, are now classified as CVSs. And seven—Shangri La (CVA 38), Oriskany (CVA 34), Bon Homme Richard (CVA 31), Hancock (CVA 19), Lexington (CVA 16), Ticonderoga (CVA 14) and Intrepid (CVA 11), furnish exactly 50 per

cent of our present attack carrier (CVA) strength.

The other World War II carriers, excepting *Thetis Bay* (ex-CVE 90, now serving as LPH 6) and *Boxer*, (ex-CV 21, now LPH 4), are no longer active. Of the seven pre-World War II CVs, only three—*Saratoga*, *Ranger* and *Enterprise*—survived the war. *Sara* was later sunk in the Bikini atom bomb tests of 1946, while *Ranger* and "the big E" have since been sold for scrap.

As for the CVLs, *Princeton* (No. 23) was lost in action, and *Independence* (No. 22) was also sacrificed to the Bikini tests. Seven others are mothballed, now designated as AVTs.

The doughty CVEs, meanwhile,

have met a variety of fates. Many are in the Reserve Fleets, redesignated as aircraft ferrys (AKVs). A number have been transferred to other countries, and some have been scrapped. A few have been shifted to MSTs, which operates them with civilian crews.

THE LESS-THAN-FIVE-YEAR PERIOD between V-J Day in August 1945 and the outbreak of fighting in Korea in June 1950 is chiefly notable for three items in the aircraft carrier field. First, of course, most of our carrier strength was shelved in mothballs as a result of stringent economy measures which imposed a great reduction in force on all the services. Even so, however, there were two major developments which greatly increased naval air potential. One was the advent of the *Midway* class CVBs—*Midway* (now CVA 41); *F. D. Roosevelt* (now CVA 42), and *Coral Sea* (now CVA 43). At 45,000 tons they rated as the largest and most powerful carriers ever built up to that time. Begun in late 1942 and early 1943, they were completed soon after war's end.

The year 1946 also witnessed the entrance of jet propulsion into carrier aviation. First jet feasibility trials were conducted aboard *FDR* in July of that year. Modernization of some of the *Essex* class carriers was begun to fit them to handle the new aircraft, including such items as the installation of newer, more powerful catapults and arresting gear; strengthening of the flight deck and clearing it of guns; increased elevator and fuel capacity, and the addition of special equipment such as blast deflectors and jet fuel mixers. *Oriskany* was the first to get this "Project 27A" treatment.

It was during this era, too, that

ON DECK—Cat officer signals pilot of A4D Skyhawk poised for launching.



initial experiments involving guided missiles and helicopters aboard carriers were undertaken.

WHILE THE KOREAN CONFLICT may not have covered as much territory as World War II, it kept U. S. Navy carrier pilots mighty busy. In it they collectively flew some 276,000 sorties of all types, or within about 7000 of the total flown in all theaters in the Second World War. This was despite the fact that at no time were more than four large carriers in action at once. In addition they were forced to adapt to combat requirements much different from those encountered in the island-hopping campaigns of WW II.

Aside from the amphibious landings at Inchon, which followed the old familiar pattern, carrier-based air operations were restricted to support of troops—not ships. Naval air flew deep support missions, attacked enemy supply lines, bombed bridges, interdicted highways and railroads, attacked refineries, railroad yards and hydroelectric plants, and escorted land-based bombers on special missions—mostly new experiences for men and machines trained to battle an enemy on and over the sea.

In Korea our carrier-based aircraft settled into month after month of monotonous routine involving sustained application of air power over large masses of terrain. It became a situation where stamina and persistence counted far more than glamor—and carrier-based squadrons reacted magnificently to carry out their assigned missions in overwhelmingly

successful fashion.

Valley Forge was the only U. S. carrier in the western Pacific when Korean fighting broke out, and was the first to go into action there. Her first aerial strikes provided combat baptism for the F9F *Panther* and the AD *Skyraider*, and also resulted in the initial (but far from the last) “kills” recorded by naval air during the conflict. In all, a total of 11 attack, one light and five escort carriers—many of them, as we’ve noted, reactivated from the Reserve Fleet rolls—logged, one, two or, in some cases, as many as three tours of duty in the combat zone.

IT SHOULD BE REMEMBERED, too, that while they were contributing the major portion of the air support furnished U. N. troops in Korea, naval—and carrier—aviation was simultaneously occupied on a variety of other fronts.

All during that period, for example, Med-based Sixth Fleet planes helped maintain the balance of power on the other side of the world. This period also saw the first conversion to the angled deck, the first installations of steam catapults, and the switch to the mirror landing system—three innovations which were to have a profound effect upon carrier operations and capabilities.

All three of these items have had thousands of words expended upon them over the years, and have become more or less old hat—it’s sufficient to note here that their advent prolonged the seagoing lives of the *Essex*-class carriers by many useful and productive years, and greatly



DECKED OUT with S2F *Trackers* and ASW copters, *USS Bennington* (CVS 20) now has mission to hunt subs.

facilitated safe and speedy plane handling aboard carriers.

Over a dozen of what used to be the *Essex* class and the three *Midway* class carriers have been fitted with the angled deck and steam catapults. They are also standard equipment, of course, on the 60,000-ton *Forrestal* class carriers which have joined the Navy at almost a one-a-year clip since 1955. *USS Forrestal* (CVA 59) was commissioned that October. Since then have come *Saratoga* (CVA 60), *Ranger* (CVA 61), *Independence* (CVA 62) and *Kitty Hawk* (CVA 63). *Constellation* (CVA 64) is slated for commissioning in late autumn. And next year, the 75,000-ton nuclear-powered *En-*

HOT SPOT—Flak forms protective covering over World War II carrier to ward off an air attack at Okinawa.





METERS are used to check destruct system during simulated countdown.

Pt. Mugu Navyman Oversees Missile 'Destruct System'

One operation in the behind-the-scenes preparations which always precede a missile launching is the tedious, two-week task of checking out the system which destroys the missile should it veer off course during flight.

The destruct system eliminates the possibility of an erratic missile crashing to earth, always a danger to property and unwary people.

At the Pacific Missile Range's Point Arguello Naval Missile Facility, Fred Danico, AE3, sees to it that these destruct systems will work.

Two weeks before a launching, Danico thoroughly checks all the transmitters and receivers which make up the destruct package.



TEST equipment is connected to telemetry package in Thor booster.

Later, approximately five hours before blast-off, he removes the package from the missile and replaces it with a flash bulb or meter.

He then sends a radio signal to the make-believe demolition unit and determines if the receivers are getting enough voltage. When he's satisfied that an armed unit will work in flight, the destruct package is put back in the missile.

When the count-down nears "fire," Danico can be found behind one of six plotting boards in the flight safety center. Each board is equipped with a chart which reflects the nominal missile trajectory, and a family of destruct curves which are mathematically computed to reflect the area within the predetermined impact limit lines.

After lift-off, an electronic system tracks the missile and supplies data which is fed into a digital computer. Missile position information is then plotted on the charts.

If the trajectory plot parallels any of the destruct contours, the missile is considered to be capable of impacting outside of the designated area, and must be destroyed.

In such a case, the missile "violates safety criteria," as Danico puts it. A coded radio signal is sent to the unit, receivers pick up the signal and pass an electrical impulse to the destruct package.

The resulting blast reduces the missile to bits before it can meander into a danger zone.

terprise, CVA(N)65, is scheduled to join the Fleet.

TODAY'S CARRIERS boast a lot of items which make them a far cry from the 40-years-ago model, too—or from the ten-years-ago vintage, for that matter. Among these would be the enclosed hurricane bow, three and four deck-edge elevators, acoustically-constructed islands, air-conditioned quarters, and aluminum-planking flight decks. They've got the latest and most powerful propulsion plants devised; the newest and most powerful electronic equipment; and can land and launch simultaneously any and all of the latest and "hottest" jets.

The first 40 years of the aircraft carrier—U. S. Navy style—have been years of spectacular progress and achievement. And what about the next forty years?

Well, by early 1963 the U. S. Navy's attack carrier ranks will contain the 10 most powerful surface ships in the world. Based on past performance, there's no reason to assume that even newer and better carriers won't be built as the years roll by. But is the manned aircraft, and therefore the aircraft carrier, doomed to near-future obsolescence and extinction? Not on your tintype, if you can believe the word of a man who should know what he's talking about—the boss, Chief of Naval Operations ADM Arleigh Burke.

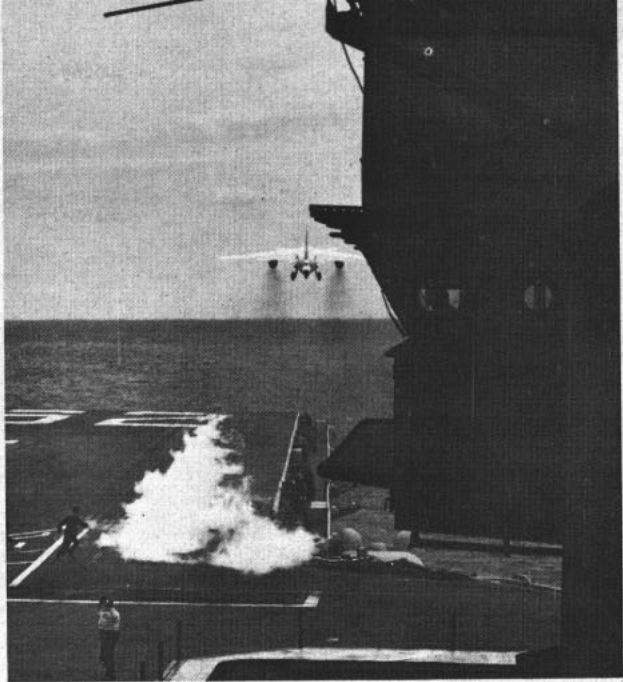
In some recent, off-the-cuff remarks citing the aircraft carrier as the nearest thing to an all-time, all-purpose weapon ever devised, ADM Burke had this to say:

"In time of crisis, the aircraft carrier reinforces the spirit of our friends. For when they need the support of our strength, they know that an American carrier, and its planes, can go to their assistance, and be there on the spot ready to do whatever is required.

"Carrier aircraft can exercise control of the air where we need it, at sea or at an objective or at an objective area. They can provide close air support to our landing forces. They can deliver just the right amount of punch to halt an aggressor. And, should it ever become necessary, carrier aircraft can also deliver nuclear weapons as part of our retaliatory striking forces."

That sums up the role of the carrier—past, present and future.

—Jerry McConnell, JO1, USN.



INS AND OUTS of carrier operation are performed by VAP-62 pilots. Below: Flyers are briefed in ready room.

CarQuals in Jets

CARRIER qualifications provide the opportunity for a Navy pilot to prove his capabilities as a naval aviator. This is particularly true of pilots of the larger jets, such as the 35-ton, twin-jet A3D-2P *Skywarrior* flown by Heavy Photographic Squadron Sixty-Two.

The challenge of placing the tail hook of the aircraft within the 150-foot area of the arresting gear wires, and the exhilaration of accelerating from a standing start to 150 miles per hour on a catapult launch are unforgettable experiences.

This spring, a maintenance crew of 34 men from VAP-62 boarded the large carrier *uss Independence* (CVA 62) to make the necessary

preparations for their covey of A3D-2P jets. About ten days later the favorable results of the carrier quals were piped to all hands, and a deserved "well done" was aired as the versatile A3D-2Ps flew back to their home at NAS Jacksonville, Fla.

The operation involved some 60 squadron members from VAP's home port in Jacksonville, and was conducted aboard *uss Independence* in waters off the Virginia Capes. The squadron's flight crews were qualified in day and night catapult launchings and carrier landings even though some of the pilots had never before flown a jet aircraft aboard a carrier. Of course, not all the pilots were in this category. The CO, for



instance, has now landed an A3D on four different Forrestal-class carriers.

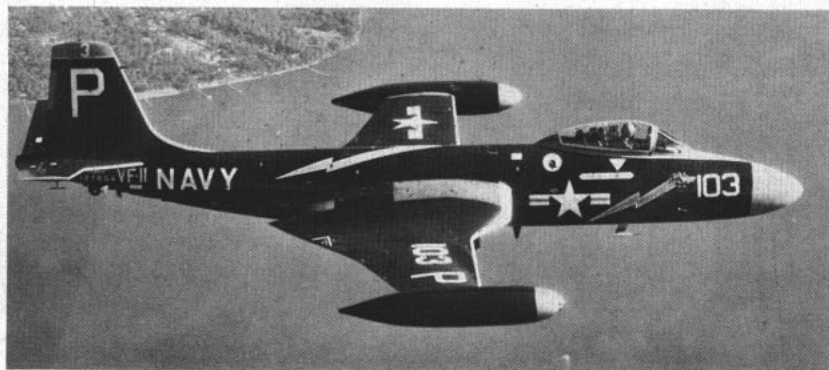
The carqual cruise on *Independence* brought the aircrews of VAP-62 to a polished state of readiness to meet the photographic needs of the Fleet.

OFF THE HOOK—Arresting gear is dropped ending quals. Rt: *USS Independence* (CVA 62) was the test 'station.'

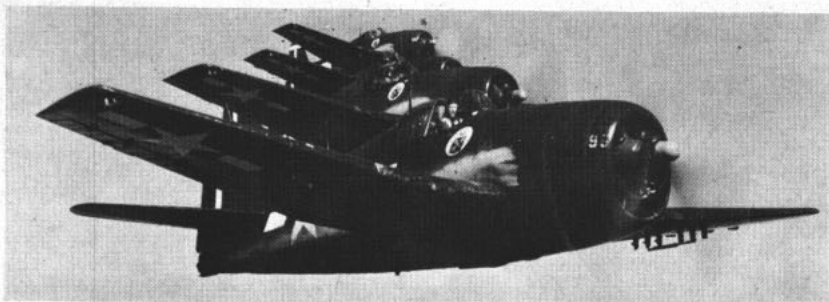




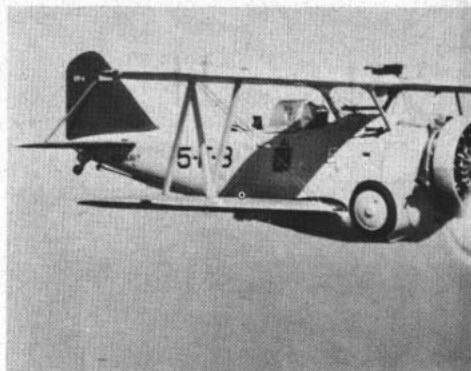
RED RIPPERS now fly F8U Crusader jets, a far cry from the biplanes of 1927.



VF-11 PILOT takes to the air in F2H-4. Rippers began flying Banshees in 1950.



FAMED FLYERS—F6F Hellcats were mounts of WW II. Below: Ripper of 1928.



SQUADRON flew FF-1 about 1932.

Hawks

The Red Ripper air fighter squadron of the first aircraft carrier era has sprouted new wings. The new Red Rippers fly for VF 11 aboard *uss Roosevelt* (CVA 42) in the Mediterranean.

Unlike their predecessors, who were organized as VF 5 and equipped with F6C-3 *Hawks* in 1927, today's Red Rippers burn up the skies in 1000-mph F8U *Crusader* jets.

The evolution of the earlier Red Ripper squadrons (1927 through 1959) and their successors closely parallels that of the aircraft carrier. To trace the growth of the two, we have to go back to the pre-1920s.

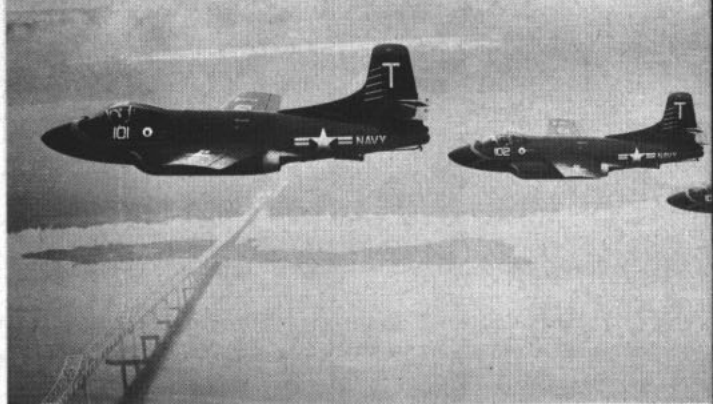
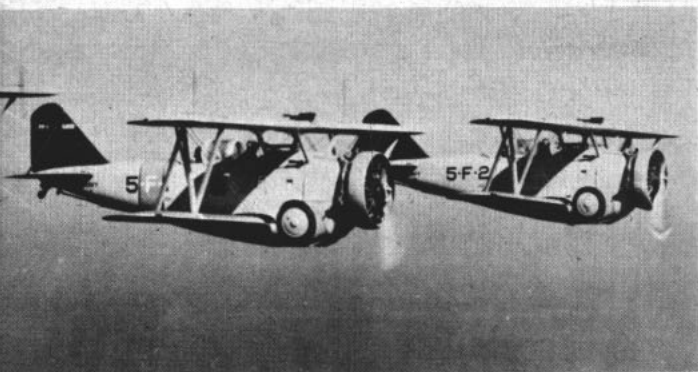
During WW I the Navy had concentrated on seaplanes and flying boats. After the war, however, opinion changed in favor of land type planes and a specially constructed aircraft carrier to handle them at sea.

As a result, the collier *uss Jupiter* was recommissioned as *uss Langley* (CV 1), and in 1922, aircraft take-offs and landings were made on her flight deck. The lessons learned aboard *Langley* were incorporated in *uss Lexington* (CV 2) and *Saratoga* (CV 3), which were converted from battle cruiser hulls to be commissioned as carriers in 1927.

In February 1927 Red Ripper squadron VF 5 was commissioned, and the following year went to sea aboard *Lexington* with San Diego as home base. One of the first acts of the young pilots was to give themselves the famous nickname that has stuck with them through the years.

During their first cruise the Rip-

ALL HANDS



PROPS AND JETS—Bi-wing FF-1's and F3D Skynights (rt.) were VF-11 planes.

to Crusaders

pers formed a flight demonstration team and toured the country with exhibitions of skill and daring. In 1933 they traded their *Hawks* for FF1s, and in 1936 were transferred to the *Ranger* Air Group on the East Coast. (uss *Ranger* (CV 4) was the first aircraft carrier built as such from the keel up.)

During 1936 and 1937 the Rippers used F3Fs—the last biplane fighter. The squadron was redesignated VF 4 in July 1937, and three years later received the F4F *Wildcat*.

The Rippers continued to write pages in the annals of naval aviation during WW II. Redesignated VF 41, they deployed aboard *Ranger* in October 1942. The squadron accounted for 16 enemy aircraft during action in the North African Campaign, and in 1943, again redesignated as VF 4, conducted the first American naval air strikes against German forces.

Detached from *Ranger* in April 1944, the Rippers received new F6F *Hellcats* and were transferred to the Pacific Theater. For three weeks in November 1944, while operating from uss *Bunker Hill* (CV 17), VF 4 made strikes and sweeps on the Japanese-held Philippines.

Later that year the squadron boarded uss *Essex* (CV 9) as part of Task Force 58 in the Pacific, and was among the first fighters to strike Tokyo in February 1945.

For their WW II action, the Rippers received the Presidential Unit Citation.

During the next three years, designated as VF 1A, the Ripper squadron took part in numerous air

shows and flyovers, and made 13 cruises off both coasts. In August 1948 the squadron designation was changed to VF 11.

The Rippers received their first jet aircraft in May 1950, and won the AIRLANT E for jet squadrons in their first year of operations with the F2H-1 *Banshee*. In December 1950 the Rippers qualified aboard uss *Oriskany* (CVA 34) for that carrier's first jet aircraft operations.

In 1952, while aboard uss *Kearsarge* (CVA 33), the COMAIRLANT E was again captured by VF 11, its second successive award.

During the Korean conflict, the Rippers operated with Task Force 77 until early 1953, and were then transferred to NAS Jacksonville where most of the Korean veterans were relieved and the *Banshees* were replaced with F3D-2 *Skynights* for all-weather missions. After a short tour at Key West, the squadron moved to NAS Cecil Field and began flying the modified F2H-4 *Banshee*.

While on a Mediterranean deployment aboard uss *Coral Sea* (CVA 43) in July 1954, the Rippers claimed another first—that of being the first operational squadron to conduct air-to-air refueling operations from an AJ *Savage*.

In April 1955, five Rippers flew west, where they participated in Operation Teapot, one of a series of atomic explosions conducted in Nevada by the Atomic Energy Commission.

In the summer of 1956, the 14 VF 11 pilots participated in COMFAIRJAX's annual high angle loft (over the shoulder) bomber compe-



titive exercise. Each Ripper brought home an E. This marked another record for VF 11. It was the first time in Fleet history that 100 per cent of one squadron's pilots had won an E while competing in the same exercise.

The squadron was reunited with *Essex* for a week of carrier qualifications in November 1957. The following July, operating from *Essex*, the Rippers began round the clock missions in support of Marine landings at Lebanon.

In February 1959, after 32 years of continuous service, the Red Ripper squadron was finally decommissioned.

Today's Ripper squadron actually came into being in 1950 with the commissioning of VF 43. This squadron was redesignated VF11 after the original Rippers were decommissioned in 1959, and at that time officially adopted the squadron nickname.

Last November, the squadron ripped target banners to shreds while chalking up the best gunnery record ever accomplished with the *Crusader* jets. The squadron's CO had a 48.8 hit percentage. Four other Rippers also copped E awards while competing in the Atlantic gunnery exercise.

Salute to the Flying

ABOUT 35 YEARS AGO CDR John Rodgers and a crew of four men made a journey by seaplane from California to Hawaii. The adventure took place in a metal-hulled aircraft, the PN-9—and together they reached their destination by means of flight and sail, by tow and by grit.

The flight started for the five men and their craft on 31 Aug 1925 when they left San Francisco for Hawaii. They had food and extra gasoline aboard and had also made arrangements for a ship en route to have extra gasoline aboard, just in case.

Somehow they missed the ship. When they ran out of fuel and landed in the open sea, they were still some 200 miles from Hawaii and unknown miles from the nearest ship. They were unable to use the radio, because, with no motor, there

was no power. The situation looked sticky, at the very least. But to make such an assumption would have been to underestimate the seaplane and the ingenuity of its crew.

To sail the rest of the way seemed to be the only answer. Material was taken from the underside of the wings to make sails. With this rig they sailed as much as 50 miles in one day. They were later towed by a submarine—and were finally taken ashore behind a row boat.

This trip didn't go quite according to plan, but it did set a new distance record for seaplanes, and it proved the ability of the PN-type planes to stand up under really difficult conditions.

Time and again both before and after this incident, seaplanes and their crews showed this kind of

strength and dedication. Seaplanes grew up with the twentieth century Navy, and have earned a special niche in aviation history for their special accomplishments.

BEFORE WE ATTEMPT to discuss seaplanes as they have developed over the years, however, we should make one thing clear. "Seaplanes" is a general term which will be used almost exclusively in this article to indicate aircraft that are used only on the water.

Technically there is a difference between seaplanes. A *flying boat*, for example, is almost a boat with wings. The hull sits in the water and is itself a float. A PBM *Marlin* or a PBV *Catalina* are examples.

A *float plane*, on the other hand, might be described as a land plane that has been equipped with floats rather than wheels. The *Kingfisher* (OS2U) of World War II is an example of this type of seaplane. It was used largely as a catapult plane aboard cruisers and battleships.

A third type of airplane that is neither an all-land nor an all-sea plane is the *amphibian*, which can be used on either.

The Navy's first airplane (the A-1) was an amphibian. It had a metal-tipped propeller, was designed to fly at 45 miles per hour, and could carry one passenger beside the pilot. The plane was ordered on 8 May 1911, which has since been adopted as the official birthday of naval aviation.

At that time, Eugene Ely had already proven the feasibility of using land-type planes aboard ship, but the seaplane was another logical path of development. It could go with the Fleet. Its possibilities were tremendous. Let's take a look at those first seaplanes.

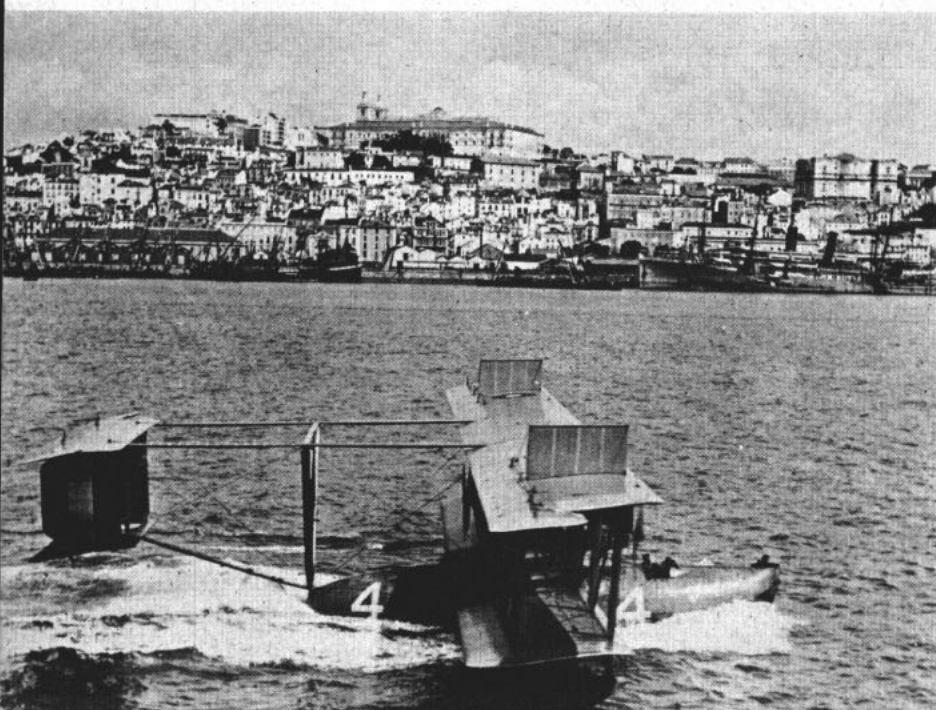
ON 30 NOV 1912, the Navy's first flying boat was tested by LT T. G. Ellyson, the first naval aviator. While flying in a circle he climbed to 1575 feet in 14 minutes and 30 seconds. He attained a speed of 59.4 miles per hour.

This was encouraging, but it was evident that a great deal of work still needed to be done.

During the six years before our



SEEING SEAPLANES—P5M *Marlin* flying boat patrols coast. Below: Famed NC-4 flying boat pulls into Lisbon, Portugal, after first Atlantic crossing.



Boats

entrance into World War I, work with naval aviation was primarily experimental. Those experiments included work with both seaplanes and catapults.

World War I stimulated the growth of aviation in the Navy. In April 1917 the Navy possessed 51 seaplanes and three land-type planes. By November 1918, however, the number had grown to 1965 seaplanes and 242 land planes.

During the war antisubmarine warfare was the primary consideration of naval aviation and the seaplane seemed to be the ideal ASW airplane for those times.

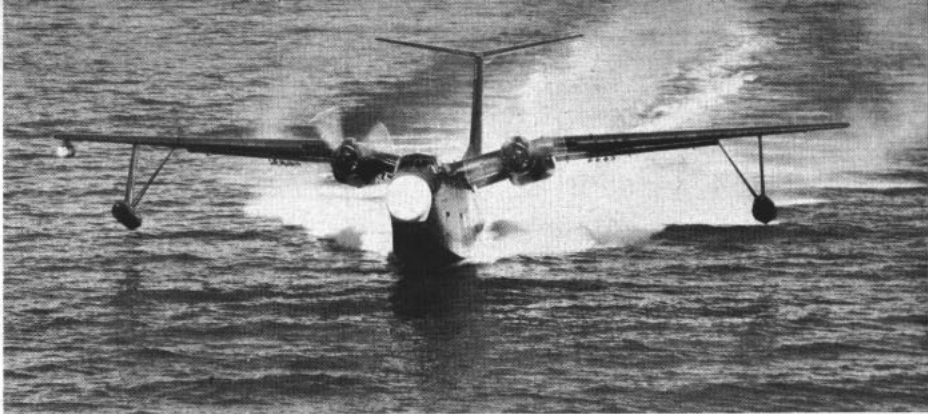
Seaplanes continued to grow both in importance and capabilities. In April 1919 LT H. B. Grow flew an F5L flying boat, powered by two 400-horsepower Liberty engines, 1250 nautical miles in 20 hours and 19 minutes.

THE END PRODUCT of the World War I development of seaplanes was the NC-boats. They had a 126-foot wing span (which was more than most World War II bombers) and an over-all length of 68 feet. These planes were normally equipped with three Liberty engines, although an extra pusher-type engine was added to three of the NC boats before they attempted their history-making trans-Atlantic flight.

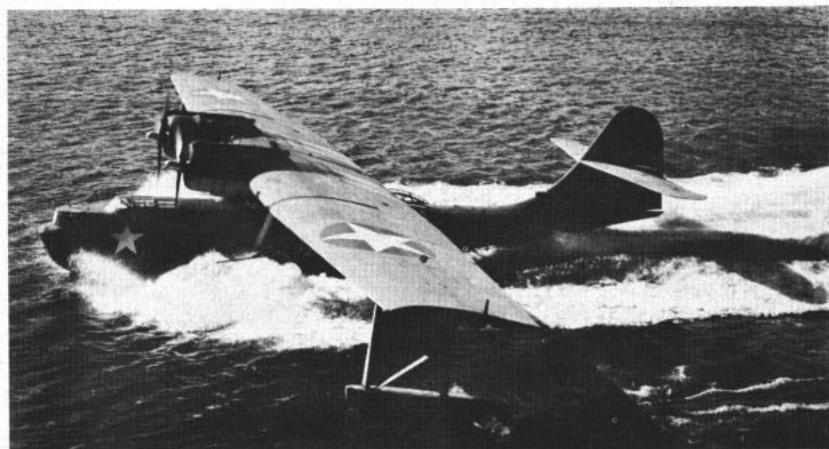
The three planes which started in that flight (the NC-1, NC-3 and NC-4) set out from NAS Rockaway Beach, N. Y., on 8 May 1919. First stop for the specially adapted planes was Trepassey, Newfoundland. They left there on 16 May and headed for the Azores.

The NC-4 made this leg of the trip without trouble, but both NC-1 and NC-3 were forced down en route. NC-1 finally sailed into the Azores, but was too heavily damaged to continue the trip. NC-3 capsized when a passing steamer attempted to take her in tow. (Ironically, NC-4 had been delayed at the start of the trans-Atlantic flight because of engine trouble, while the other planes had been all right.)

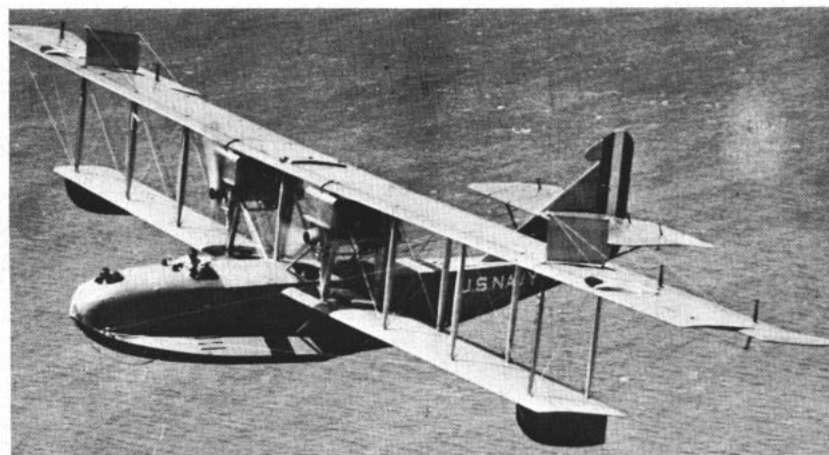
NC-4, after a short stay in the Azores, was off to Lisbon where it arrived on 27 May, completing the first flight across the Atlantic. From



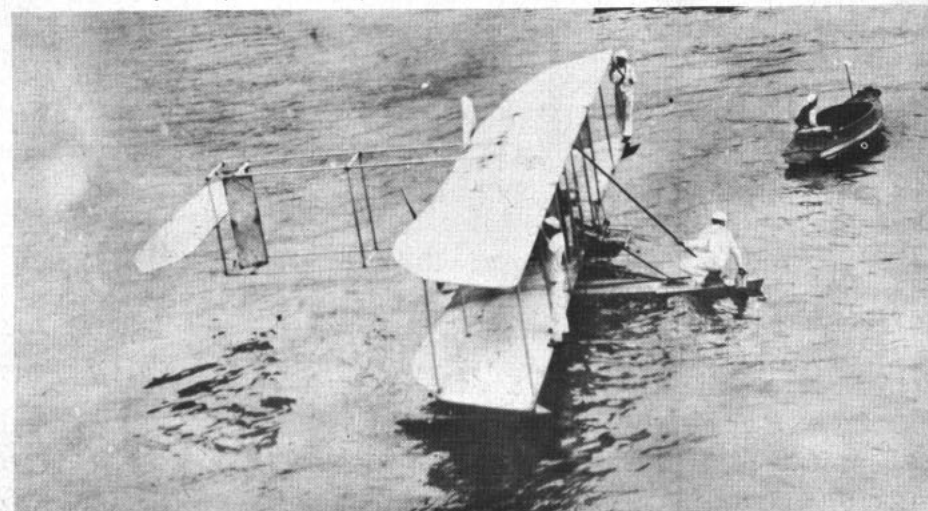
TALL TAIL—'T' tailed P5M Marlin antisubmarine seaplane taxis for takeoff.



BATTLE VET—Catalina patrol bomber heads for tender after run in Aleutians.



OLD TIMERS—Flying boat of WW I, H-16, proved effective against subs. Below: Third plane purchased by the Navy rests in harbor at Baltimore, Md.





COMING HOME — PBM Mariners return after escort duty in WW II. Rt: King-sized Mars is hauled out for check.

there she flew on to Plymouth, England, where, on 31 May, LCDR A. C. Read and his crew went ashore at the same spot from which the Pilgrims had left some 300 years before. This flight was a historic achievement in early aviation.

ALSO ABOUT THIS TIME the future of seaplanes was given a boost when a revolving catapult, activated either by compressed air or by a powder charge, was developed. This made possible the use of seaplanes aboard cruisers and battleships. (Seaplanes were put aboard these ships in the early 1920s and they continued to be used aboard ship

throughout World War II.)

In 1925 the PN-9 patrol plane was introduced. It had an aluminum-hull and wing frames and a greatly improved power plant. This series was used as a basis for several other seaplanes to follow.

By 1930 seaplanes were flying long distances more consistently. In 1934, for example, six P2Y flying boats of Patrol Squadron 10F flew 2399 miles in 24 hours and 35 minutes to set a new record for straight-line flight for Class C seaplanes.

The initiation of the famed World War II *Catalina* seaplane came in 1933 when the Navy contracted for the P3Y, twin-engine patrol plane.

Some four years later the Navy saw a need for a seaplane with even higher speed, longer range and better armament. In 1937, it ordered the PBM, which was the prototype of the PBM *Mariner* series which was also used throughout World War II. Even though aircraft carriers with land-type planes were operational, seaplanes still had a job to do.

WHEN PRESIDENT ROOSEVELT declared a limited national emergency in September 1939, seaplanes were ready for action. *Catalina*-equipped Patrol Squadron 33 transferred from the Canal Zone to Guantanamo Bay, Cuba, for operations over the Caribbean, and VP-51, also equipped with *Catalinas*, transferred from Norfolk, Va., to San Juan, P.R., to patrol the southern approaches to the Caribbean through the Lesser Antilles.

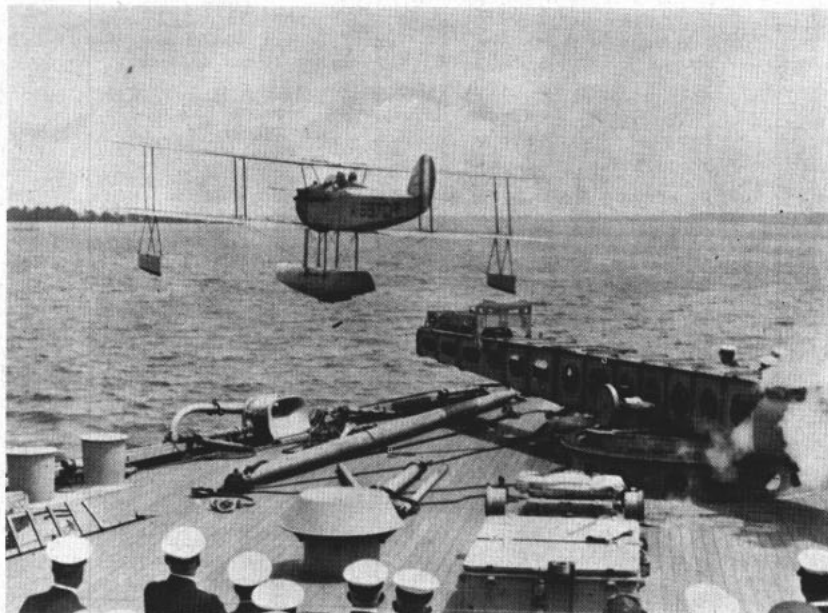
For the *Catalinas*, these were only the preliminaries. During the war years, in addition to the routine reconnaissance and antisubmarine patrols, PBYS were used for almost every conceivable role.

A few were painted with a special black paint and nicknamed the Black Cats. These slow, rather cumbersome planes bombed, strafed, patrolled, did photo reconnaissance and performed many at-sea rescues in the South Pacific. With their special paint, they were almost invisible at night.

Over Kiska, in the Aleutians, *Catalina* pilots forced their planes to dive at enemy shipping at the unheard-of speed (for PBYS) of 250 knots.

The PBM *Mariner*, which also

LAUNCH TIME — Revolving catapults made it possible for BBs and cruisers to use seaplanes. Here, USS *Maryland* (BB 46) launches float plane in 1922.



joined the Navy shortly before World War II, was another mainstay throughout the war. The *Mariner* served as an antisubmarine patrol, reconnaissance, search and rescue, and bomber plane. Over 1000 of these 28-ton flying boats were built.

THE NAVY'S NEED for large seaplanes brought back, for the first time since the NC-4, a four-engined flying boat. This one was the PB2Y *Coronado*. It was a large, heavy seaplane, and about 150 were purchased.

In 1943 the huge *Mars* flying boats were delivered to the Navy for operational use. They operated until 1956. During that time the four-engined planes carried some 200,000 passengers and more than 20,000 tons of cargo. While supplying the Pacific Fleet, they traveled a distance equivalent to 23 round trips to the moon. Only five of these huge *Mars* flying boats were purchased.

These planes were later replaced by the R3Y *Tradewind*, the Navy's first turbo-prop seaplane.

The P6M *Seamaster* would have outclassed these seaplanes. It was in the 600-mph range. However, it was dropped to make room in the Navy budget for other urgent programs.

For some decades it was natural in the Navy to think of seaplanes first when a job called for patrol or fast overwater cargo. But in 1944 the Navy signed a contract to buy the P2V *Neptune* series of land-based patrol aircraft. For years seaplanes and land-based planes have been doing the job together.

The current seaplane situation is this. There are no seaplanes on order by the Navy (the last one, a P5M-2, was delivered to the Navy in December 1960), but there is still interest, both in the Navy and among civilian aircraft companies.

A Bureau of Weapons official indicated that a request to build a new seaplane will probably be placed in the 1963 budget. Already several aircraft companies have expressed an interest in building seaplanes.

But even if no more seaplanes are built, the present P5Ms, which now make up eight squadrons, will be flying for another seven years or more. And during that period, no one really knows what may happen.

In the meantime, we can only salute the seaplanes of the past and present for their accomplishments and service over the years. They were the Navy's first-born.

—Erwin A. Sharp, JOC, USN.



NAVY JETS fly over administration building at NAS, Corpus Christi, Texas.

Corpus Christi Celebration

Twenty-one years ago, seagulls were wheeling and screaming over the smattering of fishing shacks and tourist cabins scattered among the sand dunes of Flour Bluff, a few miles from Corpus Christi, Texas.

Corpus Christi itself was a quiet, small seaport. On 13 Jun 1940, however, a few strokes of Franklin D. Roosevelt's pen brought about a radical change in Corpus Christi and Flour Bluff.

President Roosevelt had signed an appropriations bill providing funds for the construction there of a Naval Air Station.

Two weeks later dozers, giant shovels and other heavy equipment moved in to reduce the buildings and the terrain of Flour Bluff to a vast, level, open space upon which hangars, barracks, flying fields and offices began to rise.

On 12 Mar 1941, the Corpus Christi station was commissioned and the Navy's University of the Air was in business.

Eight days after commissioning, and while construction was still in progress, the first group of cadets arrived. Ground school classes began on 7 April and the first training flight was made on 5 May 1941. The class graduated seven and a half months after starting its training.

That set the pace for a schedule that called for the graduation of 300 cadets a month, and which had

increased to 1200 graduations a month when World War II began. By the time the war was over, more than 35,000 men had received their wings of gold at NAS Corpus Christi.

When old planes were retired from the Fleet, the station at Corpus Christi incorporated newer aircraft. Jet training began at the command in mid-1949, when the first TO-1 *Shooting Star* reached the station.

In January 1949, the Navy's crack flight demonstration team, the Blue Angels, moved into jets and shifted their home base from Pensacola, Fla., to Corpus Christi. The organization remained there, with an interruption for the Korean conflict, until it returned to Pensacola in 1955.

Corpus Christi and the Naval Air Station celebrated the station's 20th anniversary in a three-day celebration during which an open house was held on the anniversary date and a special commemorative program was held along the sea wall.

The Blue Angels returned to Corpus Christi to assist in the celebration of the station's anniversary with a breathtaking air show.

Since the station was commissioned 20 years ago, it has carried out its mission in training aviators for the Fleet without interruption. Very few of the more than 70,000 Naval Aviators can say they have not at one time or another been there.



SEE CIC—Students at Naval CIC School, NAS Glynco, Ga., watch their radarscopes during intercept practice.

Air Control School

SEVENTY MILES OUT over the Atlantic, a swept-wing *Fury* prowls the night sky. Its pilot responds to commands which crackle forth from a large brick building situated far away among the low-lying pines and palmettos on the south Georgia coast.

What's going on at these two widely separated points? It's a ground-controlled intercept con-

ducted by a Navy school. Training the surface members of the air defense team who work alongside Navy and Marine fighter pilots is the job of the Air Control Department of the Naval CIC School at NAS Glynco, Ga., in the land of the "Golden Isles" and the fabled "Marshes of Glynn."

Many hours of classroom study, lots of homework, and long, gruel-

ing sessions at the radarscope are required before a man acquires the skill, knowledge and coordination required to become part of that team.

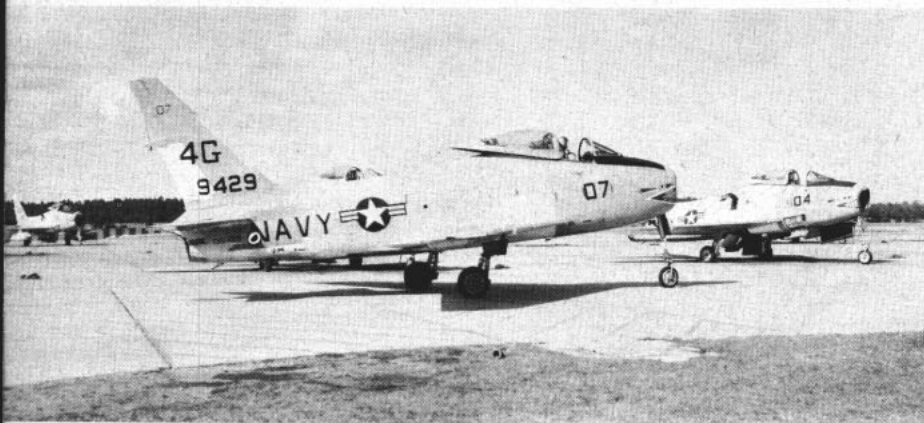
What is meant by "intercept"? It means spotting an enemy aircraft or missile and stopping it before it can reach its target.

The Air Control School trains officers and enlisted men from Navy and Marine Corps units stationed around the world. These trainees spend seven weeks in intensive study, learning the theory and the practical application of day, night and all-weather intercept procedures. Upon graduation, the new air controller returns to his parent unit, with a firm foundation in the theory and practice of the surface radar control of aircraft.

The Air Control School is primarily aimed at giving the trainee a broad basic background in the art of anti-air warfare. To accomplish this mission, the trainee is scheduled for as much scope work as possible while at the school.

The air control trainee's biggest

GUIDED TOUR—FJ-4s are directed by students from takeoff to touchdown.





PLANE TO SEA—Under the watchful eye of instructor CIC, students vector planes out to sea for intercept with missiles.

job is to master the LCI (Lead Collision Intercept) and the LVI (Low Visibility Intercept).

- The LCI may be described as a collision course type of intercept where the fighter plane is vectored to a close-in, right-angle firing position against the enemy. This attack is primarily used by the F4D carrying *Mighty Mouse* type rockets.

- The LVI is a stern attack used primarily with *Sidewinder*-equipped aircraft. These two types of intercept require hairline control and make other types of attack, such as the head-on, relatively easy by comparison.

During the first few periods of scope work, the new student learns the fundamentals of air control, using synthetic presentations of aircraft on his scope called "bugs," which are generated by a "bug bank." When the student passes his "ready for actual" progress check, he at last gets his long-awaited chance to control actual aircraft. While an instructor watches intently, the student starts learning to apply the lessons he has painstakingly learned during the synthetic phase of his training.

The trainee soon realizes that the nice, clear synthetic presentation sometimes differs quite drastically from the actual radar picture.

For example, weather has many adverse effects on radar operations. Blips fade and reappear, and move erratically, as aircraft grapple with the raging wind streams common at high altitudes. Moving across the radar screen are strange targets whose presence must be relayed to the speeding CAP (Combat Air Patrol) to avoid any chance of a hazardous situation developing.

While the trainee's eyes are getting slightly glazed from this new

(to him) radar picture, his ears are being bombarded by the equally weird sounds of UHF radio communications. All this makes the first day of "actuals" a memorable experience, and fortunately, not indicative of the average trainee's future experience with this funny-looking television set.

The CIC School operations department schedules two mass day-launches of FJ-4 *Furies*, plus one night launch per working day for the training of air controllers. The students take positive control of their assigned aircraft as soon as it is airborne and maintain this control throughout the flight. The aircraft is vectored to the offshore operating area to perform intercepts against other jet aircraft and then brought back to NAS Glynco for a VFR landing, or turned over to GCA dur-

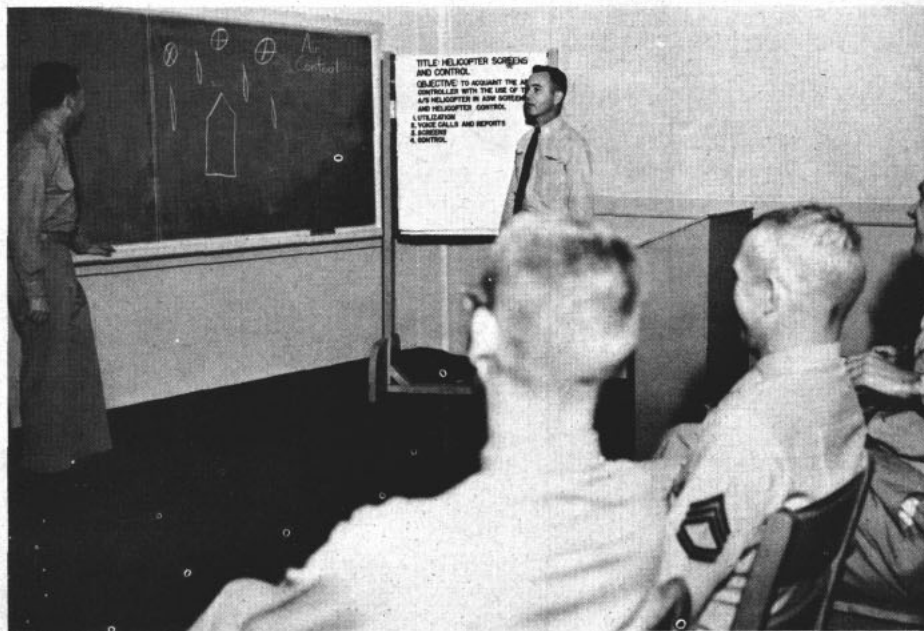
ing instrument recoverings by the trainee under the watchful eye of an instructor.

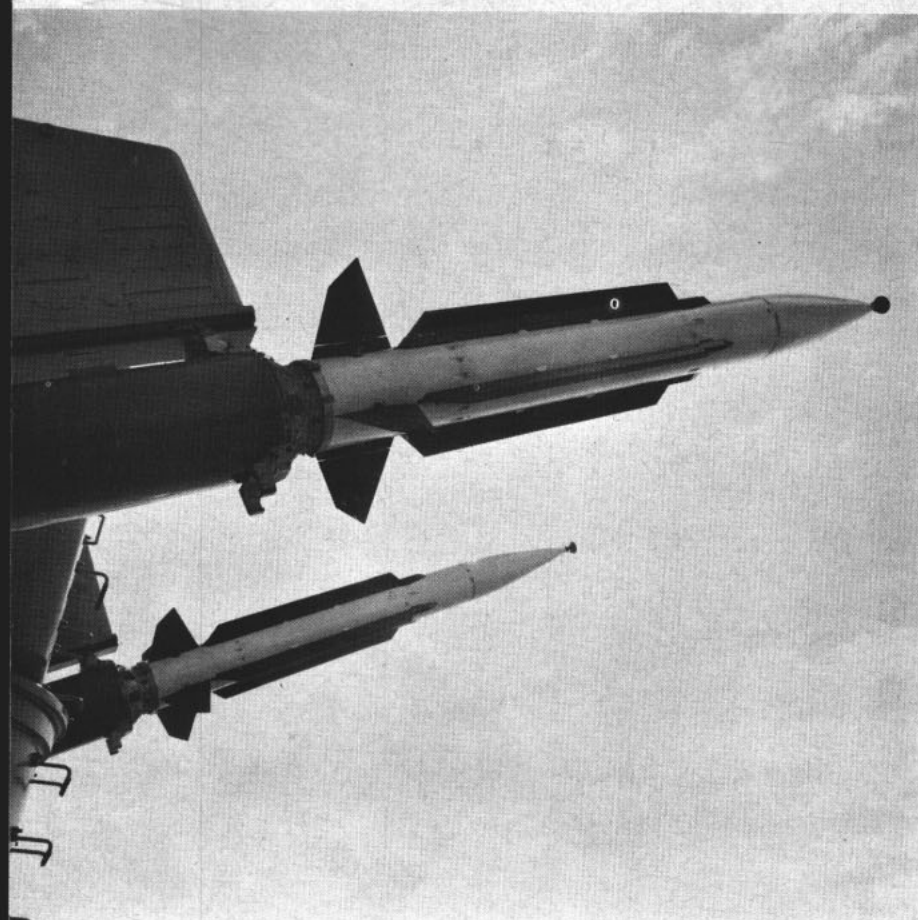
To insure the safety of planes and pilots, an instructor is assigned to each trainee, and never leaves his side during flight operations. Observing this whole operation is a senior air controller called "The Star," whose guiding hand makes the whole show run smoothly.

Finally, after weeks of intensive practice, the students master what was once an impossible jumble of bogey headings, cursor angles, radio procedures, scope manipulations, etc., etc.

It suddenly starts to be the most familiar operation in the whole world. Now the stuttering student has become the calm, cool controller, ready to play for high stakes in the deadly game of air warfare.

ASW WORD—Students receive blackboard session on control of copters.





and reduction gears can move her swiftly to any of the trouble spots of the world in a minimum of time to send out a striking force capable of dealing practically any kind of blow to any kind of enemy any place in the world. Her strikes can come from an unknown point in the vastness of the sea, and when her planes return to her, she can lose herself in the ocean's emptiness.

This movable airbase is big — the largest ship afloat. If she were stood on end beside the Empire State Building—quite a job in itself—she would reach to the 80th story. From keel to peak, she stands as high as a 25-story building.

She weighs 80,000 tons fully loaded and, if anyone felt inclined to do so, he could set both the *ss America* and *United States* side-

Meet

by-side on her flight deck.

She has just about everything a city has by way of commercial, municipal and recreational facilities.

To mention a few, there are air-conditioning plants (the ship is partially air-conditioned). There are shops—one for the butcher, one for the baker (none for the candlestick maker), a coppersmith, an electrical shop and a blacksmith (not for horses).

Her municipal plants include waterworks (for distilling water), electrical generating plant, weather bureau and, of course, a post office.

SUNDAY PUNCH — Advanced Terrier missiles will take place of AA-guns.

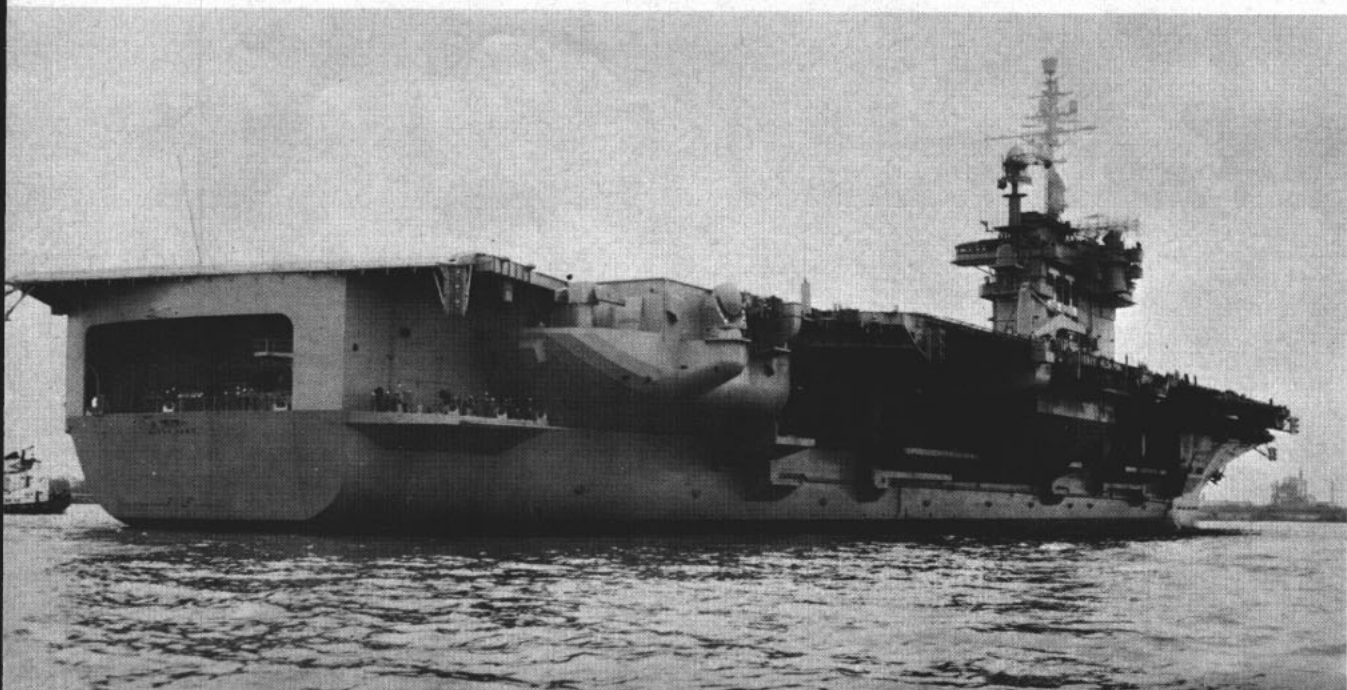
KITTY HAWK, N. C. — *The Wright brothers flew a heavier-than-air machine for the astounding distance of 120 feet today.*

When this announcement was flashed to the world in 1903 hardly anyone took notice of it. But the idea the brothers Wright put into flight

over the sand dunes of Kitty Hawk is responsible for the Navy's latest aircraft carrier — *uss Kitty Hawk* (CVA 63).

Kitty Hawk, the carrier, is like a detachable piece of the United States on which a large airbase is built. She is fast—modern lightweight turbines

LONG VIEW—If turned on end the 1047 feet of Navy's new carrier would reach 80th floor of Empire State Bldg.



There are also ice cream bars, soda fountains, volleyball courts, TV lounges and (of all things) four ladies' powder rooms.

LIKE USS *Saratoga* (CVA-60), *Ranger* (CVA-61) and *Independence* (CVA-62), she boasts turbines and reduction gears that are the lightest ever constructed in weight per horsepower, for ships in this power range. *Kitty Hawk* has 280,000 horsepower.

Forrestal class carriers, including *Kitty Hawk*, use steam at the highest pressure and temperature conditions of any class of combatant vessels in the U.S. Navy to date.

By using new alloys, however, the weight and size of their engines have been made less than that of any World War II aircraft carrier. This makes it possible for *Kitty Hawk* to



Navy's Missile Carrier

carry more fuel for herself and her planes.

Kitty Hawk has four deck-edge elevators, each of which is large enough to hold 2000 men or two-thirds of the ship's entire crew.

If all four elevators worked at top speed, they could deliver four 40-ton bombers every minute from the hangar deck to the flight deck 36 feet above. Fast jet fighters also ride these elevators to the flight deck.

The cooling system aboard *Kitty Hawk* takes care of the space temperature, water cooling and refriger-

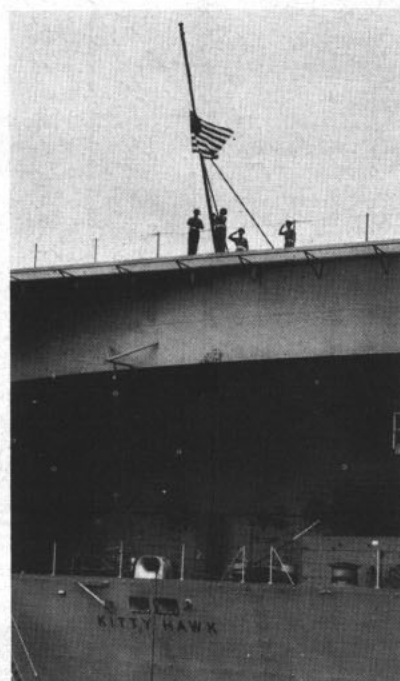
ation. The air conditioning system automatically adjusts itself to take care of any amount of heat or humidity in which the ship finds itself.

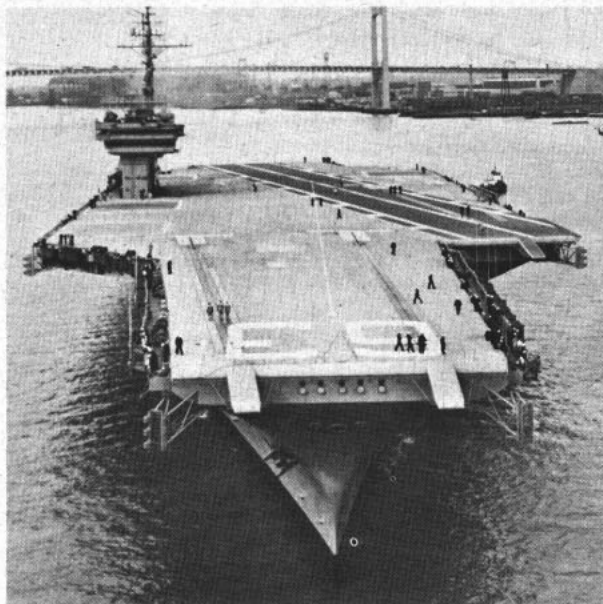
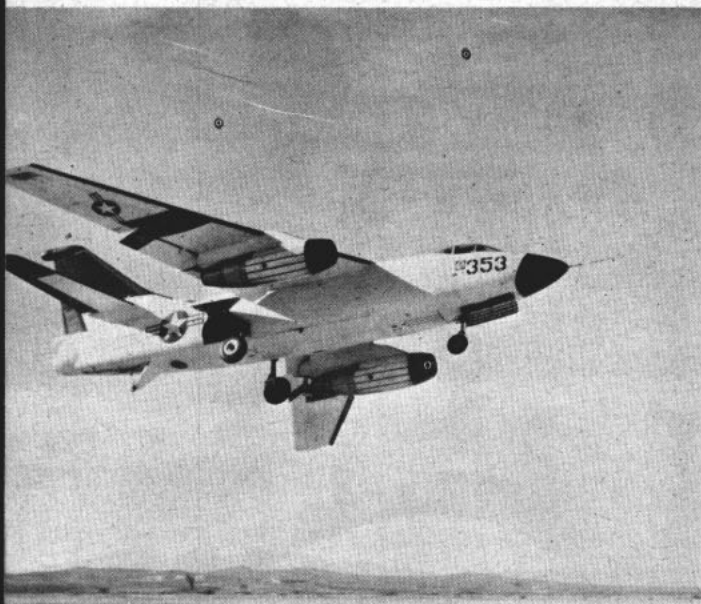
The water chilling plants were all factory-assembled with all electric power and control wiring installed on a common steel base, which saved considerable money when it came time for Uncle to pick up the tab for their cost.

For drinking water, the refrigeration system cools 14,400 gallons per day from a temperature of around 100 down to 60 degrees.

THE COOKS aboard *Kitty Hawk* will have plenty of food to defrost — another homelike touch. There are 18,665 cubic feet of storage spaces which are cooled to zero degrees for frozen meat and vegetable storage. About 6300 cubic feet are cooled to between 33 and 50 degrees, which fresh fruits and vegetables will share with photographic film and other supplies. There are an additional 12,370 cubic feet of space which can

IN COMMISSION — Huge hangar deck was packed for commissioning. Rt: Colors go up on USS *Kitty Hawk*. Above: *Crusaders* will be among her planes.





KITTY HAWK will carry powerful A3D Skywarrior bombers. Right: Nose-on view shows expanse of carrier's deck.

be used for either frozen or fresh food storage.

There are 1000 telephones aboard—each on a two-party line. There won't be any tie-up on the party line, however, in case the captain or executive wants to make a call. There is an executive right-of-way feature which will immediately cut high-priority

calls in on any existing conversation.

Telephones will either be bolted to desk tops, standard wall type or a new splash-proof type for weather decks. All the phones will be equipped with an intensity-adjustable dial-lighting device so calls can be dialed when the ship is darkened.

Each telephone also has a special

locking device which will prevent the handset from getting off the hook when the ship is rolling or subjected to the shock or motion of combat. There is also a high fidelity feature which will make conversation intelligible in heavy noise areas.

Kitty Hawk No. 1 Was Aircraft Transport

The first *Kitty Hawk* was a 14,000-ton 478-foot transport and aircraft ferry. She was built in 1932 as a commercial vessel and was acquired by the Navy in June 1941. She was converted to become the Navy's first aircraft transport ship (APV-1), a classification changed in late 1943 to cargo ship and aircraft ferry (AKV-1).

Following commissioning, she proceeded to the West Coast. *Kitty Hawk's* first naval assignment of World War II was a round trip from San Francisco to Pearl Harbor.

Assigned to the Pacific Service Force in April 1942, she transported men and supplies to the battle areas of the Pacific. One of her earliest jobs was to transport the Third Marine Defense Battalion and its equipment to Midway shortly before the big battle there.

After many trips, she returned to the United States in September for a month's overhaul.

She was kept busy for the next year ferrying badly needed planes, other logistic cargos, and aircraft squadron personnel.

In April 1944, *Kitty Hawk* was berthed at the Oakland Naval Supply Depot where she was given a cargo that differed greatly from her usual assignments. One hundred and twenty landing vehicle tanks were loaded, destined for the Pacific.

During the crossing to Pearl Harbor, high winds and heavy seas were encountered, causing her deck cargo to shift and crushing two men. These were *Kitty Hawk's* only casualties during the entire war.

Assigned to Commander, Carrier Transport Squadron, she continued her operations until the war ended.

Returning to the United States, *Kitty Hawk's* naval career came to an end on 26 Jan 1946. She was decommissioned and returned to her former owners.

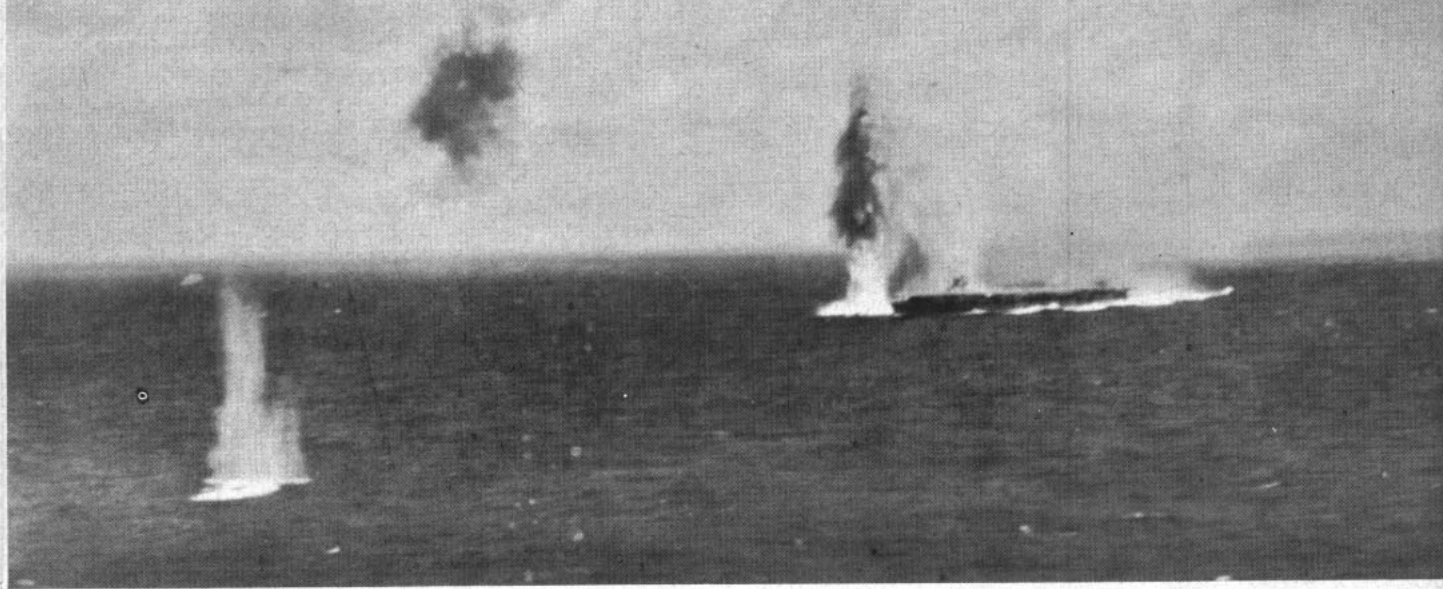
WHEN THE SHIP is in port, a shore station may be reached from any of the shipboard telephones by means of a cordless manual switchboard equipped with eight shore-line trunks attended by an operator. While at sea, the telephone system is completely automatic.

USS *Kitty Hawk* has the distinction of being the first modern aircraft carrier not to be equipped with deck anti-aircraft guns. Instead, the big new flattop carries advanced *Terrier*, surface-to-air, guided missiles to protect her from enemy air attack.

The *Terriers* are about 15 feet long and 13 inches in diameter. Once launched, the missiles are as tenacious as their namesakes. The *Terrier* weapons system detects and evaluates its target, selects the weapon, loads the launcher and fires in a matter of seconds. Several guidance radars make it possible for the ship to engage several airborne attackers simultaneously.

Kitty Hawk's skipper thinks ships without guns are O.K. from a fighting standpoint, but decided *Kitty Hawk* couldn't fire salutes with missiles. He had two weapons brought aboard for ceremonial purposes.

THE FIRST CARRIER BATTLE



The war was going badly. The full scope of the disaster at Pearl Harbor was not known by most. However, enough was known to give every American a sinking feeling in the pit of his stomach. Bataan had fallen to the Japanese and there was no sign on the horizon that the parade of humiliating defeats would come to a halt in the near future.

By spring of 1942, the Japanese Empire had extended itself to the Dutch East Indies, the Philippines, Burma and Malaya. This vast territory had cost Japan only a few thousand casualties. No naval vessels larger than a destroyer had been lost.

This was the situation that was soon to lead up to the Battle of the Coral Sea. How that battle turned out was going to be very important to both sides. Playing a significant role—for both sides—was the aircraft carrier.

The following account is based on several sources, particularly the following two books which give the full and exciting report of the Battle of the Coral Sea, the events leading up to it, and the events that followed. They are "The United States and World Sea Power," edited by CDR E. B. Potter, USNR, and the "History of United States Naval Operations in World War II," Vol. IV, by RADM Samuel Eliot Morison, USNR.

THE JAPANESE HIGH COMMAND was reappraising its capabilities. It concluded that it had vastly underestimated its capacity for expansion, and urged three steps.

First, to take Port Moresby in southeastern New Guinea and Tulagi in the Solomons. They considered these steps necessary to secure the Empire in the south-east and furnish a springboard for further advances.

Second, Midway and the Aleutians should be occupied to extend Japan's defenses in the central and northern Pacific and to force engagement with the United States Fleet.

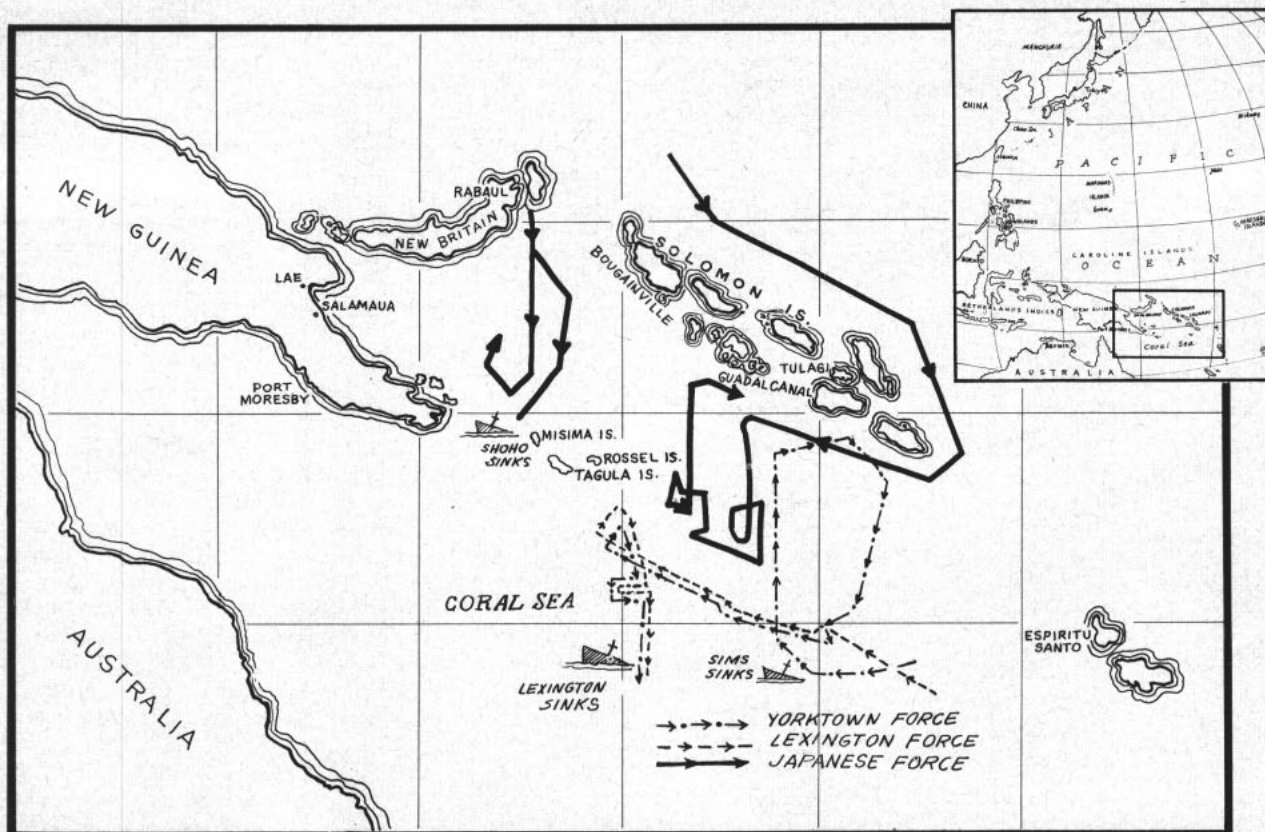
Third, Japan should conquer New Caledonia, Fiji and Samoa, thereby cutting Australia off from the United States. Australian cities would be within range of Japanese bombers and Australia itself vulnerable to conquest.

Doolittle's raid on Tokyo had alerted Japanese leaders to their lack of defense to the east. Midway and the western Aleutians would go a long way in filling this gap.

Japanese planners began to adopt measures which had proved fatal to many conquerors in the past—of biting off huge chunks of empire and swallowing them whole. Empire has to be digested. Japan did not stop to consolidate her gains.

The first step toward the Coral Sea had been taken. A chain of events was set in motion which was to set the Battle of the Coral Sea apart from all previous battles of naval history—a battle in which airplanes were to be the weapons and none of the ships involved would encounter a surface enemy.

THE STAGE WAS SET. It is at this point that the Fates dropped a stitch in the Japanese Empire's thread of destiny. The Japanese had no reason to believe that their plan would fail and involve them in ultimate disaster, but there was one unknown factor on which they had not reckoned. *The Americans knew of the plan.* The Japanese code had been cracked shortly after Pearl Harbor and rather detailed information of the plan was available to American intelligence.



BATTLE CHART shows the action of American and Japanese forces during the Battle of Coral Sea in May of 1942.

Japanese landing forces were to take Port Moresby and Tulagi. A support force was to give direct support to the landings at both Port Moresby and Tulagi.

The 12,000-ton carrier *Shoho* with four heavy cruisers and a destroyer were to support the landings at Tulagi and also cover the Port Moresby force through the Jomard Passage.

In addition, *Shokaku* and her sister ship *Zuikaku*, with a screen of heavy cruisers and destroyers, were to sail from Truk in the Carolines to engage any United States forces which might try to interfere with the operations.

Six submarines were to patrol the Coral Sea, and

ON THE ALERT—Antiaircraft gun crews on Navy ships were busy in early WW II battles of planes against ships.



land-based aircraft were on hand in a scouting and support role.

Prior knowledge of the attack gave the allied forces a tremendous advantage. Getting sufficient force concentrated at the proper place proved to be difficult.

Two carrier task forces were available, RADM Frank Jack Fletcher's *uss Yorktown* (CV 5) force and RADM Aubrey W. Fitch's *uss Lexington* (CV 2). RADM J. G. Grace of the Royal Navy brought the cruisers *HMAS Australia* and *Hobart* from Australia. Nothing else was immediately available.

FORTUNATELY, the Japanese suffered some of the same disadvantages. The raids on Ceylon and Tokyo had dissipated the Japanese forces so that only two fleet carriers were available to Admiral Inouye. The admiral was satisfied, however. They appeared to be sufficient to cope with any force the Americans might have. He did not know that *Lexington* had been sent south to join *Yorktown* in the Coral Sea.

After a strike at Tulagi, *Yorktown* joined the *Lexington* group and the two forces steamed southeast. The *Yorktown* group refueled and turned northwest in order to close on Port Moresby.

Reports had been received from General MacArthur and Admiral Nimitz that concentrations of Japanese ships in the Rabaul-New Guinea area indicated the Japanese were ready to make their move.

The Japanese forces intended to catch the United States carriers in a pincer movement. If their strategy had succeeded, it would have caught the Americans by surprise and resulted in a decisive Japanese victory. The Japanese were coming close to Admiral Fletcher's

force which was moving slowly because of refueling operations.

Again we find another of Fate's dropped stitches which altered the course of empire. Fletcher's morning search was made before the Japanese came into range and nothing resulted from the afternoon search because of bad weather.

Apparently Admiral Takagi relied entirely on information from land-based planes. A Japanese flying boat from Rabaul had spotted the American forces before noon and had reported his find. For some reason, Admiral Takagi did not receive the message and the Battle of the Coral Sea did not take place on the sixth of May, a fact the Japanese later had reason to regret.

THE MORNING OF MAY SEVENTH found the American task force cruising on a northwesterly course south of the Louisiades which form an extension of the New Guinea tail.

Admiral Fletcher launched the morning search. Then, the cruisers *uss Chicago* (CA 29) *Australia* and *Hobart* under the command of Admiral Crace were detached and proceeded toward the Jomard Passage along with three destroyers. If Admiral Fletcher's force should be too heavily damaged or engaged to interfere itself, Admiral Crace's force might be able to stop the Japanese invasion fleet.

The Japanese carriers lay under a bank of heavy clouds to the northeast — precisely where the American planes could not search because of bad weather. Scouts later reported sighting two carriers and four heavy cruisers in a position not far north of Misima Island.

Admiral Fletcher immediately launched 93 planes from *Yorktown*. When the scouts returned, the uncomfortable discovery was made that, because of a coding error, *Yorktown's* 93 planes were on their way to attack two cruisers and two destroyers.

Yorktown was placed in a dangerous position. With the greatest part of her offensive power gone, she was peculiarly vulnerable to attack. The Japanese were

almost certainly nearby, and probably were aware of the carrier's exact position.

Admiral Fletcher decided to let the attack go on rather than break radio silence in the hope that more profitable targets would present themselves. They did. A carrier and many other ships lay about 35 miles southeast of the point to which *Yorktown's* planes had been sent. Only a slight alteration in course was necessary to hit the new target.

THE PLANES FROM *Lexington* sighted the Japanese carrier *Shoho* at about 1100 and began the first attack ever made by American pilots on an enemy carrier. Earlier, *Shoho* had been ordered by Admiral Inouye to launch an attack. For some unknown reason, *Shoho* failed to launch her attack until shortly before the American striking force reached her. She was unable to continue launching.

At the time the attack began, *Shoho* had only three fighters in the air and a few more on the deck. A near miss blasted five of these overboard, but three of the remaining planes were launched. By this time, the rest of *Lexington's* planes had arrived and *Shoho* was forced to take evasive action. Soon she was listing and burning badly. By the time *Yorktown's* torpedo planes arrived, they could make their runs undetected under cover of *Shoho's* own smoke.

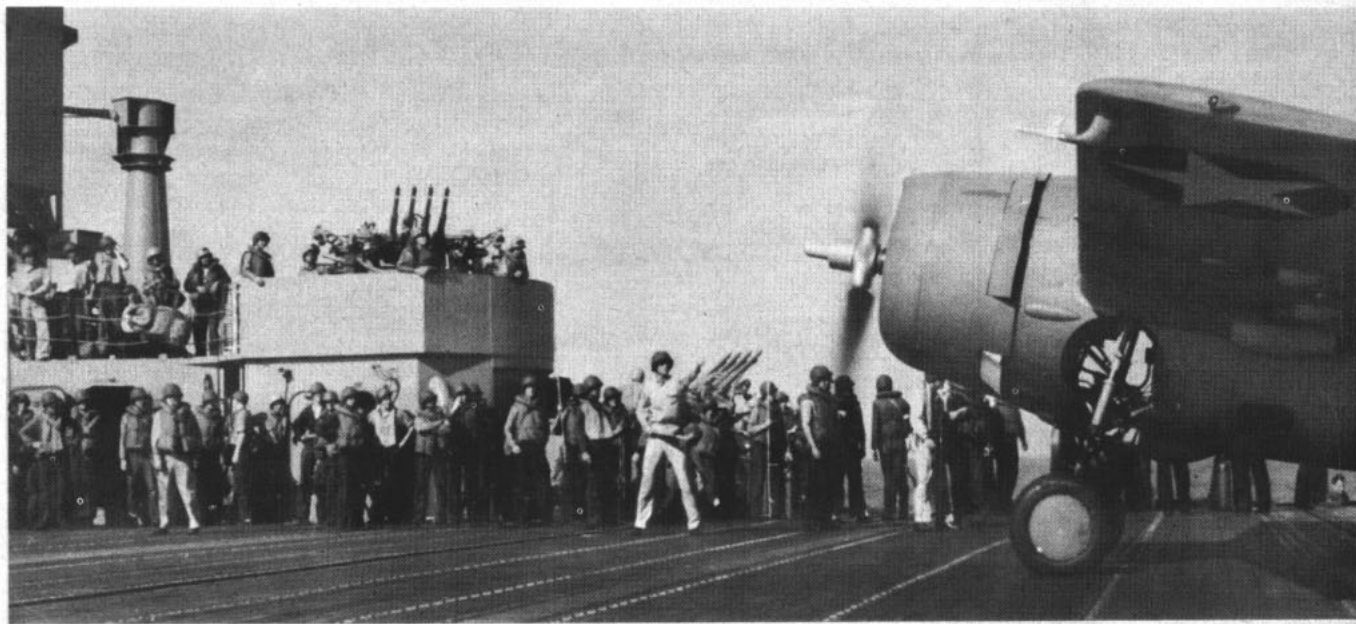
By Japanese count, *Shoho* took 13 bombs and seven torpedoes. This was too much for her and she sank three minutes after the last torpedo found its mark.

For the Japanese, *Shoho's* failure to launch an attack before she was struck was only one of a series of incredible errors.

Admiral Inouye, who was directing Japanese operations from Rabaul, received correct reports on Admiral Fletcher's carrier force sighted about 140 miles southeast of Deboyne Island.

Japanese intelligence also reported another sighting 45 miles to the west of the first. What the Japanese pilots had seen was the cruiser force of Admiral Crace.

AIR ACTION in Pacific fighting resulted in changed tactics. Surface ships often battled without seeing each other.





RIDING HIGH—Action at Coral Sea was the first time that U.S. Navy planes had attacked an enemy carrier.

At this point, Admiral Takagi reported a third United States carrier force in the eastern Coral Sea. This report bothered Admiral Inouye considerably.

The third force was much too close to the invasion force which the admiral was to protect. Actually what had been sighted was the oiler *USS Neosho* (AO-23) which was accompanied by the destroyer *USS Sims* (DD 409) proceeding toward a rendezvous.

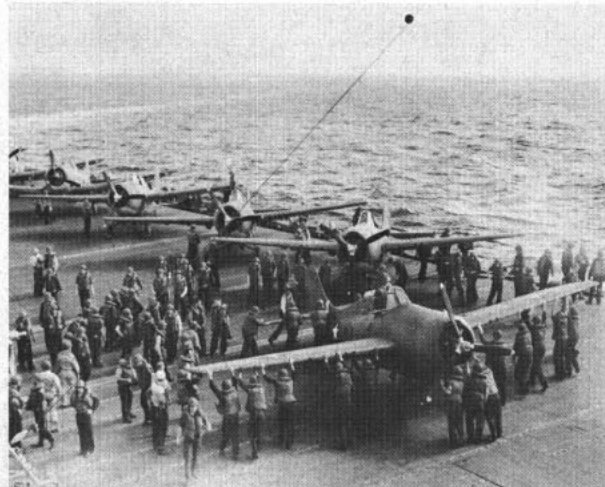
An attack was ordered on *Neosho* and *Sims* under the impression that the target was one of primary importance. The unfortunate *Sims* took three hits and went down with most of her crew. *Neosho* was still afloat but no more. Her fires were brought under control and her position reported for rescue operations. Unfortunately, because of an error in calculating her location, it was not until May 11 that the destroyer *USS Henley* (DD 391) took off survivors and sank the hulk.

THE JAPANESE BELIEVED the situation to be critical and were determined to put the American carriers out of action before they could inflict damage on the invasion force.

Night was closing in and the Japanese search planes were recalled. Twenty-seven pilots best qualified for night operations were chosen and sent out in murky weather in the supposed direction of the American carriers.

The search planes did pass near Admiral Fletcher's force — without sighting it. An American combat patrol, guided by radar, intercepted the Japanese planes and

BACK HOME — Returning Navy planes are respooned. Photo was taken few months after Battle of Coral Sea.



shot down nine of them. About an hour later, while the Japanese planes were trying to return to their carrier, some of them flew alongside *Yorktown*. Three actually tried to land on *Yorktown*. Her gunners shot down one and drove the others off. *Lexington's* radar showed planes circling as if to make a carrier landing about 30 miles to the east.

Of the 27 Japanese planes sent out to search, 10 were shot down and 11 went into the water in attempting night landings. Only six were recovered.

By the end of the seventh of May, each commander was aware that the enemy was close at hand. The distance which separated them was greater than either suspected. In retrospect, it has been calculated that neither force was any closer than 95 miles from the other.

THE MORNING OF THE EIGHTH OF MAY found the actors assembled on the stage. Each knew of the other's presence and each knew that everything depended upon sighting the enemy before he was sighted.

Japanese search planes were launched three quarters of an hour before dawn. The American search was not launched until about a half hour later. However, each side sighted the other at about the same moment. Other factors were nearly equal, too. The Japanese had 122 planes while the Americans had 121. The Americans had more bombers but the Japanese had more fighters and torpedo planes. Their torpedoes were vastly superior to those of the Americans.

The biggest advantage enjoyed by the Japanese was that they were sheltered by rain squalls and clouds whereas Admiral Fletcher's forces had run out of the bad weather they had expected and lay exposed under a sunny sky.

The American dive bombers found the Japanese carriers at about 1030 and waited under cloud cover for the arrival of the torpedo planes.

The Japanese carriers, *Zuikaku* and *Shokaku*, were about 10 miles apart with their escorts in loose formation. While they were waiting, *Zuikaku* disappeared into a rain squall and the Americans' full attack fell on *Shokaku*.

When the torpedo planes arrived, the dive bombers began their attack. Although it was well coordinated, little damage was inflicted on *Shokaku*. The torpedo planes did not score at all because their torpedoes were too slow and were dropped at too great a distance. The bombers planted two bombs on *Shokaku* — one forward and one aft.

Of *Lexington's* entire strike force, only 11 torpedo planes, six fighters and four scout bombers found the enemy. The American torpedoes were ineffective, but the bombers did manage to make another hit, thus inflicting a little more damage on *Shokaku*.

MEANWHILE, AMERICAN RADAR picked up approaching Japanese planes at a distance of about 70 miles. Orders were given to launch fighters. Only three of 17 fighters in the air intercepted the enemy before the attack.

At a distance of 20 miles, the Japanese divided into three groups — two of torpedo planes and one of bombers.

The carriers began to pull away from each other, making it necessary to shift the screen somewhat. In

doing so, the circle was broken. This aided the Japanese.

Yorktown was the first to come under attack. She was successful in evading the attack of the Japanese torpedo planes but suffered one direct hit which penetrated the flight deck forward of the No. 2 elevator and exploded between the third and fourth decks.

There were also several near misses, one of which lifted her screws completely out of the water. The fires were quickly brought under control and the ship's fighting capacity was not reduced.

Lexington received a torpedo attack shortly after *Yorktown*. This time the torpedo planes were more effective. They launched an attack against both bows simultaneously. Thus, while evading torpedoes dropped off her starboard bow, *Lexington* received two hits on the port side which flooded three boiler rooms.

Dive bombers struck almost simultaneously and *Lexington* suffered two hits — one on the 5-inch ready-service locker on the port side and the other on the stack. Near misses ruptured her plates and the ship's siren, damaged by an explosion, was screaming above the other noises of the battle.

THE SHIP WAS LISTING six degrees as a result of torpedo hits, but the engine and fireroom crews shifted the oil ballast and brought her to an even keel.

To her aviators returning from their strike, the ship looked undamaged and the damage control officer facetiously reported to the captain, "I would suggest, sir, that if you have to take any more torpedoes, you take 'em on the starboard side."

These words had scarcely been uttered before the ship was rocked from bow to stern by a tremendous explosion. Gasoline fumes released by one of the torpedo hits had been ignited by one of the motor generators left running. A series of explosions followed—each more serious than the last. The ship's communications were in bad shape and the DC Central suffered major damage and casualties including the Damage Control Officer.

From the bridge, the situation still looked hopeful and flight operations continued to recover planes until 1414. Only as communications dropped away little by little did the officers on the bridge come to the conclusion that *Lexington* was doomed.

A second major explosion rocked the ship at 1445 and wrecked the ventilation system of the fire and engine rooms. Shortly after, flight operations on *Lexington* were abandoned and the captain requested *Yorktown* to recover all remaining airborne planes. Admiral Fletcher was requested to furnish standby rescue vessels.

BY THIS TIME, the fires were out of control, and were in the vicinity of the ready bomb storage. The engine rooms were untenable, so the engine and boiler room personnel were ordered topside. Engines and boilers were secured and the steam safety valves were lifted. The ship's life ebbed fast.

Lines trailed in the water and life rafts were cast off. The sick and wounded were brought to the Captain's cabin, where injections and blood plasma were given and burns were treated with tannic acid.

At 1707, the order was given to abandon ship. The exodus was orderly and deliberate. The sailors and Marines set their shoes in an orderly line on the flight deck and the yeomen got their files in order before



LAST FIGHT—The Battle of Coral Sea proved fatal to USS *Lexington* (CV 2) when she received direct hits.

securing them. Nobody who went overboard — even the captain's dog — was drowned.

After an inspection of the ship was made to be sure no wounded were left aboard, the destroyer *uss Phelps* (DD 360) ended *Lexington's* life with torpedoes.

On the afternoon of the eighth of May, Admiral Nimitz ordered TF-17 to retire from the Coral Sea.

BOTH IN JAPAN AND THE UNITED STATES, fantastic claims of victory were made. The Navy Department did not issue an official account of the battle until after the Battle of Midway.

Reports that trickled back to the newspapers gave the impression of a tremendous victory which provided a wonderful shot in the arm for allied morale.

It was just as much a shot in the arm for the Japanese home front. The Japanese navy claimed to have sunk a non-existent battleship and both *Yorktown* and *Lexington*. Hitler congratulated the Japanese, saying that the United States would hardly dare to engage the Japanese navy again.

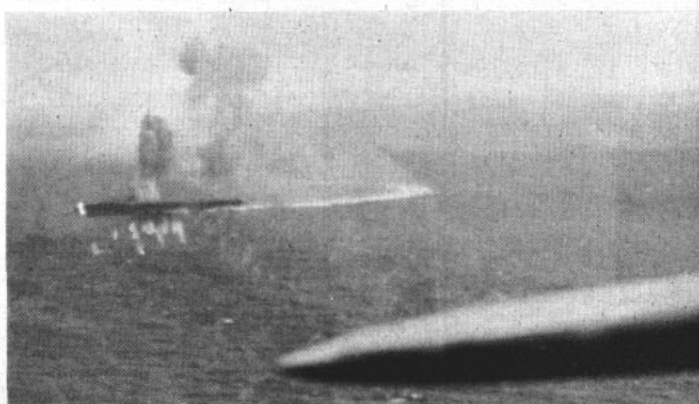
The United States Navy had done what it set out to do.

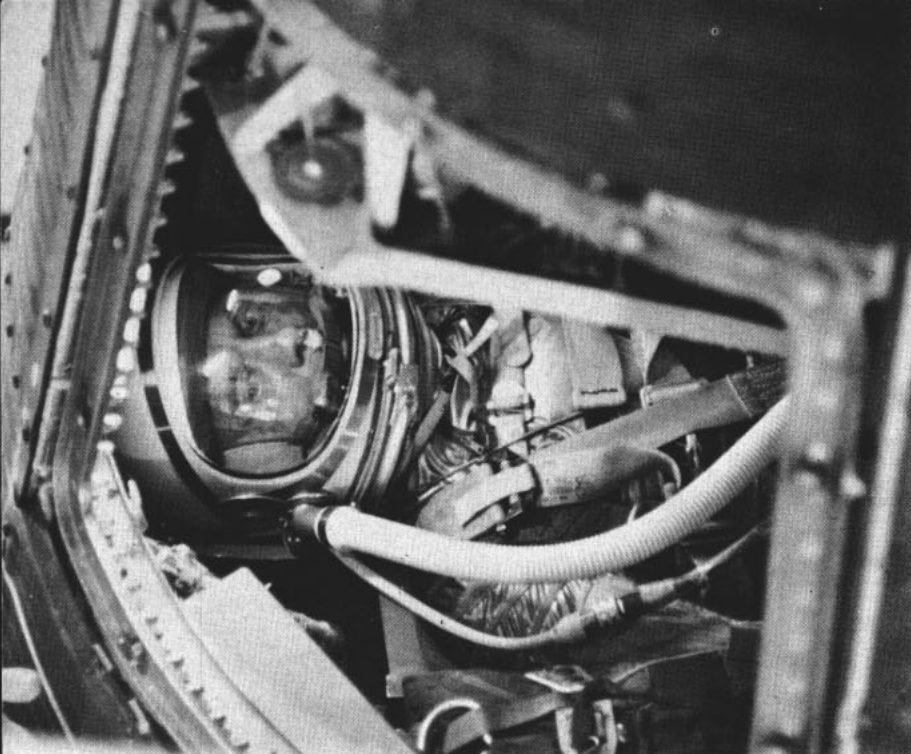
- The Japanese landing at Port Moresby did not take place. No Japanese warship ever again penetrated the Louisiades. The carrier *Shoho* was sunk.

- *Shokaku* was so damaged that she was out of action for two months and *Zuikaku* lost so many planes that she was out of the war until 12 June. Their presence at the battle of Midway might have written a different ending to that story.

From this time on, carrier warfare and naval aviation were to play a significant role in the war in the Pacific.

NEW — No ships encountered a surface enemy on the Coral Sea. Here, Japanese carrier takes a beating.





ALL SET—CDR Shepard in spacecraft readies himself for the blast off.

navitics and Space Administration wanted an extra cushion of time.

Shortly before 0300, the two men breakfasted on filet mignon and poached eggs. They were examined by their doctors at 0320.

At 0350, technicians began attaching the medical biosensors (small electronic instruments for telemetering medical information back to earth). The astronaut began suiting up at 0400, after which the pressure of the suit was tested.

At 0459, Shepard, fully clad in his space suit, but with the visor of his helmet open, left the hangar and got into a waiting van which took him to the launching pad.

The capsule atop the *Redstone* missile looked black from the ground. Its name—"Freedom"—was painted

A Naval Aviator: Our First

AT 1034 EDT on 5 May, CDR Alan B. Shepard, Jr., USN, was blasted off in his three-ton space capsule for an epoch making 302-mile journey over the Atlantic, 115 miles above the earth, at a speed of 5100 miles per hour.

After several nerve-pounding delays when the countdown was stopped because of weather or the failure of a part to function, the mighty *Redstone* rocket sent the American astronaut on the world's

first space flight in which control was in the hands of the man in the capsule.

The astronaut's day began at 0205, when he and his alternate, Marine LTCOL John H. Glenn, were awakened in their apartment in Hangar S at Cape Canaveral.

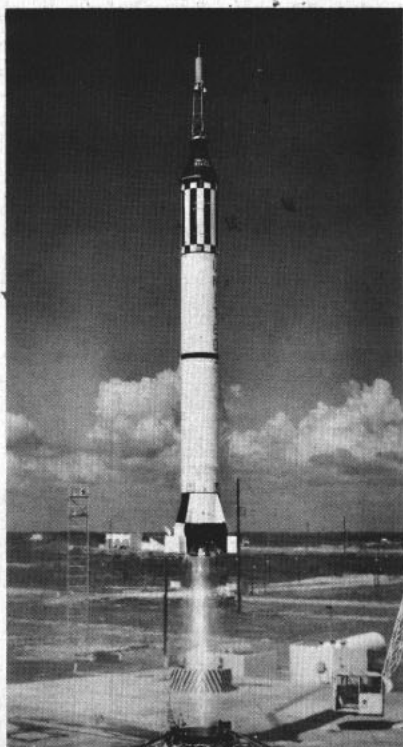
At this time, the countdown had been underway for an hour and 30 minutes—an hour ahead of the original schedule because *Project Mercury* officials of the National Aero-

on the side; it contrasted dramatically with the stark whiteness of the rocket beneath it.

After a tense countdown, the missile blasted off. CDR Shepard's first words, except for instrument readings and such, were: "What a beautiful view."

The entire flight went perfectly. Landing was made at 1049. CDR Shepard was taken aboard the aircraft carrier *uss Lake Champlain* (CVS 39), and to a hospital espec-

OFF TO SPACE — *Redstone* missile takes off on Project Mercury suborbital flight with astronaut on nose. Below: Copter recovery team returns to carrier.



ally set up for the occasion in the Grand Bahamas.

It is a signal honor that, in the fiftieth year of Naval Aviation, a naval aviator should make the first manned flight into space for the United States.

ALAN BARTLETT SHEPARD, JR., America's first astronaut, is a commander in the U. S. Navy.

CDR Shepard was born 18 Nov 1923 in East Derry, N. H., and graduated from Pinkerton Academy at Derry, N. H., in 1940.

For one year, he studied at Admiral Farragut Academy, Toms River, N. J., after which he entered the Naval Academy at Annapolis. He graduated from the Academy in 1944.

During World War II, the astronaut saw service in the Pacific in the destroyer *uss Cogswell* (DD



END OF THE LINE—NASA astronaut, CDR Alan B. Shepard, Jr., USN, is picked up. Below: CDR Shepard checks spacecraft on USS Lake Champlain (CVS 39).

651). He then took flight training at Corpus Christi, Tex., and Pensacola, Fla.

He received his wings in March 1947 and served after that with Fighter Squadron 42 at Norfolk Naval Air Station and Jacksonville, Fla. He also served several tours aboard aircraft carriers in the Mediterranean.

In 1950 Shepard went to Test Pilot School at Patuxent River, Md. He served two tours at the Test Center there. During this service, he took part in high-altitude tests to obtain data on light at different altitudes and on various air masses over the North American continent.

He also took part in test and development experiments of the Navy's in-flight refueling system, carrier suitability trials of the F2H3 *Banshee* and Navy trials of the first angled carrier deck. His last five months at Patuxent were spent as an instructor in the Test Pilot School.

Between his tours at Patuxent, Shepard was assigned to Fighter Squadron 193 at Moffett Field, Calif., a night fighter unit flying *Banshee* jets. He was Operations Officer of this squadron and made two tours with it to the Western Pacific on board the carrier *uss Oriskany* (CVA 34).

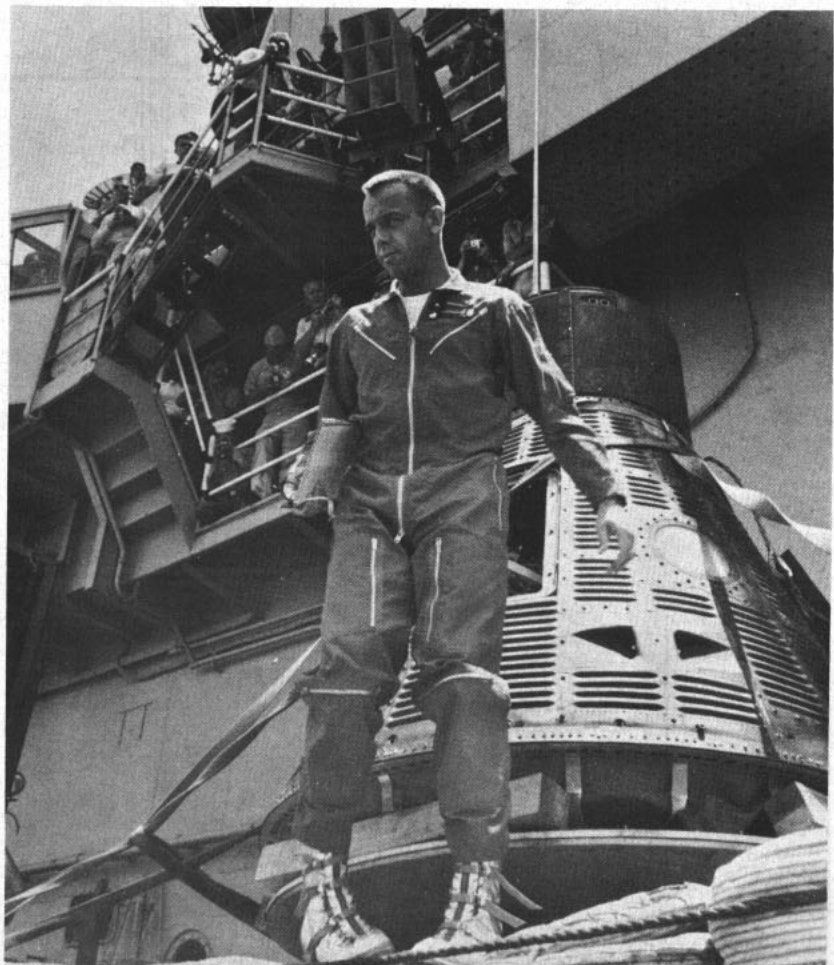
In 1958 the commander graduated

from the Naval War College at Newport, R. I., after which he saw service as aircraft-readiness officer on the staff of the Commander-in-Chief, Atlantic Fleet.

He has also been engaged in the

test of the F3H *Demon*, F8U *Crusader*, F4D *Skyray* and F11F *Tiger-cat*, and was project test pilot on the F5D *Skylancer*.

CDR Shepard has logged more than 3700 hours of flying.





Next for

On the fifth of May, CDR Alan B. Shepard, Jr., USN, made America's first manned flight into space. This was a history-making event, but it was also just one more step in America's march toward the stars.

For a glimpse of what is still to come, the following takes the reader on an armchair voyage into orbit with an American astronaut. It gives him an insight into the sights and sensations the astronaut will experience (and some idea of what CDR Shepard experienced in his first flight), as well as a look into how Mercury astronauts prepare themselves to be pioneers in outer space.

The planning, direction, development and management of Project Mercury is the responsibility of the National Aeronautics and Space Administration, better known as NASA.

THE FLOODLIT ROCKET stands tall and white in the darkness of the early morning. The Mercury astronaut steps into the elevator with a group of NASA technicians and ascends to a height roughly equivalent to that of a nine-story building to reach the entrance of the cone-shaped capsule. Despite the fact that he is the center of the preparations of every member of the National Aeronautics and Space Administration—and, indeed, of everyone at Cape Canaveral—he feels curiously alone.

He is securely strapped into his form-fitting couch. It is approximately two hours before launch time. He sees the hatch secured, which seals him from the world he has known.

The capsule checkout takes approximately 30 minutes. After that he waits—waits for T-zero or a stop in the countdown. If there is the least flaw in any of the system checkouts, the voyage into space will be delayed until it is corrected.

The seconds tick by. Many thoughts enter his mind—some unbidden, which he tries to push aside. There is little time left to review his role in flight, for fly the capsule he must. It is entirely automated, but much depends on his actions and reactions—especially if an automatic system fails and he must operate a back-up manual control system.

The countdown goes according to

ALL HANDS

NASA: Orbital Flight

schedule. The *Atlas* missile blasts off amid noise and vibration unimaginable to those who have not witnessed it, but which the Mercury astronaut has long been trained to withstand.

THE *ATLAS* gains speed. The acceleration gradually increases and pushes the astronaut down into his couch. When this force reaches approximately six times the pull of gravity, the two *Atlas* booster engines are shut down and the pressure on the astronaut is temporarily relieved. The *Atlas* then proceeds on its sustainer engine, and the acceleration again builds up. At 8g the spacecraft has reached orbital velocity. Then the sustainer engine is shut down, and suddenly the capsule and the man inside become without weight.

This is a sensation which the astronaut has only briefly experienced before. He does not know what effect prolonged weightlessness will have on him—he is face-to-face with one of the problems of manned space flight.

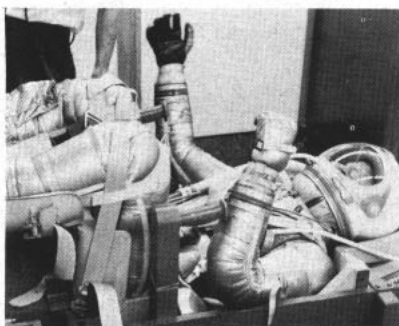
The capsule separates from the *Atlas* last stage and, in five seconds, the autopilot stabilizes the capsule; swings it around 180 degrees and tilts it up 35 degrees so the capsule is placed in the retrofire position.

This is important. Then, if anything is wrong—if the capsule isn't traveling at the right speed, or if its orbit is off, retrofiring must occur at the soonest possible moment to permit a landing in the Atlantic rather than in Africa.

ALL HAS GONE WELL. The capsule is in orbit. Now it is time for the astronaut to assume the crucial role which he must play in the flight. His safety now depends upon his ability to monitor the instruments and indicator lights on his control panel.

The pilot's left hand is free to activate his escape systems. If it had been necessary before he was in orbit, he could have pulled a handle any time after he was two inches off the launching pad and would have been hurled free of the *Atlas*. Now that he is in orbit, he is free to activate the retrofire rockets.

The attitude control handle is on the pilot's right side; with it he con-



trols the position of the capsule in relation to the earth. The handle looks very much like a conventional control stick, but it has more capability. The astronaut's operation of this handle will allow him to view particular portions of the earth and sky, and will permit successful control of the capsule attitude if the autopilot fails.

He reports periodically and frequently to ground tracking stations in order to confirm data which has been telemetered to earth. He monitors cabin pressure, oxygen supply and the concentration of carbon dioxide in the capsule. He may be the first to detect that these are reaching dangerous values and is best able to take corrective action.

He observes the earth's cloud cover and auroral displays and makes

whatever astronomical observations he can with the naked eye. He also pays close attention to his own body sensations and looks out for any which tend to interfere with his subjectivity.

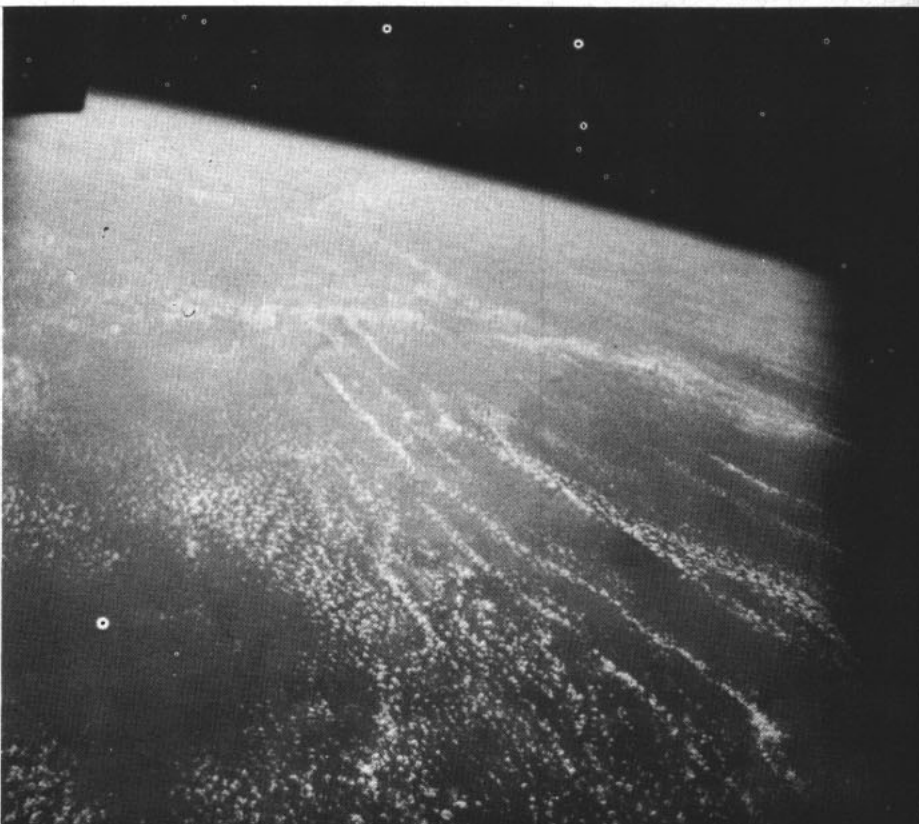
With the aid of his periscope, strip maps and time clocks, the astronaut is able to report his time over certain recognizable landmarks. He will also know where he is in case he loses contact with the ground tracking system.

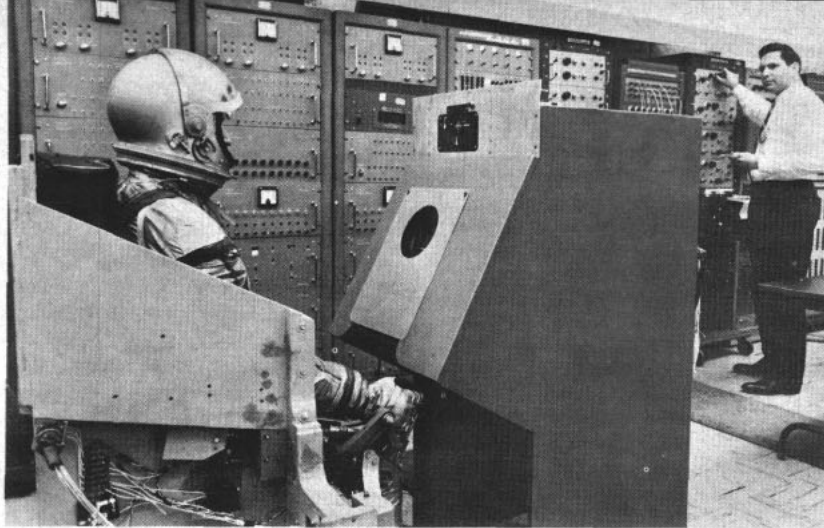
THE CAPSULE ORBITS the earth two times, and is now about to complete its third orbit. It is time to prepare for re-entry.

The heat shield of the capsule is in its broad base. This must hit the atmosphere head-on, otherwise the astronaut is in trouble. If the capsule is out of alignment to a dangerous degree, the retrorockets will refuse to fire.

When the atmosphere is re-entered, the astronaut must keep the heat shield where it will do the most good. If the capsule oscillates, and the automatic reaction jet system can't keep it stable, the astronaut must stabilize the capsule by activating the reaction jets manually.

At about 10,000 feet a parachute opens, lowering the capsule to the





GROUND WORK—Analog flight simulator trained and tested NASA Project Mercury astronauts under conditions they would encounter in space flight.

surface at a speed of about 30 feet per second. If the first chute fails, the pilot must be prepared to use a second.

The astronaut has made the round trip from the earth to outer space and back. He is now adrift in the ocean and has two choices—he may remain in the capsule until it is lifted aboard a recovery ship, or he may leave the capsule immediately and board his life raft.

THE ORBITAL TRIP of the American astronaut, following suborbital flight, will point up certain factors that are now in the “unknown” category. Prominent among these conditions is prolonged weightlessness. However, because of the extensive training program under NASA, the astronaut will have experienced many of the sensations and problems inherent to space flight before the day he takes his place in the space capsule.

Years have gone into research and training to make the astronaut and his equipment adequate for the occasion. He and his equipment have been jostled, tumbled, confused, accelerated, stopped and placed in a vacuum.

The astronaut has spent much time in complex procedures trainers and “air-bearing” and “multi-gim-balled” simulators located in NASA facilities at Space Task Group, Cape Canaveral and Lewis Research Center. He has also experienced zero-gravity in three different types of Air Force aircraft.

He has been tested at the Naval School of Aviation Medicine at Pensacola, Fla., in the world’s only human disorientation device, which has applied stress to his body in more

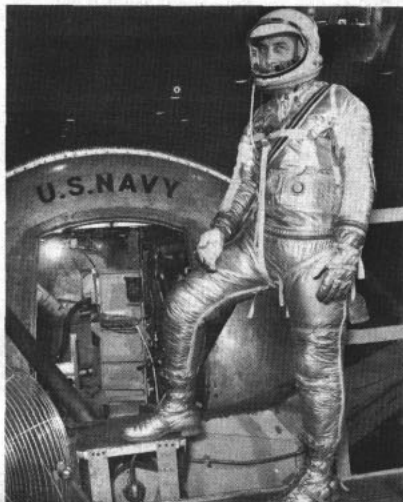
than one direction at the same time. It has tumbled him around and purposely confused him so he will learn to cope with similar conditions if he encounters them in his escape and return to the earth’s gravitational field.

THE ASTRONAUT has experienced much of the expected acceleration sensation in the Navy’s centrifuge at Johnsville, Pa. In this machine he has traveled from a dead standstill to 173 miles per hour in a matter of seven seconds.

This is where he received most of his training on how to stay conscious during the tremendous force necessary to hurl him into orbit.

Here, too, space doctors carefully gathered information (which was recorded outside the centrifuge) on how the astronaut’s heart, brain, circulatory system and breathing functioned while being subjected to many times the force of gravity. While he was in the centrifuge, he was under television observation at all times by medical personnel.

“G” WHIZ — Astronaut prepares to enter human centrifuge to test the effects of Mercury type acceleration.



The centrifuge has been combined with the Navy’s large computer which has enabled the astronaut to experience all the sensations his use of the controls would produce in actual flight. The data resulting from his actions are recorded on the instruments on his control panel.

THE NAVY’S AIR CREW Equipment Laboratory in Philadelphia has spent many a month developing and testing the astronaut’s space suit. NASA has taken the Navy’s Mark IV full-pressure suit and changed its helmet, boots, zipper array, underwear, air intakes and data points to produce the suit which the astronaut will wear on his flight into orbit.

The present model is completely ventilated, and built so that it will automatically inflate in case the capsule pressure drops below five pounds per square inch.

The pressure is sufficient to prevent a condition familiar to the Navy—the bends, sometimes suffered by divers who surface too quickly. The suit is designed so the astronaut can do his job in comparative comfort, even in a vacuum.

The American astronaut making the orbital space trip will have learned to cope with all the emergencies which can be foreseen. He will have taken numerous test flights without having left the ground.

Any number of emergencies can and do arise during tests—the flight officer at his console sees to that. For instance, if the test capsule’s atmosphere begins to leak, the astronaut’s pressure suit is inflated. If the oxygen supply or the carbon dioxide scrubbing systems should fail, the astronaut can detect this on his instrument panel and, in addition, he will actually feel the physical reaction which would come of such failures. He is then required to bring standby systems into use.

Should fire start in the capsule, he must dump his capsule pressure and later reinstate it, if necessary.

These imitation flights require just as much ability to navigate and maintain direction and timing as will be required of him when he is actually on his trip into outer space.

Flight in space represents a new frontier of knowledge. The flights of the first astronauts are the necessary steps which must precede even more ambitious manned expeditions into space.

—Robert Neil



Mercy Mission

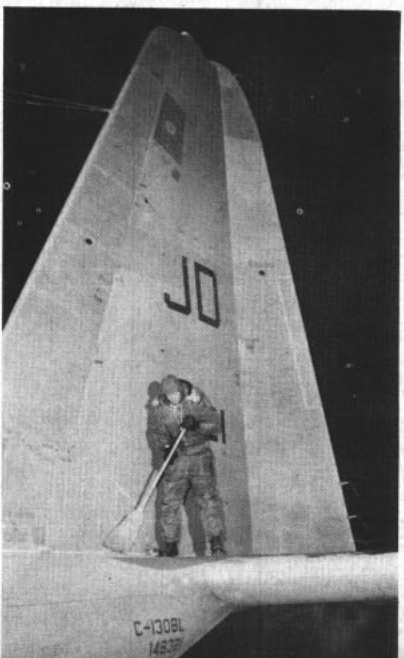
NAVY AIRMEN flying a mercy mission in Antarctica recently opened a new door in polar aviation that may end or shorten winter isolation for Navymen and scientists of Operation Deep Freeze.

The mission was to pick up a foreign exchange scientist who had expected to spend the winter at Byrd station, but who had to be evacuated for emergency medical treatment. He was a Russian physicist, Leonid Kuperov. The long mercy flight covered 6300 miles round-trip from Christchurch, New Zealand, deep into the heart of Antarctica and back. The ski-equipped Navy C-130BL *Hercules* of Air Development Squadron Six took off on a Sunday morning at 1230. In just over 48 hours, including stops at NAF McMurdo Sound, the plane had returned and the ail-

ing scientist was on his way to a hospital in Christchurch.

Not only had a mission of mercy been successfully completed, but the long flight opened the door to possible winter air operations in the Antarctic, as this was the first time an aircraft had flown into the frozen continent after the month of March.

Clockwise from upper left: (1) Navymen of wintering-over party set up poles to mark runway. (2) *Hercules* is preheated by ground crew during short stop at NAF McMurdo Sound. (3) Scientist bids farewell to Byrd Station as he boards plane. (4) Plane crew member cleans snow from cockpit windshield prior to takeoff. (5) Flight engineer sweeps snow off plane. (6) Men at Byrd Station wave goodbye as mercy plane readies for takeoff.



BOOKS: THIS MONTH'S SELECTIONS COVER NAVAL AVIATION

DURING THE CELEBRATION of naval aviation's fiftieth year, you may want to read about its history and development, the careers of its pioneers and leaders, and its famous battles. In your ship and station libraries are many books on aeronautics, both technical and historical.

Listed below are a few of the many titles which give information of one sort or another on the Navy's air power. This is not an inclusive list, and not all books will be in every library. You should, however, find a number of interesting books on the subject.

AIRCRAFT

American Combat Planes, by Ray Wagner, 1960.

The Air Forces of the World, by William Green and John Fricker, 1959. History and development.

Jane's **All the World's Aircraft**, 1960-61. Annual encyclopedia.

The World's Fighting Planes, by William Green and Gerald Pollinger, 1959. A factual roundup.

WORLD WAR II AND KOREA

Cavalry of the Sky, by Lynn Montross, 1954. The U.S. Marine combat helicopter's history and tactical battle development in Korea.

Clear the Decks, by Daniel V. Gallery, 1951. A naval aviator's account of Atlantic operations against the Germans in World War II.

Climax at Midway, by Thaddeus B. Tuleja, 1960. An exciting battle record based on American and Japanese sources.

Combat Command, by Frederick Sherman, 1950. Naval warfare from Pearl Harbor to the Japanese surrender with the carrier seen as a decisive weapon.

The Divine Wind, by Rikihei Inoguchi and others, 1958. The story of the Japanese Kamikaze Corps.

History of Marine Corps Aviation in World War II, by Robert Sherrod, 1952.

History of U.S. Naval Operations in World War II, by Samuel E. Morison, 14 volumes, 1947 to 1960.

Marine Aviation in the Philippines, edited and published in 1951 by the U.S. Marine Corps.

Midway, the battle that doomed Japan, by Mitsuo Fuchida and Masatake Okumiya, 1955. The battle as seen from the Japanese navy's point of view.

Great Sea War: The Story of Naval Action in World War II, edited by E. B. Potter and C. W. Nimitz, 1960.

Queen of the Flat-tops, by Stanley Johnston, 1942. *uss Lexington* (CVA 16) and the Coral Sea battle.

Then There Was One, by Eugene Burns, 1954. *uss Enterprise* (CVS 6) during World War II.

Victory at Sea, by Henry Salomon and Richard Hanser, 1959. Pictorial history of naval action in World War II.

Zero, by Masatake Okumiya and Jiro Horikoshi, 1956. Japanese naval air operations from 1937 to 1945 as told by a flying officer and the designer of the Zero fighting plane.

HISTORY

Astronauts: The Story of America's Man-in-Space Program and the Seven Astronauts, by Martin Caiden, 1960.

Air Base, by Boone T. Guyton, 1941. A navy dive bomber pilot's experiences before World War II.

Aviation in the Modern World: Aircraft, Missiles and Spacecraft, by James V. Bernardo, 1960.

Flattop, by Barrett Gallagher, 1959. Naval aviation from World War II to the atomic carrier.

Golden Wings: A Pictorial History of the United States Navy and Marine Corps in the Air, by Martin Caiden, 1960.

History of United States Naval Aviation, by Archibald D. Turnbull and Clifford L. Lord, 1949.

The Navy Has Wings, by Fletcher Pratt, 1943. Training the naval aviator during World War II.

Navy Wings, by Harold B. Miller,

1942. A nostalgic reminder of pre-war naval aviation.

Ships in the Sky, by John Toland, 1957. The story of the great dirigibles.

They Fought for the Sky, by Quentin J. Reynolds, 1957. Military aviation in World War I, including the airships, airplanes and fliers on both sides.

U.S. Naval Aviation History, 1910-1960, by Lee M. Pearson and Adrian O. Van Wyen, 1961. An illustrated chronology.

Wings at Sea, by Charles Coombs, 1958. Well-illustrated account of carriers, jets and naval aviation training.

BIOGRAPHY

Admiral Halsey's Story, by William F. Halsey and J. Bryan, 1947.

Baa Baa Black Sheep, by Gregory Boyington, 1958. The famous ace's experience as flyer and prisoner of war.

Come North With Me, by Bernt Balchen, 1958. A flying career that included expeditions to both poles.

Five Down and Glory, by Gene Gurney, 1958. A history of the American war aces.

I Took the Skyroad, by Norman M. Miller, 1945. A Navy bomber squadron commander's life story.

The Magnificent Mitscher, by Theodore Taylor, 1954. The career of a pioneer and leader in naval aviation.

The Man Who Rode the Thunder, by William H. Rankin, 1960. Marine jet pilot's flying record.

Samurai, by Saburo Sakai, 1957. A leading Japanese naval pilot describes his training and fighting experiences.

In case this isn't a wide enough selection for you earthbound or actual aviators, take a look at some of the other books in your ship or station library. Chances are you'll have no trouble getting your interest airborne.

BREAST INSIGNIA



Flight Surgeon



Flight Nurse

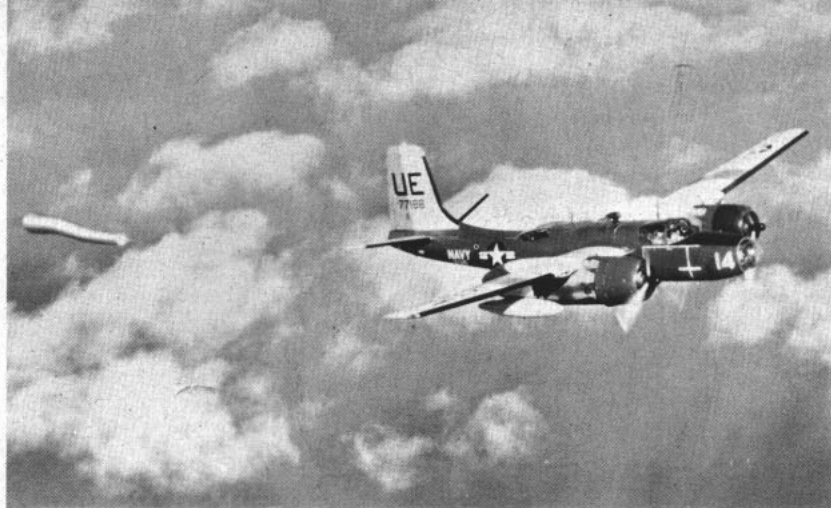
BREAST INSIGNIA



Balloon Pilot



Parachutist



AIM AFT—Sleeve target streams from 'tractor' of Utility Squadron Five.



HOLD IT — Photographer's mate of VU-5 aims 60-pound camera from an open door of an SNB-5P aircraft.

Utility Squadron

"WORK HORSE OF THE FLEET" is the term used by units of the Pacific Fleet to describe Utility Squadron Five (VU-5).

Based at the Naval Air Station, Atsugi, Japan, VU-5 is organized and equipped to perform useful and needed services to Pacific Fleet units. They do a variety of jobs for ships of the Seventh Fleet.

VU-5 earned its work-horse reputation principally through the target-towing service rendered to units requiring antiaircraft gunnery training. JD-1 aircraft, commonly known as "tractors," spend many hours towing the bucket over ships requiring aerial targets. (The bucket is a sleeve target, usually red, 20 feet long and 24 inches in diameter, and designed to inflate like a carnival balloon as it trails at the end of 7000 feet of specially designed cable.)

The JD-1 is the A-26 *Invader* of the World War II Army Air Corps. These old and venerable craft are kept hale and hearty by top-notch maintenance crews of VU-5. Plane designs come and go, but no other plane seems so well suited to the duties of a tractor, and until anti-aircraft mounts of the Fleet are replaced, the JD-1 will continue to tow the bucket.

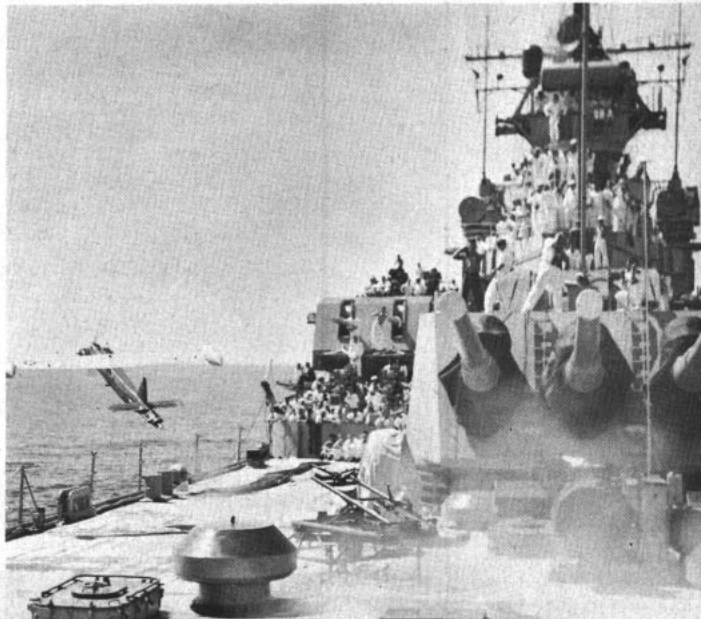
Target services for missile systems are furnished by the drone units of VU-5. The surface unit (KD-25), located in Yokosuka, Japan, deploys on ships and launches its tiny, speedy, pilotless aircraft from a portable launcher. The air unit, located at Naha, Okinawa, launches its drones from the belly launcher of a specially adapted P2V *Neptune*. Drones from both units are used as targets for radar-directed gunfire and

surface-to-air and air-to-air missiles.

Jet fighter planes (FJ-4 *Furies*) of VU-5 perform another important service for combat information centers of Fleet units. CICs are charged with directing the interception of aircraft detected by their long-range air-search. To keep CICs proficient in this intricate operation, a pair of VU-5 *Fury* jets provides them with practice in detection and intercept exercises. The jets are also frequently called upon to play the role of tractors, dragging radar-reflecting banners for aerial gunnery practice.

Diversified as they are useful, the functions of Utility Squadron Five also include complete aerial and ground photographic services.

MOVING TARGET—FJ-4 *Fury* jets skim along the Pacific. Right: KD drone target is launched from deck of cruiser.



Brief news items about other branches of the armed services.

THERE'S SOMETHING NEW for USAF fighter aircraft—arresting gear. Long a standard item on Navy planes, tail hooks are being installed on F-102's (*Delta Daggers*) under the operational control of the North American Air Defense Command (NORAD). Certain other USAF F-102s, F-104s, F-105s and F-106s are also being equipped with tail hooks.

Parallel with this development is the installation of arresting cables (which engage the tail hook during the plane's landing) at many Air Force bases, including Hill AFB, Utah; Griffiss AFB, N. Y.; Lockbourne AFB, Ohio; Davis Monthan AFB, Ariz.; Grand Forks AFB, N. D.; and Malmstrom AFB, Mont.

Just as at Navy air fields, the arresting cable at the Air Force bases is strung at right angles to the runway.

The tail hook was designed at the request of the Air Defense Command, NORAD's Air Force component. It has been estimated that as many as six accidents to F-101 and F-102 aircraft could have been prevented during 1960 had the tail hook been in use. USAF's Air Materiel Command has reported the arresting gear safety feature proved nearly 100 per cent effective in preliminary tests.

Arresting gear work on Air Force F-102s began late in 1960 at Brookley Field, Mobile, Ala., and at Hill AFB, Utah.

★ ★ ★

THE ARMY is sponsoring research on an aircraft electronic checkout system which uses strategically placed sensors to check critical mechanical and structural components.

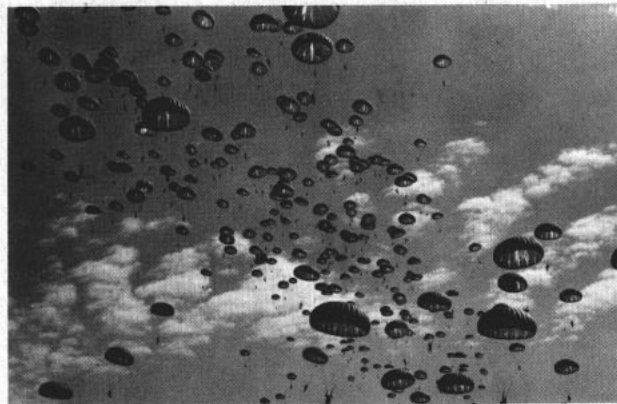
Known as project ALARM (Automatic Light Aircraft Readiness Monitor), it is hoped the program will save valuable man-hours in carrying out maintenance inspections on Army airplanes and helicopters.

The ALARM system sensors are installed at critical points in the engine, transmission, drive shaft, bearings, propeller or rotor and at other selected sites in the structure.

These are connected to a central control panel where



KING-SIZE—Full-scale model of Saturn rocket's power plant is suspended from test tower during NASA testing.



SUSPENDED—Strategic Army Command's paratroopers constantly train under simulated combat conditions.

the pilot or maintenance personnel can literally tell at a glance the status of the aircraft. The ALARM system incorporates self-testing circuitry which makes the system virtually foolproof.

The system is being tested on one of the Army's new turbine-powered helicopters, the HU-1 *Iroquois*. If tests are successful, the use of electronic monitoring could reduce inspection time to a matter of minutes and may remove some requirements for special personnel skills.

The goal of the present research is to come up with a system in which pilots and crew members will have as much confidence as they now have in conventional instruments and panel indicators.

★ ★ ★

WORK SHOULD BEGIN SOON on a new North American Air Defense (NORAD) underground combat operations center in El Paso County, Colorado.

The U.S. Air Force has released \$8,530,000 under its Military Construction Program for excavation of the site and has already advertised for bids. Excavation work should begin soon and will take some 12 months to complete.

Designated System 425L, the new combat operations center will be an underground replacement for the present NORAD control system at Ent Air Force Base, Colorado Springs.

Already the Air Force has spent \$98,667 to acquire the real estate for the new site and \$1,131,200 to build access roads.

★ ★ ★

A NEW LIGHTWEIGHT, all-purpose survival food packet, designed for emergency use in any combat situation, anywhere in the world, has been developed by the Army Quartermaster Corps.

The food packet, usable even where water is severely limited, already has passed extensive service tests in both hot and cold climates.

Known as the "All-Purpose Survival," the packet consists of food bars which may be made to taste like almost any food. The test prototype includes four food bars packaged with instant beverages in a 12-ounce container. The uniform nutritional composition of the bars permits assembly of a packet in any shape or size to meet anticipated emergency needs.

With the new survival food packet, a person can

eat as many bars as he needs when water is plentiful, or he can eat any one bar when little or no water is available, without seriously dehydrating his body.

Studies indicate that food eaten when there is a lack of water, should contain no more than seven to eight per cent protein. Food which contains more protein, when eaten without water, will cause severe dehydration of the body.

The uniform nutritional design of the food bars will enable survivors to adjust food consumption to their needs, based on such variables as available supply, probable energy output and length of time before rescue can be expected.

★ ★ ★

THE AIR FORCE'S CHENEY AWARD for 1960 has been presented to Captain A. S. Despres, Jr., USAF, a Strategic Air Command pilot. Captain Despres received the award for heroism performed last year.

He was copilot on a B-47 *Stratojet* bomber that had crashed shortly after takeoff at Eielson Air Force Base, Alaska. Although he successfully escaped the crashed airplane, Captain Despres re-entered the flaming wreckage and rescued the aircraft commander who was trapped inside and injured. Next he again entered the wreckage to rescue two other crew members. He did this in the face of exploding ammunition and the flames of 100,000 pounds of ignited fuel.

Now stationed at Forbes Air Force Base, Topeka, Kansas, Captain Despres was awarded a bronze plaque, a certificate of heroic achievement, and 500 dollars.

The Cheney Award is presented annually. It honors an act of valor, extreme fortitude or self-sacrifice of a humanitarian nature. The act must be associated with aviation but it need not have been of military nature. The award was established by the family of LT H. W. Cheney, Army Air Service, who was killed in a crash at Foggia, Italy, during World War I.

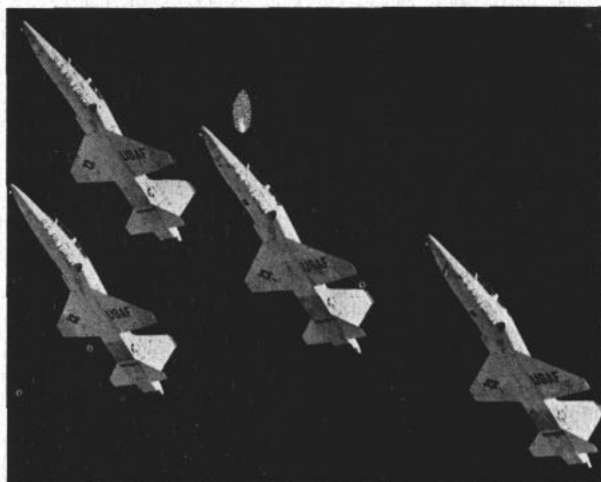
★ ★ ★

IT WILL BE POSSIBLE in the near future to detect and identify much smaller earth movements—such as those caused by earthquakes or underground explosions—than can now be detected.

A new research station has been built in the Wichita Mountain near Fort Sill, Okla., which will study these detection and identification problems. The station, under



PEEKABOO — Air Force's GAR-4A air-to-air Falcon missile hits 36-inch target from more than mile away.



UPPER CLASS—Air Force's newest supersonic planes, T-38A trainers, crease skies over California desert.

the technical supervision of the U.S. Air Force Technical Applications Center, will be called the Wichita Mountain Seismological Observatory. It is part of the U.S. seismic improvement program known as Project Vela-Uniform.

The station was built as a result of a conference of experts, which consisted of representatives of the United States, United Kingdom, France, Canada, USSR, Romania, Czechoslovakia and Poland. They met in Geneva, Switzerland in 1958 to study the means of detecting violation of a possible agreement in the suspension of nuclear tests.

Equipment in the observatory will be identical to that recommended by the Geneva Conference. The Wichita Mountain site, about 15 miles northwest of Lawton, Okla., was selected because the minute vibrations of the earth—called microseismic noise—which interfere with the detection of signals from distant earthquakes or underground nuclear explosions, are exceptionally small in the Wichita Mountain.

The Observatory has been developed and will be operated under the over-all direction of the Department of Defense's Advanced Research Projects Agency.

★ ★ ★

WITH THE DEACTIVATION of its 1929th Airways and Air Communications Service Squadron, the Air Force has gone out of business on Adak Island. Located midway in Alaska's Aleutian chain, Adak has lots of not-so-pleasant weather, but it's not so cold as you might expect. In summer the temperature holds about 46 degrees; in winter it averages about 34 degrees. Rain or snow is the usual weather forecast.

The island was uninhabited before World War II. In 1942 it was taken over by the military to form a link in the Aleutian defenses. An airfield was constructed on the bed of a drained lake. Within a year Adak teemed with activity as headquarters of the 11th Army Air Force. For B-24 bombers en route to a mission over the Kurile Islands, Adak served as an important way-station.

Following the war, Adak was turned over to the Navy, which has controlled it ever since.

All-Navy Champs: Boxing &

STANDING-ROOM-ONLY throngs of more than 4000 fight fans sat in on each of three nights of slam-bang battling, and saw Atlantic Fleet and South Atlantic Region mitt-slingers grab off the lion's share of the titles, as the 1961 All-Navy Boxing Tournament was run off at NavSta Newport, R. I., April 5-7.

Indicative of the furious action which prevailed during the three-day struggle for top Navy ring honors is the fact that 11 of a total of 28 bouts ended in knockouts or TKOs, and only four of the 10 championship set-tos lasted the prescribed three-round limit.

Both the LantFleet and SoLant Region squads qualified six mittmen for the championship round, with four SoLant and three LanFleet four SoLant and three LantFleet All-Navy laurels. The Pacific Coast Region, meanwhile, copped two of the remaining three titles, and the Western Pacific Region the other. Two North Atlantic Region standard-bearers managed to gain the finals, but were shut off from the throne room.

Championship bout results were:

112 pounds

Joe Gaiter, AN, NavAirLant

(LantFt) decisioned Ling Ortiz, TN, 6ND (SoLant).

119 pounds

L. J. Eli, YN3, CinCPacFt (West-Pac) KO (1) over Marvin Munford, SN, CruLant (LantFt).

125 pounds

Pat Brady, AN, 6ND (SoLant) decisioned Bill Norman, AN, NavAirLant (LantFt).

132 pounds

Clarence Calloway, SN, NavAirLant (LantFt) TKO (3) over Bob Thomas, ADR3, 1ND (NorLant).

139 pounds

Randy Dove, AA, 6ND (SoLant) TKO (2) over Palladin Pelliccia, HN, PRNC (NorLant).

147 pounds

Jim McClain, PHAN, 5ND (SoLant) decisioned Billie Smith, YN2, 12ND (PacCoast).

156 pounds

Tom Lee, ADJ3, 12ND (PacCoast) TKO (1) over John Moye, AN, 8ND (SoLant).

165 pounds

Jim Rossette, SN, 6ND (SoLant) KO (1) over Bill Polk, SA, CruLant (LantFt).

178 pounds

John Hunter, SN, NavAirLant

(LantFt) decisioned Dick Allen, BM1, PhibPac (PacCoast).

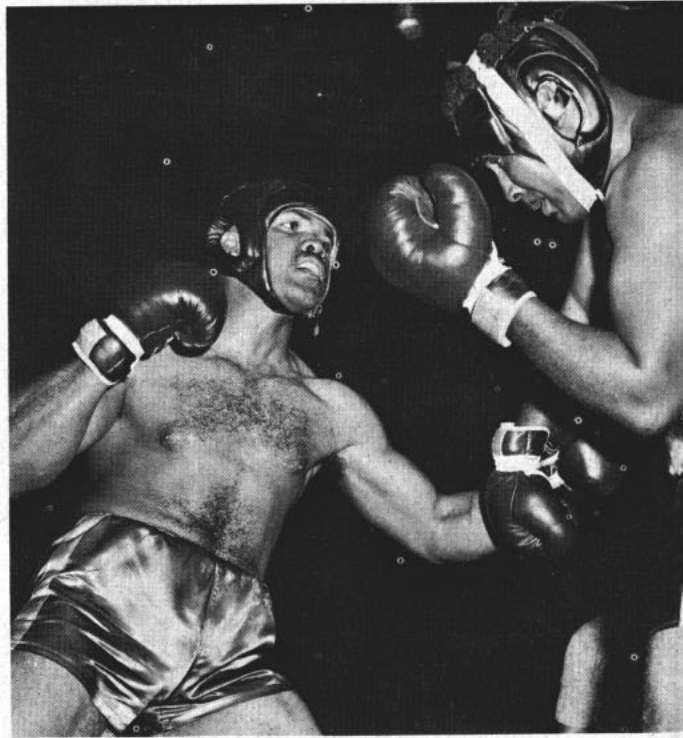
Heavyweight

Vern Casimir, SN, PhibPac (PacCoast) TKO (3) over Jim Haskins, SK2, uss *Epperson* (DDE 719), (WestPac).

One of the top bouts among a whole string of very good ones was the 178-pound get-together, which found a strong but inexperienced Hunter matched with the 29-year-old "Boats" Allen, All-Navy title-holder in this weight class two years ago. The two threw leather every step of the way in a corking scrap which found Hunter holding an eyelash-thin one point edge on the judges' cards at the finish.

Another highlight was the showing of 6ND's talented trio — Pat Brady, Randy Dove and Jim Rossette — who banged their way to 125-pound, 139-pound, and 165-pound honors, respectively. Brady and Rossette, according to most observers, rated equal billing as the tourney's two classiest operatives. Dove, on the other hand, was getting all he could handle from PRNC's Pelliccia, when the hard-luck Hospitalman's nose suffered a

ALL-NAVY — John Hunter, light heavyweight, decks opponent. Right: Heavyweight Vern Casimir (left) slugs it out.



Volleyball

deep gash late in the second round, and Dove was awarded a technical knockout victory. The dead-game Pelliccia had captured the hearts of the fans in the semi-finals when he outhustled LantFlt's Ted Brockman, 1960 All-Navy 139-pound champ trying for a repeat title, for a hard-won decision.

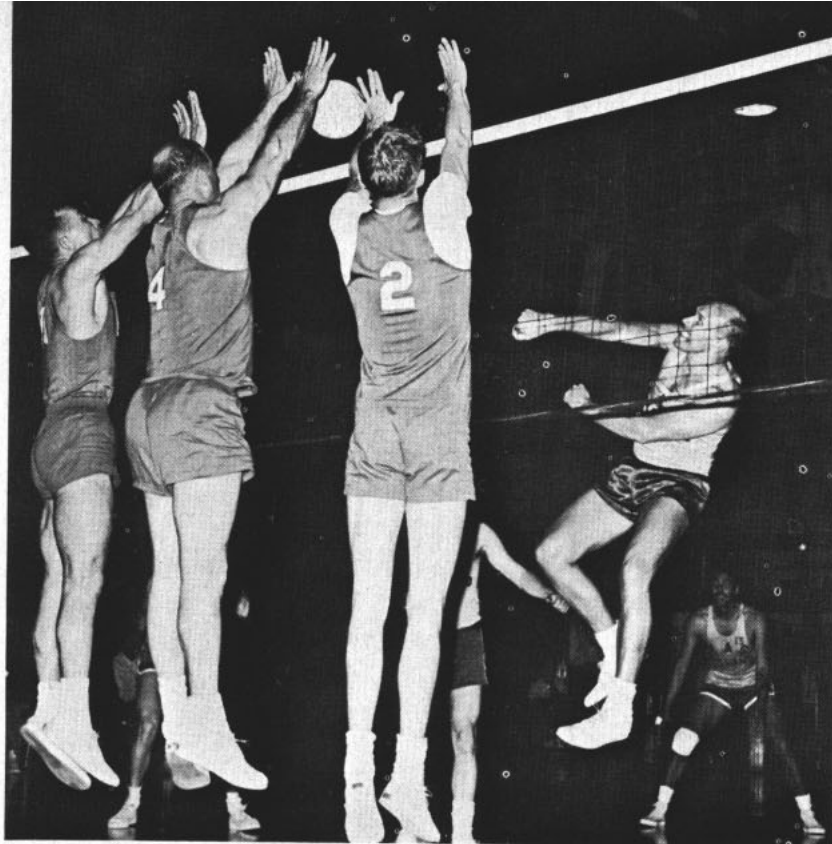
Still another crowd-pleaser in semi-final action was the narrow split decision win recorded by the eventual 119-pound champ, Eli, over 6ND's Tony Elumba. SoLant's scrappy little Stewardsman battled Eli all the way to the wire, and narrowly missed racking up a fifth championship for his squad.

Named to the squad which represented the Navy in Inter-Service competition with the Army, Air Force and Marine Corps champions at Hamilton AFB, Calif., April 19-21 were champions Gaiter, Calloway, Dove, McClain, Rossette, Hunter and Casimir, plus Elumba, Norman and LantFlt's Joe Ricks. The last-named trio will replace champions Eli, Brady and Lee, respectively, all of whom were unable to make the trip. In addition, PhibPac's Allen and LantFlt's heavyweight, Emmett Jefferson, accompanied the team as alternates.

THERE'LL BE OTHER All-Navy Volleyball championship teams in the years to come, but to a poised, powerful NAS Oakland, Calif., sextet goes an honor which can never be topped. They are the very first ones.

The hustling Flyers, representing the 12th Naval District and the Pacific Coast Region, swept three straight matches without the loss of a game in besting four other regional contenders in a double-elimination meet at NAS Alameda on 12-14 April. The Alameda set-to marked the first time that this sport has been contested on the All-Navy level.

Vying for Navy-wide volleyball supremacy, in addition to the Oakland crew, were: NAS Quonset Point, R.I. (North Atlantic Region); Fleet Air Electronics Training Unit Atlantic (Atlantic Fleet Region); NAS Jacksonville, Fla. (South Atlantic Region), and the volleyball team of NAS Barber's Point, Hawaii (Western Pacific Region).



ON THE BALL—NAS Oakland volleyballer spikes one into massed JAX defense.

Complete tournament results were:

First day

NORLANT—15, 11, 15
LANTFLT— 0, 15, 4

PACCOAST—15, 15
SOLANT — 5, 11

NORLANT—15, 7, 15
WESTPAC— 8, 15, 9

SOLANT —15, 15
LANTFLT—11, 4

Second day

WESTPAC—15, 10, 15
SOLANT —11, 15, 8

PACCOAST—15, 15
NORLANT —12, 9

NORLANT—11, 15, 15
WESTPAC—15, 10, 6

Third day

PACCOAST—15, 15
NORLANT — 5, 12

Oakland's NAS'ers were forced to put down a strong challenge posed by the 11th Naval District entrant in the PACCOAST Regional play-offs before entering All-Navy play. Four stars from that 11ND team—Ron Smith, Tom McDonald, Solomon Atkinson and Bob Hamilton—were augmented by the Oakland club for the All-Navy meet, and contributed greatly to the eventual champion's

success. Then, as All-Navy standard-bearers, the Flyers added five top performers from the other regional entrants to the roster for a trek to Fort Ord, Calif., where they were slated to do battle with Army, Marine Corps and Air Force titlists in the first annual Inter-Service Volleyball Tournament, April 26-28.

Interest in volleyball has been on the upswing throughout the U. S.—both in the services and out—in recent years. Contributing much of the impetus for its move from the ranks of station-level competition only, to the status of a "major" sport within the armed forces this season, however, was a recent recommendation by world amateur athletic leaders to establish volleyball as an official Olympic Games sport for the 1964 Games in Tokyo, Japan, pending final decision by the International Olympic Committee.

Spurred by that decision, the Army, Navy, Air Force and Marine Corps decided to extend station activity and district competition to the regional and service-wide level and to add volleyball to the inter-service agenda. By 1964 they hope, through added interest and beefed-up competition, to have a shot at contributing to the team which will represent the U. S. in the Tokyo Games.

—Jerry McConnell, JO1, USN.

THE BULLETIN BOARD

Questions Answered for Naval Aviators & Aviation Personnel

The February and March issues of ALL HANDS contained the first two articles in a series covering questions which are asked the Chief of Naval Operations on his visits to ships and stations.

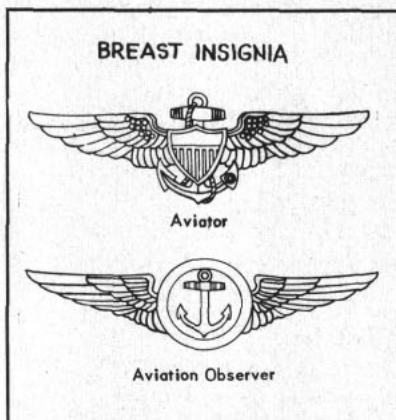
The preceding two discussions concerning the problems encountered by career officers were devoted primarily to general issues. In this, the last of the series, the status of the naval aviator receives the greater emphasis.

What will be the status of the naval aviator in the future (20 years)?

Long range objectives include a major role for naval aviation. The Navy's traditional mission of preserving the freedom of the seas, supporting national policy throughout the world, and providing aid and support to allies, will embrace missions ranging from ASW, AEW, close air support of ground forces and vertical envelopment to strategic deterrent striking power and space exploration and development.

Our inventory is expected to include (a) second and third generation supersonic fighter and attack aircraft in the MACH Two to Five range, employing missile and stand-off weapons; (b) sub-sonic planes with Eagle-type supersonic, long range missiles; (c) conventional and nuclear-powered ASW/AEW types capable of great mission endurance with improved crew environments; (d) STOL and VTOL aircraft for use in combat and logistic support missions requiring slow take-off and landing and vertical take-off and landing capability from undeveloped fields and ships with small landing areas; (e) rotary and fixed-wing types for ASW, transport, logistic and many other missions; (f) and manned space vehicles.

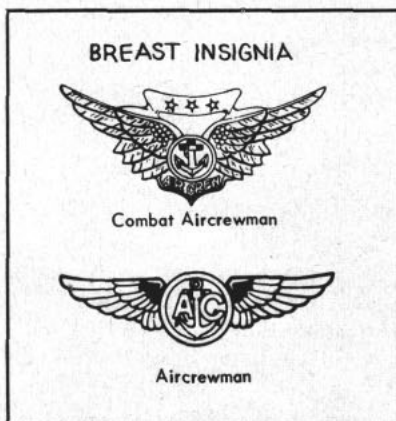
Such sophisticated aircraft and weapons systems will require aviators with new levels of scientific education and specialized technical training and knowledge. Emphasis has already been placed on increasing the level of general and technical education of the Navy's officer corps to meet the



challenges of the future. Career patterns have been revised to increase emphasis on technical sub-specialization concepts for officers, which include plans to keep most aviators closely allied with operational flying for 10 out of the first 12 years of duty, followed by generalization to allow advancement to command duties and rank. This will achieve the desired high degree of professionalism and improved Fleet readiness demanded by the costly and complex air space weapons systems of the future.

To man the new space-age Navy we need a broad base of young aviators, highly motivated by patriotism, adventuresome spirit, lofty ideals and long-range goals.

How will the current developments in the Polaris program affect the future of the career officer in naval aviation?



It will not affect him at all. The two programs have individual and separate requirements. In peacetime, the Polaris missile will be the most valuable deterrent the United States will have. The naval aviator in peacetime will continue to be available for carrier operations in brush-fire wars, for antisubmarine warfare, for reconnaissance, and similar duties. In wartime, Polaris and the aviator become a coordinated attack team.

What is the future of carrier-based ASW for career guidance purposes?

The carrier-based ASW function will undoubtedly continue to be a part of the U.S. Navy — at least until 1975 — and, conceivably, well beyond that time. It is obviously difficult to project any technical program much beyond that date because of the considerable advances that are being and will be made in all aspects of anti-submarine warfare, as well as in other fields of naval warfare.

An individual who is interested in developing a career in carrier-based ASW should have no concern about the future role of the ASW Carrier Task Force.

What is the career potential for aviation ground officers (1350)? What will be the ultimate role of the career aviation ground officer in the Fleet? What form will his career pattern take from LCDR to CAPT?

The intended use of Code 1350 officers will eventually extend beyond and outside the highly specialized fields of their sub-specialty, and does not necessarily have to be confined to naval aviation. For example, they would be qualified and available for assignment to most, if not all, non-specialty billets within the aviation billet structure as a normal part of the pattern of duty rotation.

As with 1310 officers, there will be rotation to shipboard billets to qualify for command. In addition, some will be eligible for postgraduate education.

The diagram on page 46 gives an excellent picture of what the

career aviation ground officer can expect in the future.

Will there be a chance of forming a staff corps for aviation ground officers?

No, The formation of a staff corps is not desirable. The Navy is emphasizing the use of unrestricted line officers with a defined sub-specialty.

What are the promotion opportunities for 1350 designators? If there is one vacancy for promotion and two officers are eligible — a 1310 and a 1350, both equally qualified — who will be promoted?

They would each have a 50-50 chance for the vacancy. If, in the opinion of the selection board, a greater need existed in either category, the needs of the service would prevail.

Is there any possibility of relaxing the "No Waiver" qualification for augmentation under the 1350 program — specifically, the requirement on eyesight?

No. The physical standards for the 1350 program are established by the Flight Physical Standardization Board. The board recently reviewed and made recommendations, which were approved, covering the broad requirements of aircrew and non-aircrew billets in the 135X program. Waivers are generally not given where standards have been established as the minimum acceptable to perform the mission in keeping with personal and flight safety of those involved.

Will lack of jet time be a detriment to an aviator's naval career?

Jet time is important to those officers who are actively involved in the jet phases of attack aviation. It is not a useful qualification for those who are flying in the equally important ASW field. The increasing emphasis on ASW would indicate that the lack of jet time will in no way be a detriment to an aviator's naval career.

What is the status of the "Brownie-Greenie" program in Naval Aviation assignments, and what factors are most considered when selecting aviators to remain primarily in flying billets?

"Brownie-Greenie" is a misnomer based on colors used in the widely advertised 131X career pattern chart. Those charts used the green shading

to denote operational flying billets; brown delineated combat readiness training billets (100 hours per year). It should be re-emphasized that the career pattern as evolved was essentially a broad division of billets, by rank. Such a division has always existed, and probably always will, but at no time have aviation line officers themselves been categorized by a color code. This means that rotation within the broad division of billets continues as before, i.e., there is a lateral movement or split touring of sea assignments between squadron, ship and staff.

Some aviators, because of exceptional ability (as evidenced by motivation and airmanship) and operational necessity, will remain in operational flying billets within the

framework of a given program: Heavy attack, or weather fighters, ASW, etc. The only significant difference between the present and previous 131X career patterns is a longer initial sea tour and a longer second sea tour. Those longer tours were arranged to provide for more squadron duty for younger pilots in order to increase combat readiness and to lower accident rates. This it has done. The fact that brown or green paint was used on the charts is purely incidental.

What are the chances of a P2V-S2F pilot getting assigned to a VAH, or other jet-type squadron?

Occasionally an individual may make the transition from ASW to jet aviation, but the numbers involved have been greatly reduced since the

WHAT'S IN A NAME

Seaplane Squadron

The only two seaplane squadrons on the East Coast will soon swap their familiar P5M Marlin flying boats for P2V Neptunes, a land-based patrol plane.

Patrol Squadron 44 (VP-44), which was commissioned at Naval Air Station Norfolk, in 1951, will be the first of the two to begin the transition. There were several seaplane squadrons that answered to the name VP-44.

The first squadron designated VP-44 was born on 1 Jul 1939, when Patrol Squadron 20 was redesignated VP-44. The squadron operated from Sitka, Alaska, with PBY Catalinas, twin-engined patrol seaplanes.

Just before World War II, a second VP-44 was born and assigned the newer PBY-5 aircraft. It retained its designation until October 1944.

The Navy's third VP-44 was named in the Caribbean area in 1948. Although it operated primarily from Coco Solo, in the Canal Zone, detachments were sent to San Juan, Key West, the Galapagos Islands and Trinidad to extend the squadron's patrol capabilities. In 1950, the squadron was moved to Norfolk, and shortly thereafter,

The present squadron was commissioned on 31 Jan 1951, at Breezy Point, NAS decommissioned.

Norfolk. To accomplish their mission, the men of "44" were assigned nine PBM Mariners and were sent to Corpus Christi, Tex., to be trained.

In April 1952, the squadron received the new P5M-1 Marlins which were built primarily to combat submarines.

Some two years later the squadron

deployed to the Eastern Atlantic-Mediterranean area. The planes flew to Newfoundland, Greenland, Wales, and on to Taranto, Italy. It was the first trans-Atlantic flight for the twin-engined Marlin.

Again in 1955 VP-44 was first: The first to receive a new modification of the P5M, called the "two-boat." It had a streamlined hull, and the now-familiar T-tail. It was the latest ASW aircraft.

Late in 1960, CDR E. E. Wilson, Commanding Officer of Patrol Squadron 44, announced that the squadron had been selected to be the first P5M squadron to convert to the P2V, operating from airfields exclusively from now on.

While the transition has been keenly anticipated, the long association with seaplanes resulted in a wave of nostalgia when the squadron learned its last "boat" was to be transferred.



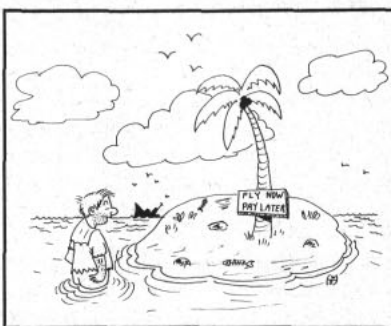
de-commissioning of JTTU. Officers who are attached to activities which operate both conventional and jet aircraft, such as NATC Patuxent River, frequently make the transition to jets. In general, however, a continual demand for experienced ASW aviators, the tight situation with regard to Bravo funds, and the lack of formal jet transition machinery prevent most P2V-S2F pilots from being assigned to jet squadrons.

What are the promotion possibilities of an aviator who is specializing in one field?

It is expected that most aviators will become proficient in a particular field. They should not specialize to the extent that their qualifications as general line officers are reduced.

The aviator is a line officer and

All-Navy Cartoon Contest
Harry W. Sweezy, SN, USN



should treat his area of special knowledge and experience as a sub-specialty. Pure specialization over an extended period would be detrimental to his prospects.

With the implementation of the

Franke report, how practical will it be from a career standpoint to enter air intelligence?

The question implies that participation in the air intelligence program will exclude an officer from the graduate education recommended by the Franke report. This is not the case.

There are some courses offered by the Navy's postgraduate program which contribute directly to the field of air intelligence, and there are others of a general nature which are of benefit to all officers regardless of their sub-specialty. An officer who has attended Air Intelligence School, and spent a tour in air intelligence, retains his eligibility for postgraduate study.

As far as the career aspects of air intelligence are concerned, the field has a strong operational basis and the experience gathered in air intelligence should be of great value to any line officer.

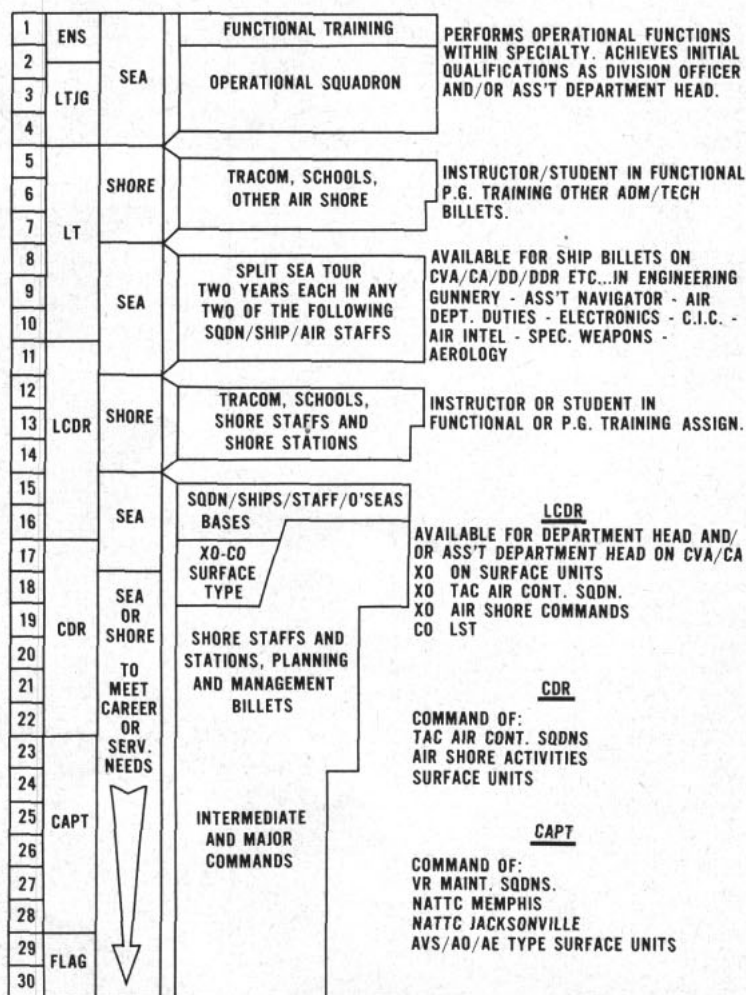
Why aren't all Intelligence School graduates given special designators to keep them in the business?

The need for officers with experience in intelligence fields is generated from a requirement for a certain, limited number of pure specialists, plus a need for a considerably larger number of officers who have collateral experience in the field. We might call the latter group the sub-specialists. The pure specialists remain, full time, in their work. They have their own career patterns and their own promotional pyramid. They compete with each other for professional advancement in their highly specialized field.

For the great majority of officers who may be given Intelligence School training, there is no need to designate them as intelligence specialists. They are not specialists. There are many other things that they must do, and areas in which they must gain experience, in order to maintain their own professional standing in relation to their contemporaries in the same code category. While their intelligence training will be used from time to time, it is not anticipated, and it was never planned, that it be used all the time.

The Bureau of Naval Personnel identifies graduates of intelligence schools and keeps track of them. When they are needed, they are assigned to billets requiring their services and their training. Service needs

1350 CAREER PATTERN



are the controlling factors of billets.

The simplest answer here is that a line officer will never spend full time in any specialty field, and if he wishes to do so, then he should try to change his designator to that of the special duty branch of which he plans to become a part.

Chronology of Naval Aviation Told by Two Historians

Facts and figures about the history of U.S. Naval Aviation will be considerably easier to find from now on. Two historians, one in BuWeps and the other in DCNO (Air), have compiled a one-volume chronology of U.S. Naval Aviation History.

The loose-leaf type book contains some 1500 entries and follows Naval Aviation from its birth in 1911 up to the present. Entries have been grouped into eight sections: The Beginning, 1910-16; Test of Strength, 1917-19; The Twenties, 1920-29; The Thirties, 1930-39; World War II, 1940-45; Post-War Years, 1946-49; Korean Operations, 1950-53; and The New Navy, 1954-60.

Some 286 photographs, many of them unique, fill 65 of the 250 pages in the book.

In addition to the chronology there are six appendixes. They are: The First Naval Aviators (lists the first 250 naval aviators by name and number); Aviation Commands, (listed in order of their establishment); Aviation Ships (lists all aircraft carriers built to date); Aircraft on Hand (grouped by year through 1956); Combat Aircraft Procured (1918 through 1960); and Helicopters Procured.

An aid to speech writers or to others who want information about a specific day of the year is also incorporated in a separate section of the book. The "Index by Day" lists almost every day of the year and refers to a page in the book where information about a historical event in Naval Aviation which happened on that day may be found.

The book, written by Lee Pearson and A. O. Van Wyen, is a Bureau of Naval Weapons Publication (NavWeps-OO-80P-1) and is now being distributed throughout the Navy. Additional copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C.

List of New Movies and TV Series Available to Ships and Overseas Stations

The latest list of 16-mm feature movies and TV series available from the Navy Motion Picture Service is published here for the convenience of ships and overseas bases. Two one-hour TV shows are packaged together for a 108-minute program, but may be shown aboard ship only. They are not to be exhibited at shore stations. The movies and TV programs listed below were made available in April.

Movies in color are designed by (C) and those in wide-screen processes by (WS). They are available for ships and bases overseas.

Motion Pictures

Butterfield 8 (1699) (C) (WS): Drama; Elizabeth Taylor, Lawrence Harvey.

Flaming Star (1700) (C) (WS): Western; Elvis Presley, Delores Del Rio.

Esther and the King (1701) (C)

(WS): Drama; Joan Collins, Richard Egan.

The World of Suzie Wong (1702) (C): Drama; William Holden, Nancy Kwan.

Can Can (1703) (C) (WS): Musical; Frank Sinatra, Shirley MacLaine.

Desert Attack (1704): Melodrama; John Mills, Peter Arne.

Ten Who Dared (1705) (C): Melodrama; Brian Keith, John Beal.

Journey to the Lost City (1706) (C): Melodrama; Debra Paget, Paul Christian.

Where the Boys Are (1707) (C) (WS): Comedy; George Hamilton, Jim Hutton.

White Warrior (1708) (C) (WS): Melodrama; Steve Reeves, Georgia Mail.

The Three Worlds of Gulliver (1709) (C): Fantasy; Jo Morrow, June Thorburn.

Man in a Cocked Hat (1710): Comedy; Terry Thomas, Peter Sellers.

Gold of the Seven Saints (1711)

WAY BACK WHEN

Seabees, WW I Style

For the Seabees—or Naval Construction Battalions, if you wish—5 Mar 1942 is now considered as the birth date. It was on that day that the Construction Battalions, which had been formed, were authorized to call themselves Seabees, and to wear the Seabee shoulder patch.

But nearly 25 years earlier the Seabees had a predecessor in the Navy.

Back in 1917, soon after America's entry into World War I, an outfit was formed at the Naval Training Station, Great Lakes, Ill., that came to be known as "The 12th Regiment (Public Works)." It was set up when it became impossible to meet the station's public work demands with the existing work force.

They were a busy group, building mess halls, a barracks, bleachers, utilities systems and, even roads. They repaired buildings and water and heating installations.

At peak strength the regiment numbered 6000 men. Though the greater part of the regimental members performed their duties at the Great Lakes station, a number of them served in France. Some built airfields and radio towers. Others helped assemble and operate the 14-inch guns of the famed naval railway batteries (see ALL HANDS, July 1959, p. 46).

The idea of setting up this pre-Seabee outfit originated with CDR W. A. Allen

(CEC), USN, public works officer at Great Lakes at the time. At the close of the war the regiment was disbanded—but the idea stayed on. As CDR Allen later stated, the results showed the advantage of "... having a large part of the construction work of the Navy carried on by the enlisted force in time of war (especially) in isolated localities or on a foreign shore."

CDR Allen, who died in 1938, had his name honored in the Navy's well-known Camp Allen. Located at Norfolk, Va., it was the first of six Seabee training camps used by the Seabees during World War II.



(WS): Melodrama; Clint Walker, Roger Moore.

A Fever in the Blood (1712): Drama; Efrem Zimbalist Jr., Angie Dickenson.

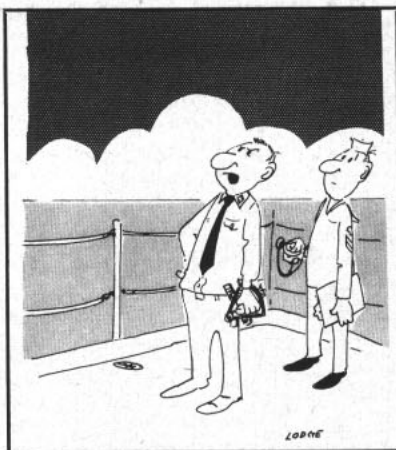
Cinderfella (1713) (C): Comedy; Jerry Lewis, Ed Wynn.

Next to No Time (1714) (C): Comedy; Kenneth More, Betsy Drake.

Television Programs

- 5072 TV-1 (Series) *Wagon Train* — Western; (Episode) The Major Adams Story—Part I.
TV-2 (Series) *Wagon Train* — Western; (Episode) The Major Adams Story—Part II.
- 5073 TV-1 (Series) *Wagon Train* — Western; (Episode) The Dora Gray Story.
TV-2 (Series) *Riverboat* — Post-Civil War Drama; (Episode) Wichita Arrows.
- 5074 TV-1 (Series) *Untouchables* — Underworld Drama; (Episode) Unhired Assassin—Part I.
TV-2 (Series) *Untouchables* — Underworld Drama; (Episode) Unhired Assassin—Part II.
- 5075 TV-1 (Series) *Overland Trail* — Western; (Episode) West of Boston.
TV-2 (Series) *Cimarron City* — Western; (Episode) Blind is the Killer.
- 5076 TV-1 (Series) *Wagon Train* — Western; (Episode) Cliff Grundy Story.
TV-2 (Series) *Overland Trail* — Western; (Episode) The High Bridge.
- 5077 TV-1 (Series) *Wagon Train* — Western; (Episode) Sacramento Story.
TV-2 (Series) *Overland Trail* — Western; (Episode) Mission Into Mexico.
- 5078 TV-1 (Series) *Wagon Train* — Western; (Episode) Liam Fits Morgan Story.
TV-2 (Series) *Cimarron City* — Western; (Episode) Runaway Train.
- 5079 TV-1 (Series) *Wagon Train* — Western; (Episode) Rutledge Monroe Story.
TV-2 (Series) *Cimarron City* — Western; (Episode) Twelve Guns.
- 5080 TV-1 (Series) *Wagon Train* — Western; (Episode) Old Man Charvaneau Story.
TV-2 (Series) *Overland Trail* — Western; (Episode) Fire in the Hole.
- 5081 TV-1 (Series) *Wagon Train* — Western; (Episode) The Sister Rita Story.
TV-2 (Series) *Overland Trail* — Western; (Episode) The Baron Comes Back.

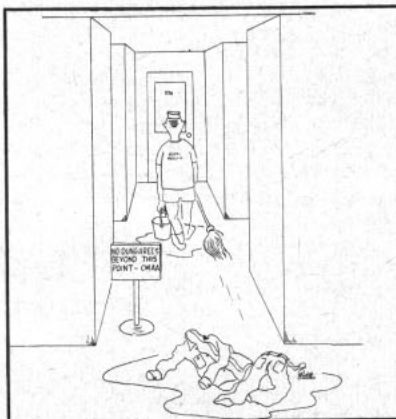
All-Navy Cartoon Contest
LT Billups E. Lodge, USN



"So darn many satellites, you can't see the stars."

- 5082 TV-1 (Series) *Wagon Train* — Western; (Episode) The Annie Griffith Story.
TV-2 (Series) *Cimarron City* — Western; (Episode) Blood Line.
- 5083 TV-1 (Series) *Wagon Train* — Western; (Episode) The Vivian Carter Story.
TV-2 (Series) *Cimarron City* — Western; (Episode) Kid on a Calico Horse.
- 5084 TV-1 (Series) *Wagon Train* — Western; (Episode) Juan Ortega Story.
TV-2 (Series) *Overland Trail* — Western; (Episode) Most Dangerous Gentleman.
- 5085 TV-1 (Series) *Wagon Train* — Western; (Episode) Flint McCollough Story.
TV-2 (Series) *Overland Trail* — Western; (Episode) Escort Detail.
- 5086 TV-1 (Series) *Wagon Train* — Western; (Episode) Sarah Drum-

All-Navy Cartoon Contest
Stanley J. Rudge, ADJ2, USN



mond Story.

TV-2 (Series) *Cimarron City* — Western; (Episode) Legacy of Ossie Harper.

5087 TV-1 (Series) *Wagon Train* — Western; (Episode) Bijie Wilcox Story.

TV-2 (Series) *Cimarron City* — Western; (Episode) Terror Town.

Second 'Special' Dividend Will Be Issued Holders of Government Insurance

If you're one of the 4,800,000 holders of a National Service Life Insurance (NSLI) policy, or the 260,000 holders of a U. S. Government Life Insurance (USGLI) policy, you'll be getting a welcome, and unlooked for "bonus" in the mails any day now.

The Veterans Administration began distribution of the \$230,000,000 "special" G. I. insurance dividend, announced recently. Processing of the payments is expected to be completed by Labor Day.

Of the \$230,000,000 total dividend, approximately \$193,000,000 will be paid on NSLI policies, and about \$37,000,000 will go to USGLI policyholders. It will not be necessary for you to make application to the VA for your check. Individual payments are computed and processed by the VA, and will be paid automatically.

The current dividend is the second paid by the VA since January of this year. The first was the regular 1961 dividend, amounting to \$258,500,000, which was paid at an accelerated rate this year by order of the President. Processing of regular dividend payments — which would normally not have been finished until December 1961 — was completed last March 17.

A tip-off that a "bonus" dividend might be forthcoming this year came early last February, when the Chief Executive announced his speed-up order for payment of the regular 1961 dividend. At that time the President remarked: "If sound insurance practices justify it, as I hope further study will show, an additional dividend will be paid this year from the substantial funds that have been accumulated."

VA officials recommended payment of the special dividend after consultation with their Actuarial Advisory Committee, composed of actuarial experts from some of the

largest insurance companies in the nation, and studies by some of their own insurance specialists. Those studies indicated that such a dividend could be paid in consonance with sound insurance practices, and without jeopardy to the G. I. insurance fund.

Both the regular and the now-being-distributed "special" dividends are primarily a refund to veteran-policyholders of a part of their premium payments. These refunds are made possible principally because the death rate among policyholders continues to be much lower than the rates upon which the premiums were established by law.

The VA emphasizes that veterans can help speed receipt of their special dividend checks by not making inquiries in advance. Answering such inquiries only diverts personnel time from the dividend project, and could create a delay in payments.

DIRECTIVES IN BRIEF

This listing is intended to serve only for general information and as an index of current *Alnavs* and *NavActs* as well as current *BuPers Instructions*, *BuPers Notices*, and *SecNav Instructions* that apply to most ships and stations. Many instructions and notices are not of general interest and hence will not be carried in this section. Since *BuPers Notices* are arranged according to their group number and have no consecutive number within the group, their date of issue is included also for identification purposes. Personnel interested in specific directives should consult *Alnavs*, *NavActs*, *Instructions* and *Notices* for complete details before taking action.

Alnavs apply to all Navy and Marine Corps commands; *NavActs* apply to all Navy commands; *BuPers Instructions* and *Notices* apply to all ships and stations.

This listing covers the directives from 30 March to press time.

Alnavs

No. 11—Directed that certain In-Flight Food Packets be destroyed.

No. 12—Directed that documents which contain naval nuclear propulsion information be placed in a category that will not be subject to automatic declassification action.

No. 13—Directed that certain Hydrographic Office charts and publications be placed in a category that will not be subject to automatic declassification action.

BuPers Instructions

No. 1321.4—Publishes information about a revised system for prepar-

ing officers' orders issued by the Chief of Naval Personnel.

No. 1430.12C—Contains new instructions for the administration of the Proficiency Pay Program. It includes basic policy, methods of determining eligibility, information regarding means of qualification and requalification, and conditions under which proficiency pay may be revoked.

No. 1500.39B—Announces that a revised edition of the *Catalog of U.S. Naval Training Activities and Courses* has been issued, and provides instruction for the use of the newer catalog.

No. 1750.5B—Outlines instructions which govern the issuance of the Uniformed Services Identification and Privilege Card, DD Form 1173.

No. 2340.1A—Contains an authorized list of abbreviations for phrases, sentences, or groups of sentences that may be used in naval messages which relate to transfer and assignment of naval personnel.

BuPers Notices

No. 7312 (30 Mar 1961)—Issued instructions for the classification of costs of permanent change of station movements of naval personnel.

No. 1221 (31 Mar 1961)—Directed command attention to the necessity for correct NEC identification of personnel and billets, and provided instructions for specific coding actions when Change Four to the *Manual of Navy Enlisted Classifications* (NavPers 15105B) is received.

No. 5320 (3 Apr 1961)—Established billet requirements for the ratings of Engineering Aid (EA) and Illustrator Draftsman (DM).

No. 1430 (5 Apr 1961)—Listed the names of men who may be advanced to chief petty officer, acting appointment.

No. 1520 (19 Apr 1961)—Invited applications from Supply Corps officers to attend the Freight Transportation and Traffic Management Course at Oakland, Calif., in calendar year 1962.

No. 1741 (20 Apr 1961)—Restated the provisions of OpNav Inst. 3710.15C which governs the flight requirements of Category IV naval aviators. It also discussed the possible consequences which could arise if aviators in this category cancel the extra risk premium in their policies.

How does a Navy pilot get to his destination without the benefit of the guides that the earthbound traveler uses? Much of the work is done before he takes off. Let's follow the preparations of a pilot who has just landed Navy flight 1234 at NAS Norfolk and is preparing to proceed to NAS Jacksonville as soon as possible.

The pilot goes to the flight planning room to complete his flight plan. A quick check of the wall chart gives him a total mileage. He checks the Notices to Airmen and finds all navigational aids at Jacksonville and along his route are operating.

He determines, from the Flight Information Publications, which radio frequencies he will need and the airway structure he will fly, and studies the approach he will make.

He finds that he does not have all the charts he needs, so he takes a



moment to draw them from the chart room.

After checking the weather, the pilot takes his flight plan to Flight Clearance where the operations duty officer reviews and approves it. From here, air controlmen pass the proposed flight plan to Norfolk Air Route Traffic Control Center to get the pilot clearance to fly in instrument weather, enter the information on the status board and relay the flight plan to the tower.

From now until shortly after takeoff, the tower is in control.

After takeoff the pilot follows his flight plan. If he were to encounter any difficulty in the air, an air controller would coordinate with the 5th Coast Guard District Search and Rescue Coordination Center and aid the pilot by steering him to the nearest airport.

There are a host of people available to assist the pilot in the preparations for his flight and during his flight. Some of them he contacts personally and others he may never see. For instance, tower and clearance personnel are available to aid him in formulating his flight plan, meteorologists tell him what weather to expect while he is in the air, and the air traffic controllers keep in touch with the pilot while en route.

These people and others, plus the pilot's own preparations, get him to his destination.

LETTERS TO THE EDITOR

Navy Flying Clubs

SIR: My squadron is planning to establish a Navy Flying Club in accordance with the provisions of Opnav Inst. 1747.1. We have unofficial information that Navy trainer aircraft—T-34Bs—can be made available to such clubs, but have been unable to find the specific authority or procedure for requesting one.

Any help you could furnish us in this regard would be vastly appreciated.—H.M.L., YNCS, USN.

• BuWeps has a limited number of T-34Bs which are available for assignment to Navy/Marine Corps Flying Clubs on a loan basis.

If your club has been established correctly in all respects in accordance with Opnav Inst. 1710.2 (formerly Opnav Inst. 1747.1), you should address your request for one to the Chief, Bureau of Naval Weapons.—Ed.

Educational Waiver for MSC

SIR: In the December issue of ALL HANDS Magazine, p. 53, you indicated that the educational requirements for the Medical Service Corps (2305) Reserve commission, were not mandatory.

I have read BuPers Inst. 1120.15C, and it says that no waivers will be granted and that all requirements must be met before submitting application to the Chief of Naval Personnel. Is there a separate instruction that has this added bit of information?—F.W., HM1, USN.

• Yes. The additional information can be found in BuPers Inst. 1120.29A, which states, "Commanding Officers are authorized to forward for consideration applications from candidates who, ex-

This section is open to unofficial communications from within the naval service on matters of general interest. However, it is not intended to conflict in any way with Navy Regulations regarding the forwarding of official mail through channels, nor is it to substitute for the policy of obtaining information from local commands in all possible instances. Do not send postage or return envelopes. Sign full name and address. Address letter to Editor, ALL HANDS, Room 1809, Bureau of Naval Personnel, Navy Dept., Washington 25, D. C.

cept for the educational standard, have met all the eligibility requirements for appointment, have demonstrated outstanding qualifications for officer status, are high school graduates or have the service-accepted equivalent, and have a minimum GCT score of 63."—Ed.

Question on Retirement

SIR: I have a question about retirement. I first received a commission as ensign in November 1945. I reverted to my permanent enlisted grade of E-7 in July 1946. I served on continuous active duty, and was re-commissioned ensign in August 1955. I completed a full 20 years' active duty on 4 Mar 1961.

If I go off active duty now, would I have to revert to my permanent enlisted grade, E-7; go into the Fleet Reserve for 10 years on E-7's retainer pay, then be advanced to the retired roll at my highest grade? Would I then draw retired pay commensurate with my present rank?

Or, would I be eligible now for retirement, after 20 years' continuous service, as lieutenant?—S.D.C., LT, USN.

• You may request reversion to your permanent enlisted status and transfer to the Fleet Reserve.

Under Title 10, U. S. Code, Section 6323, an officer may request retirement after completing more than 20 years of active service—of which at least 10 years were as a commissioned officer.

Since you have not completed 10 years' active commissioned service, you are not yet eligible to request retirement.—Ed.

Trying for LDO

SIR: I seem to recall reading somewhere that a man can apply for the LDO(T) program only twice.

Although this limitation isn't listed in current directives, I keep thinking I've seen it. Would appreciate the straight scoop.—G.N., PN1, USN.

• At present there's no limit to the number of times you can apply for a commission as a Limited Duty Officer, if you are eligible in all other respects. You apparently had LDO mixed up

with the Integration (Seaman to Admiral) program. Integration candidates who have twice been considered by a selection board are not eligible to make further application.

See BuPers Inst. 1120.18G for the latest word on both programs.—Ed.

Question on Reenlistment Bonus

SIR: In your December issue I was pleased to read in The Word section that the Comptroller General recently ruled that a one year extension rates a bonus.

In checking with the personnel office, I was informed that the two-year rule still applies. I then quoted a passage from your piece which stated "If you have already served one or more one-year extensions, you may now request a bonus for those which you have served."

I extended for one year, from August 1956 to August 1957, and then reenlisted.

Am I eligible for a bonus for this extension?—J.C., PH1, USN.

• You apparently misinterpreted the article. When applied to the rest of the story, the passage you quote means you would be entitled to a bonus for a one-year extension only if you enter into a second one-year extension, in which case you'd be paid a two-year bonus.—Ed.

Naval Intelligence Clerks

SIR: Several yeomen have been discussing the YN-2505 (Naval Intelligence Clerk) NEC and would like clarification of several points. When can a man who has this code expect to receive orders to a YN-2505 billet? Are applications for this code still desired? Can PNs apply for the code? Are any schools involved? Are the rotation tour dates of YN-2505s the same as those of other YNs?—C.R.N., YN2, USN.

Equipment Operators School

SIR: I understand that it's possible to get instruction in asphalt paving at one of the Navy's schools. If any Navy school teaches this subject, what is the school and how may I apply for it?—J.R.M., EON2, USN.

• Training in asphalt paving is incorporated in the Equipment Operators Class B School. The school's eligibility requirements are listed in the "Catalog of U.S. Naval Training Activities and Courses" (NavPers 91769-D). If you desire to apply, you should indicate that fact on your rotation data card—or apply in accordance with Art. 12.8 of the "Enlisted Transfer Manual."—Ed.

Banner, Benner or Boner?

SIR: Either Saipanese fishermen are making a habit of being rescued by ships of the Seventh Fleet, or you made a mistake in the March 1961 issue of ALL HANDS.

You said *uss Benner* (DDR 807) rescued two Saipanese fishermen who had been afloat in a 16-foot boat for two days. Actually, it was *uss Banner* (AKL 25) which made that rescue.—R.C., FN, USN.

• We don't like to pass the buck, but this time we're clean. The information about the rescue, including the identification of the ship, came to us in a press release from the Seventh Fleet.

Since we didn't give you proper credit in March, we would like to now. Good show.—Ed.

• As of 1 Apr 1961, YN-2505 billets and personnel are BuPers controlled. Normally, personnel now designated, and who are not filling YN-2505 billets, can expect to complete their current tour prior to assignment to a YN-2505 billet. There may be some exceptions to meet urgent requirements or to shift YN-2505s into appropriate billets within the same area. Since there are not enough yeomen designated to meet requirements, applications from YNs eligible in accordance with OpNavInst 1221.1A are still very much desired. However, enough PNs have been designated to meet foreseeable needs, and applications from PNs are no longer desired. YN-2505s may be ordered to a school in connection with orders to a specific billet. Otherwise, training will be "on-the-job" and requests for schools are not desired. Personnel are encouraged to apply for Officer Correspondence Courses in Naval Intelligence. In general, rotation tour dates for YN-2505s are the same as those for other YNs in the same area.—Ed.

Salute While Manning the Rails

SIR: In the past the President has visited this area and, as might be expected, some questions on honors and ceremonies have arisen. One of these questions has us stumped.

Briefly, the situation was as follows. The route which the presidential party followed lay close aboard many of the ships in the harbor. The end of the route was at the pier, where some ships were moored. The rails were manned by each of these ships, the officers and chiefs located in ranks with their own divisions.

On some ships, upon the President's approach, only the COs and OODs (having taken station on their own ships' bridges) saluted—while the officers and men at the rail remained at attention.

On other ships, all hands, including, of course, the officers and men manning the rail, saluted upon the President's approach and passage close aboard.

Which is the proper procedure?

—T.W.E., LTJG, USN.

• You ask a tough question. It would seem, from a study of various publications, that the proper procedure is for those who man the rails not to salute if it is considered that the men are in ranks.

In matters of salutes, the general practice is that officers and men in formation or in ranks do not salute, but stand at attention. The saluting, when appropriate, is done by those ahead of—or at the head of—the formation or ranks. Two exceptions to this rule are (1) side boys when rendering honors during the arrival and departure of an official visitor and (2) personnel of a division upon the arrival of the inspecting officer for personnel inspections.



WINNING SMILE — Brenda Crovo, Miss Naval Aviation, dons jumper and white hat during tour of the attack carrier USS Wasp (CVA 18).

On the other hand, the practice of most senior COs has been to consider the manning of the rail as a form of passing honors, the men not considered as being in ranks. All hands then render the hand salute on the bugle or whistle. We understand this procedure is followed by ships of the Sixth and Seventh Fleets, among others.—Ed.

One Long Hitch

SIR: I read CAPT McGrath's letter in the November 1960 issue (page 28) and think he has a great idea. I have decided to be a career man in the Navy and the captain's idea is just the type of opportunity I have been waiting for to make me feel apart from our "one-hitch" sailors.

Aside from a number of administrative difficulties which I believe would arise from the plan, I disagree with BuPers officials who speculated that it

is unfeasible and impracticable for a young man of 21 or less to enter into a 16-year contract.

I believe anyone who is old enough to join the Navy and complete a four-year hitch should be mature enough to know what he wants to do for the next 16 years.

I am married and my wife loves Navy life as much as I do. What kind of girl gets married without knowing what kind of life she wants to lead anyhow?—G. R. A., PN3, USN.

• At present, the Bureau does not contemplate implementing the 20-year plan to which you refer. The objections to the proposal remain the same as stated in the November issue of ALL HANDS.

If, in the future, plans are formulated for such a program, careful study will be given to administrative difficulties in order to work out a system equitable and worthwhile to those wishing to take advantage of it.—Ed.

Passed But Not Rated

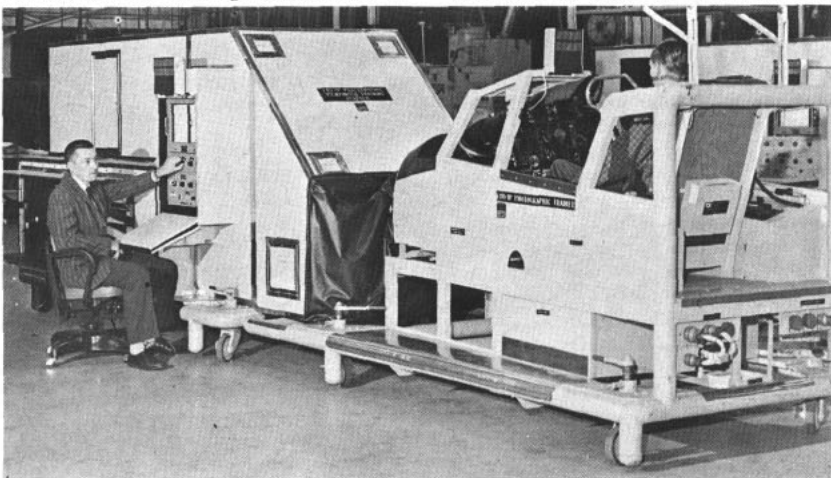
SIR: In the February edition of ALL HANDS you said that all E-4s who passed the August 1960 examination for EM2 were advanced.

Either you made a mistake or the Exam Center did, because I passed the examination but was not advanced.

What's the story?—I.L.B., EM3, USN.

• We took our information from BuPers Notice 1430 of 21 Dec 1960, which was wrong. Actually there were 321 EM3s besides yourself who passed the exam but were not rated.

If there are any IC3s, FT3s, BT3s or AG3s aboard your station, you might tell them there was also a mistake in the BuPers Notice in the listing for their rating. Of those who took the examination for advancement, 116 IC3s passed but were not advanced, 104 FT3s passed the test and were not advanced, 138 BT3s passed the test and were not advanced and 88 men passed the exam for AG2 but were not advanced.—Ed.



A NEW CONCEPT in mobile photographic trainers is incorporated in F8U-1P flight simulators designed to check out photo pilots and maintenance men.



EXPERIMENTAL air-conditioned suit maintains about 80-degree inside temperature in extreme heat and cold tests.

Gold Hashmark Clubs

SIR: While thumbing through an old (June 1960) copy of *ALL HANDS* I came across an article which has raised several questions. You reported that USS *Bon Homme Richard* (CVA 31) has formed a Gold Hashmark Club, membership in which entitles the wearer of gold to special privileges.

Are there any official instructions concerning such clubs, or is the formation of one up to the individual command? If so, why couldn't the policy extend to other commands in the form of an official publication, so that all deserving men who rate gold service stripes can benefit?—H.R.K., DK2, USN.

• *The Navy has not issued instructions for commands to provide special privileges to men entitled to wear gold service stripes and rating badges, although individual commands are free to institute such programs if desired.*

(Only men who have served for at least 12 consecutive years, with good conduct as prescribed by "Navy Regulations," are eligible to wear gold service stripes and rating badges. The Bon Homme Richard policy is to issue special liberty cards to wearers of gold. These cards are retained as long as the holder is assigned to the ship. In addition, men wearing gold hashmarks and rating badges aren't required to show either their liberty card, ID card or property pass when leaving or boarding the ship.)

Bon Homme Richard's Gold Hashmark Club is considered sound, and compatible with the basic Navy policy of allowing commands the necessary free rein in the solution of individual

problems which arise in the area of morale and discipline.

If you are interested in seeing such a system of privileges instituted aboard your ship, you could easily forward a recommendation to your CO through the chain of command. If he thinks the morale and discipline situation aboard would be improved, he'd probably go along with the idea.—Ed.

First Reenlistment Bonus

SIR: On 7 Jan 1946, I enlisted in the Navy for two years. On 7 Oct 1947, I reenlisted for another two years—and was discharged on 7 Oct 1949. On 18 Feb 1958, I came back into the Navy for a four-year enlistment.

I have been told that I would receive a first-reenlistment bonus upon shipping over when my present enlistment expires. I have also been told that I would not receive a first-reenlistment bonus, since this would be my third reenlistment.

Can you give me a definite answer in this matter?—R.B., EM3, USN.

• *Don't worry. Your reenlistments in October 1947 and February 1958 won't count for bonus purposes. The "Navy Comptroller Manual," para. 044075-1a provides that only reenlistments entered into on or after 1 Oct 1949 will be used in determining the number of the reenlistment for which the bonus is payable.*

Your reenlistment in October 1947 occurred too early to count, and your reenlistment in February 1958 occurred more than 90 days after your last date of discharge.

Your next reenlistment in the regular

Navy, if entered into within 90 days of discharge from your current enlistment, will be your first reenlistment for bonus computation purposes.—Ed.

Question on Contingency Option

SIR: Recently I was asked to complete a NavPers 591 (Rev. 6/54), "Election of Options Under the Uniformed Services Contingency Option Act of 1953." When I read the last paragraph on the form, I became confused.

It states in part: "I understand that during any period subsequent to my transfer to Fleet Reserve or retirement in which I am not receiving retired or retainer pay, I shall be required to deposit with the United States Treasury the amount that would have been withheld from my retired pay under the Options elected had I been receiving such retired pay. . . ."

I believe this clause is also giving many other retiring Navymen concern. Would you explain it to me?—L.J.V., YNT2, USNR.

• *Before we attempt to explain this paragraph, we want to make sure you understand the annuity plan itself.*

When you choose to participate in this plan, you agree to accept a reduced amount of retirement or retainer pay to insure your dependents an income should you die after you leave active service. (As you know, if you die in retirement or while drawing retainer pay, your pay stops. Your dependents do not automatically continue to draw it.)

For example, say you participate in the plan and want to guarantee your

wife an income of \$80 a month for life should you die. Your retirement/retainer pay is reduced by \$15 a month (from \$175 to \$160), which goes into the plan.

Now, if you return to active duty, your retirement pay is temporarily stopped and you begin to draw active-duty pay. With no retirement pay, there is no money going into the annuity plan.

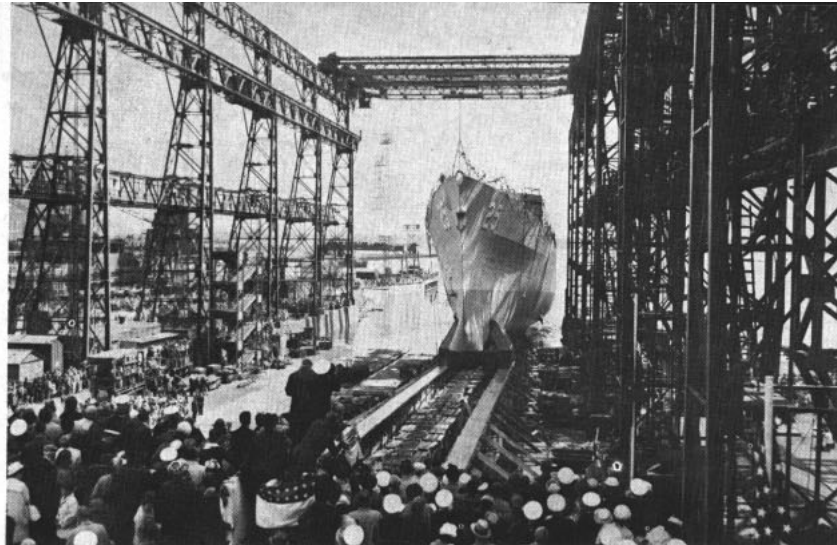
Here's where that last paragraph comes in. So you can keep the annuity plan in effect and continue your dependents' protection when you return to a retired-with-pay status, you must send the amount your retired pay was reduced (in our example, \$15 a month) to the U.S. Navy Finance Center, Cleveland 14, Ohio.—Ed.

Question on Seavey Transfer

SIR: I have been wondering why men who have completed a normal tour of overseas shore duty sometimes receive sea duty orders instead of orders to shore duty in the states. Isn't overseas shore considered sea duty for rotation purposes?

I have seen men transferred from overseas shore to sea because they were not in the Seavey segment. Then they report to sea duty and find shore duty orders waiting for them. If a man is eligible for shore duty, why is he sent to sea? Surely not just because he is not in that segment!

Shouldn't he fall into the segment a



BACKSLIDE—Crowd watches Navy's first nuclear-powered guided missile frigate, USS Bainbridge DLG(N) 25, enter water during launching ceremonies.

year sooner? Take for example a man transferred to shore duty in the Philippines from BuPers CONUS shore duty in October 1959. He is married and has his dependents with him for a normal 24-month tour from his sea duty commencement date. His rotation tour date would be October 1961, his segment is number 1. When should his Seavey card be submitted? October 1961 or October 1960? Where should he be rotated to if eligible in all respects for CONUS shore?

Most YNs and PNs I have talked with say his Seavey card would not arrive

until October 1961, and normally the man already has orders to sea because he's already completed his 24-month tour.

I think Seavey cards should be sent out a year before transfer date so that those men out of their segment would be picked up on the active Seavey and could be transferred ashore rather than to sea and then ashore.—E.L.R., PN1, usn.

• *Overseas shore duty is considered sea duty for rotation purposes. However, you apparently misunderstand the meaning of "segment," which is a group of ratings to be rotated during a 12-month period. The October rotation date has no bearing on the eligibility of the man in your example for shore duty in the Continental U.S., nor does his completion of an overseas shore duty tour in itself make him eligible.*

Normally, he would be assigned to CONUS shore duty only if his Sea Duty Commencement Date (SDCD) is on or before that required by Seavey. It wasn't, so your example went to sea.

"Eligible in all respects," puts a man in a segment. If you have not qualified for a Seavey segment by virtue of having an SDCD on or before the announced date, then you will not be in a segment and will not be eligible for CONUS shore duty.

If you are reported in a Seavey segment, you can usually expect orders to shore duty sometime within the order period (12 months) of the segment year. For example, Segment 1-61 announced the SD CDs for the order period of February 1961 to January 1962. All men ordered during this period will have been transferred ashore by May 1962, as there is a four-month lag between order and transfer.

We suggest that you look up the correct functions, purposes and requirements of Seavey in Chapter III of the "Enlisted Transfer Manual" (NavPers 15909A for more information).—Ed.

Ship Reunions

News of reunions of ships and organizations will be carried in this column from time to time. In planning a reunion, best results will be obtained by notifying the Editor, **ALL HANDS Magazine**, Room 1809, Bureau of Naval Personnel, Navy Department, Washington 25, D.C., four months in advance.

• **uss Colorado (BB 45)**—A reunion is scheduled in Denver, Colo., on 24, 25 and 26 August. For more details, write to Budd Bratton, Chief Deputy Sheriff, Morrow County Sheriff Dept., Mt. Gil-ead, Ohio.

• **uss Elmore (APA 42)**—A reunion will be held on 29 July in Wilmington, Del. You may obtain more information from Harvey P. Parry, Jr., 1431 Wedgewood Rd., Oak Hill, Wilmington 5, Del.

• **uss Enterprise (CV 6)**—All former shipmates are invited to a reunion which will be held at the Sheraton Park Hotel, Washington, D.C., on 27, 28 and 29 July. For details, write to Joseph Deigh, 3750 Jason Ave., Alexandria, Va.

• **uss Nevada (BB 36)**—The eighth annual reunion is scheduled for 28 October at the Lafayette Hotel, Long Beach, Calif. For more information,

write to Frank Slavin, 214 Termino Ave., Long Beach, Calif.

• **uss Quincy (CA 71)**—A reunion will be held in Providence, R.I., on 11 and 12 August. Write to John J. Nero, 12 Old Oak Ave., Cranston 9, R.I.

• **Pearl Harbor Veterans**—A reunion is scheduled for 7 December in Phoenix, Ariz. For details, write to "Operation Get Together," VFW Post 7754, Fairport Harbor, Ohio.

• **43rd Seabees**—The annual reunion will be held at the Henry Grady Hotel, Atlanta, Ga., on 12 August. For further details, write to I. K. Williams, Seneca, S.C.

• **64th Seabees**—A reunion is scheduled for Hot Springs, Ark., on 11, 12 and 13 August. For information, write to R. L. Ellis, Route 11, Box 461, Pine Bluff, Ark.

• **uss Chanticleer (ASR 7)**—A reunion is planned for those who served in *Chanticleer* during World War II. Write to LCDR Paul C. Cottrell, usn (Ret.), 3706 Walnut Ave., Long Beach 7, Calif.

• **Pre-Flight Class 23-56**, Pensacola, Fla.—Any member who is interested in holding a reunion in Pensacola this June may write to Anthony E. Whiston, 23 Bienville Ave., Mobile 18, Ala.

June is Busting Out All Over

SIR: A letter to the editor on page 38 of your April issue begins:

"I am at present stationed in Florida. I plan to transfer to the retired list on 31 Jun 1961."

I would like to know how retiring LCDR C. F. C. is going to do it on 31 Jun 1961. Remember—"30 days hath September, April, June and November. All the rest have 31, save February which has 28. And leap year brings it 29."—CDR D. T. Galvin, USNR.

• We are amazed that something like this slipped through our research department, which is just full of people who never forget an adage. To prove it, we asked these experts to recite a few of the many old saws from their vast store of knowledge

and, before you could say Jack Robertson, they reeled off these examples of their remarkable ability:

"Never use a preposition to end a sentence with."

"I before E, except after C, or when sounded like A as in neighbor or weigh."

"How do you spell MISSISSIPPI? Why, M-I-crooked letter-crooked letter-I-crooked letter-crooked letter-crooked letter-I-humpback-humpback-I—MISSISSIPPI."

"Build a better mousetrap and the world will beat a door to your path."

"Spoil the rod and spare the child."

And to think you had the nerve to imply we didn't remember a simple thing like that old business about "30 days hath October..."—ED.

Billets for EMCS

SIR: I am interested in learning how many EMCS billets there are in the Navy.—A.W.J., EMCS, USN.

• Including billets both ashore and afloat, there are 130 billets for senior chief electrician's mates. Billets at sea are in AO, AE and AD types, some DDs, some submarines, and on some staffs.

There are 44 shore billets as follows: (a) instructors at service schools, (b) zone supervisors in recruiting stations, and (c) general administration supervisors where leadership qualities of high degree are required.—ED.

PWC at Your Service

SIR: Your special report on Norfolk and the Fifth Naval District (ALL HANDS, April 1961) was very informative, and, with one exception, rather complete. You failed to mention the U. S. Navy Public Works Center, which provides complete support for nearly

all the activities you covered in the story.

The Norfolk PWC was commissioned on 15 Jun 1948, and on 1 Jan 1961 assumed the mission of providing public works service for all activities in the Sewells Point area of the Norfolk Naval Base.

To give you an idea of what this encompasses, each year in the utility field alone we provide 2434 million pounds of steam and 130 million kilowatt-hours of electricity, pump 1831 million gallons of water, dispose of 1160 million gallons of sewage, and, more prosaically, cart off and dispose of some 300,000 truck loads of trash, garbage and refuse.

We also provide complete maintenance for the 2600 buildings of 37 different commands, 10 piers and other berthing facilities, 74 miles of roads and 53 miles of railroad trackage. In addition, we manage and maintain 1726 units of Navy quarters.

To accomplish this, we employ 13 officers and 1950 civilians, 1700 pieces

of automotive equipment, and 800 pieces of construction and weight handling equipment.

The people associated with PWC Norfolk are very proud of their organization. Many of them who have had the opportunity to read your story are disappointed at this omission from an otherwise comprehensive report.—P. E. Seuffer, CAPT, CEC, USN.

• Thanks for filling us in. We agree that Public Works Centers are important. Unfortunately, their unheralded services are often taken for granted.—Ed.

Arrivals and Departures

SIR: The writer of the letter on "Arrivals and Departures" in ALL HANDS (Feb 1961, p. 29) is not correct in his reference to Marine Corps officers.

Announcing "Brigade Commander, Arriving" or "Regimental Commander, Departing" would be comparable to announcing "Cruiser Division, Arriving" or "Destroyer, Departing."

The individual Marine Corps officer should be identified by the command he holds. That is, "1st Marine Brigade, Arriving," or "5th Marines, Departing." In the case of commands not in the Fleet Marine Force, the procedure is the same. For example, "Marine Barracks Brooklyn, Arriving."—C.E.M., 1st LT, USMC.

• Sorry to have to disagree with your statement. The words mentioned are quoted directly and correctly from the official publication that covers this subject: DNC-27 ("U.S. Naval Flags and Pennants, Descriptions, Uses and Customs"). The existing instructions in DNC-27 for announcing arrivals and departures of Marine Corps officers have been in effect for nine years.

The section of the Office of the Chief of Naval Operations that is responsible for DNC-27 has advised us that there is no record of any official comment from the Marine Corps on the subject.—ED.

Fuel Rigging Record?

SIR: The refueling gang aboard USS Massey (DD 778) recently cut in half the record rig time for taking on fuel from USS Severn (AO 61).

Massey bested the previous record time of 4.7 minutes—recorded by USS Willis A. Lee (DL 4)—by 2.4 minutes. We scored a rig time of 2.3 minutes both fore and aft. (The time it takes to rig begins when the hose messenger is in hand and lasts until fuel is received in the trunk.)

Severn believes this to be a new record for Cimarron class oilers. Is it?—R.S., USN.

• Possibly. ALL HANDS researchers haven't turned up a better time. Until we hear from an even speedier fuel rigging crew, we'll go along with the Sixth Fleet's Massey-Severn combination as being the fastest.—ED.



ON THE JOB—Former WW II-type cruiser, USS Topeka (CLG 8), has completed her first year with the Seventh Fleet since converted to a guided missile ship.

Shelton's Last Fight

SIR: I served aboard *uss Shelton* (DE 407) in 1944. I would like to know whether or not *Shelton* earned any battle stars during the Halmahera and Morotai operations.—W.R.J., BTC, USN.

• *uss Shelton* (DE 407) earned one battle star for operations on 15 Sep 1944 in the Morotai landings.

It was soon after that date—on 3 October 1944—that *Shelton* was to meet disaster.

On that day she was in company of a unit operating off Morotai. The sea was running and visibility was excellent.

A torpedo was sighted at 1500 yards and *Shelton* evaded it only to have another hit her starboard screw.

Much of *Shelton's* main deck was blasted upward at a 45 degree angle. Several compartments were flooded despite immediate damage control action. Handy-billy pumps were brought to use but oil which had seeped into the compartments clogged the pumps.

Shelton was taken in tow by *uss Lang* (DD 399) while *uss Richard M. Rowell* (DE 403) undertook the transfer of the wounded in small whaleboats.

Later, orders were given for all hands to abandon ship. Rowell again braved the heavy seas and came alongside to rescue 210 survivors and the ship's cat. Shortly after, *Shelton* sank.—Ed.

Eagles and Aerographer's Mates

SIR: I recently came across an AG1 rating badge which was manufactured in 1939. It is now a subject of disagreement among the old salts of three activities.

The head of the eagle on the badge is facing left, while on another AG1 badge, manufactured in 1944, the eagle faces right, as it does today.



WHERE ELSE?—Calvin Lockard, EN3, (left) of UDT 11, takes time out while digging underwater trench for cables at Kwajalein, to re-enlist for six years.

Some men say that before 1942 all crows faced away from the wearer, while others argue that crows have always faced the wearer, and that, therefore, AG was a right-arm rate before 1942.

Still other men insist that AG used to be a part of the QM right-arm rating, but, at the same time, was still considered an aviation rate. Are any of us correct?—E.P.C., SK2, USN.

• We hate to shoot down all your friends' conclusions, but nevertheless, it appears that none of you have a case.

Aerographer's mates have always worn their rating badges on the left sleeve. AG has never been a part of the QM rate.

The 1939 badge to which you refer

was regulation at the time it was issued, simply because the eagles on all rating badges issued before 1941 faced to the left. The eagles on some badges, therefore, faced the wearer, while others did not, depending on whether the Navyman held a right- or left-arm rate.

Then, in 1941, the direction in which the eagle head faced was changed on all naval insignia.

The Heraldic Services Branch of the Army Quartermaster says on this subject: "The basic requirement in heraldry is that the heads of animals and birds will face to dexter (right). When the eagle is used as a portion of the sleeve insignia of . . . petty officers, the eagle should look to the front (of the wearer); to the enemy, to the advance."—Ed.

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SECNAV REPORT

Three months after taking office, Secretary of the Navy John B. Connally addressed an audience of Navy and Marine Corps officers in Washington, D. C. In an era vitally important to the nation, an era which has seen changing conditions in the Navy, Secretary Connally called for the best in brain power and dedication to



SecNav J. B. Connally

maintain and improve the standards of the sea service as a member of the armed forces team. A former naval officer who saw active duty in World War II, he outlined policies and asked many questions. The answers to a lot of these questions will be forthcoming in the future from the officers and enlisted men of the Navy — from you. Here is SecNav's report:

LET ME SAY FIRST that it is a great privilege to meet with you. I have looked forward to this occasion as I have no other since I became Secretary of the Navy.

Today I am taking a very unusual step. It is a step to which I have given thoughtful consideration. To my knowledge no previous Secretary of the Navy has called a meeting such as this. In so arranging to talk directly to our Navy and Marine Corps officers of all ranks, let me assure you that my purpose is not to undermine military discipline and the chain of command, but to strengthen them.

And let me make absolutely sure you understand thoroughly that I do not intend my remarks today to disparage any individual. I would be more than foolish if I attempted to impose military judgments on those who have spent their lives preparing to make such judgments.

It is my purpose to talk to you today in your capacities as officers of the Navy and Marine Corps of the future. It is you who will lead the services in the future, you who must contribute ideas to the future Navy and Marine Corps and you who must largely decide what kind of a Navy and Marine Corps we will have.

Why else have I called you here today?

Unfortunately, I will never have the pleasure of knowing well all of you here today. Even so, I will never have the opportunity of meeting the vast majority of the officers and men of the Fleet and of our Marine Corps Field Activities.

It does not seem right to so conduct the affairs of my office that I present myself and my views to you solely through written memoranda and orders. I feel it is my duty to talk with you and through you to all officers and men of the Navy and Marine Corps.

There are many things on my mind that I want to convey to you. And in so conveying my thoughts I know that I will be helped in the sense of a man who, in seeking a way to meet heavy responsibility, finds strength in seeking the counsel and help of those around him.

Let me discuss with you this morning some of my

thoughts regarding our responsibilities and some of the means we might use better to meet the increasing demands being placed upon us.

CONCEPT OF DUTIES — I am deeply conscious of my duties and obligations as Secretary of the Navy and I approach them with humility.

I approach these duties also with personal warmth. Having been privileged to serve as a Naval officer for four and a half years during World War II, I do not feel as a stranger among you.

Since assuming these duties, the readiness of the Navy and Marine Corps of 1961 to cope with almost any conceivable circumstance has impressed me deeply. I have been impressed, also, with the tremendously complex character of our whole defense establishment.

The three months' study I have made of the threat our country faces and the means we have of coping with that threat does not qualify me as a military expert. I hope and believe that my immediate position can best be labelled as that of an unbiased person, well enough informed to make judgments, and sufficiently objective not to reject new concepts and ideas.

And I realize, that as Secretary of the Navy I must fight for and be loyal to the officers and men of the Navy and Marine Corps. It is my view that the flow of loyalty *down* through the ranks is the prime requisite of loyalty *up* through the ranks.

I must have your help and with it I intend to make whatever constructive improvements are possible, without particular regard to past customs or outmoded usage.

CHANGE — As has been said before, there is nothing constant except change.

However secure and confident we may be in the Navy and Marine Corps capabilities and essentiality, we need not resist change simply because it is change. (Let me hasten to add we *should* resist change when it is simply for the sake of change.) When wisdom dictates change, we must anticipate it; seek it; plan it; guide it; urge it; use it to increase our capabilities. The Navy has always responded to challenge; the challenge of change is unending.

The Navy has been here a long time — from ships of sail through ironclads and side-wheelers to ships propelled by nuclear power. However, let us beware of trying to identify completely all aspects of the Navy of the future with the Navy of the past. Let us not permit our thinking to so set in mental concrete that we cannot move forward. Do not forget that a *Polaris* submarine was but a dream five years ago.

If you believe, as do I, that our Navy and Marine Corps are bound to benefit from changes, then we are in harmony and we are in position to make a major contribution to the Navy and Marine Corps I visualize.

It is a high privilege to be able to have a hand in molding this force for freedom.

Ideas and initiative are vital. Ideas cause the forward movement we want in the Navy and Marine Corps. I call upon each of you to exercise your initiative, to move your ideas out into the open with boldness and courage. They are important.

RE-EXAMINATION — This morning, I call not for radical departure from time-tested traditions and procedures — but a vigorous soul-searching. This is a procedure that is normal, healthy, and, in these days, essential.

We must ever re-examine.

During each day that passes we must stand back and objectively view our own efforts, our work, our programs, and our plans.

We must ever remain receptive to ideas and suggestions that will help us carry out our responsibilities with the utmost effectiveness.

We must ever test our own objectivity.

We must reach for the stars, but with our feet on the ground.

If I can do nothing more than stimulate your imagination and initiative, this day will be a success.

The judgment that is required is both delicate and bold. It is a judgment that takes a foothold in the past, but steps forward surely to the future. And above all, it is a judgment that avoids prejudice — prejudice in all of its hundreds of manifestations.

The hour is late and the threat is total. We must all assume our obligation to insure peace in the world and we must work for its finest fulfillment for your children and mine — and for free people, or those who seek freedom, everywhere.

No one man has the total professional wisdom to judge precisely our course and speed. But each of us can help through our own personal, total dedication — by a new and bold examination of Navy-Marine Corps problems against total national defense problems.

FUTURE OF NAVY AND MARINE CORPS — I would not so strongly stress the need for re-examination if I were not absolutely convinced of the need our country has for a strong and versatile Navy and Marine Corps.

The Navy and Marine Corps have glorious pasts. I know that they have glowing futures. There is no doubt

in my mind whatsoever that the Navy and the Marine Corps have increasing — not decreasing — roles in national defense.

IMPORTANCE OF SEA POWER — I see no substitute for sea power — one generation — or a dozen from now. Civilization has invariably followed the sea routes since the dawn of recorded time.

The earliest recorded example of this eternal link between the affairs of mankind and the oceans comes down to us from Crete, the forerunner of the Greek-Aegean civilization. Crete was the first classic maritime power. History does not give us the reasons for it, but some great naval disaster, which deprived the Cretans of control of the sea, resulted in their downfall.

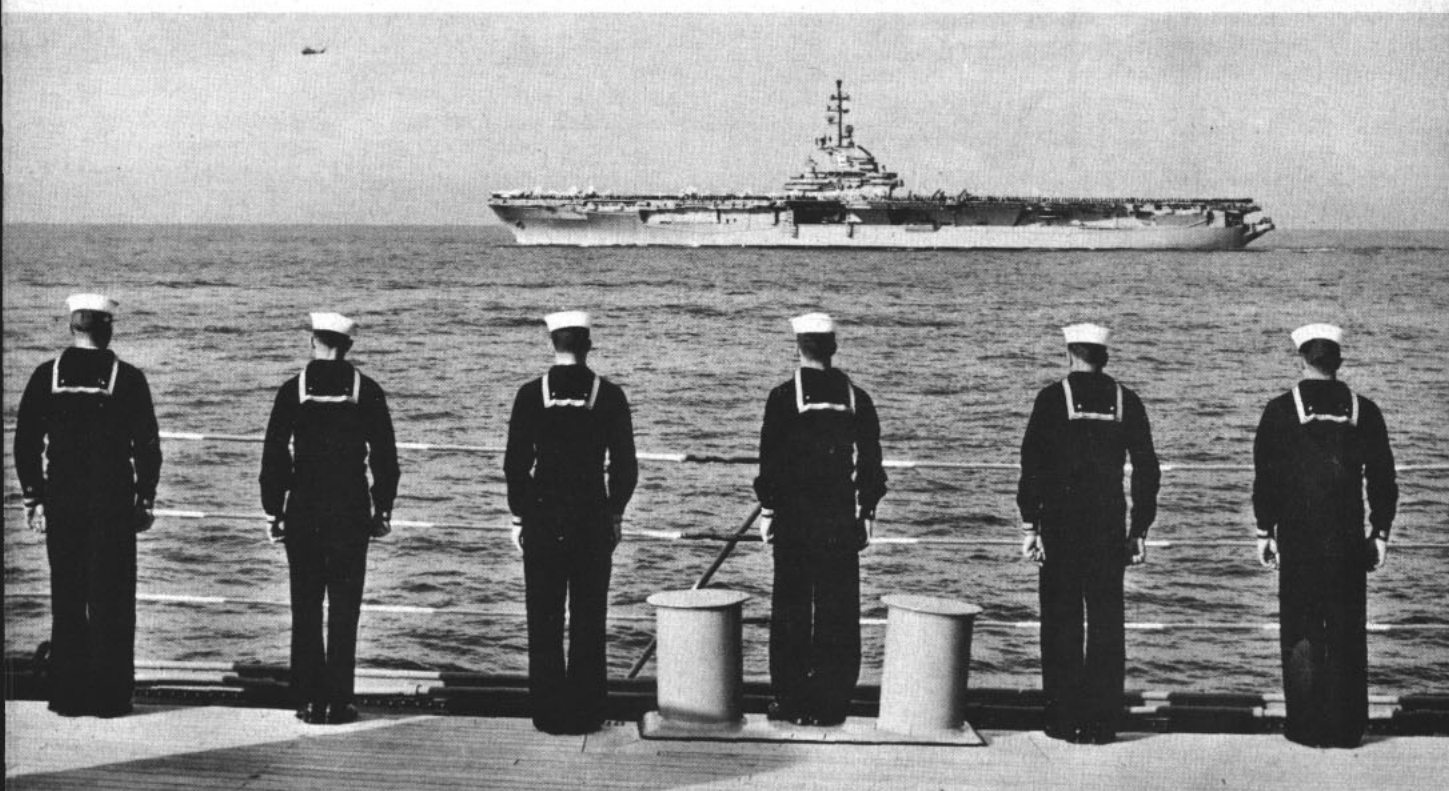
Since time began, it has been the sea, as much as the land, which made neighbors. This relationship is particularly true here in our own hemisphere. It is the ocean routes, which truly join the North and South American continents. This phenomenon is also true in the Old World, where the Mediterranean links countries otherwise separated by land masses.

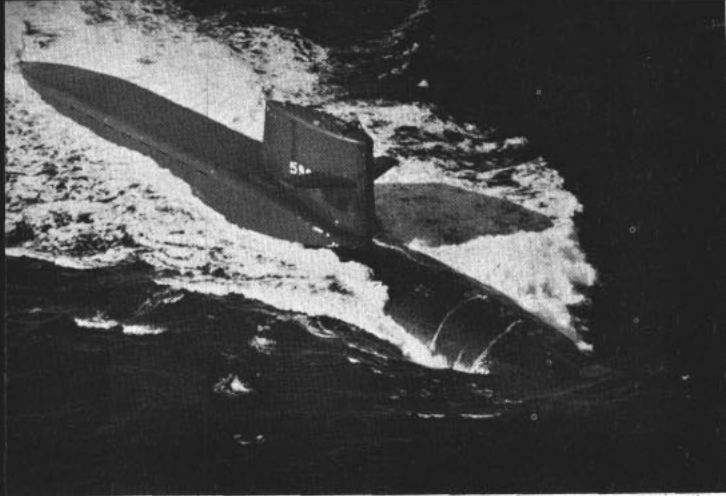
In short, because water bodies are often used for defense, they are often thought of only as barriers instead of connectors. History has proven that the proper use and control of the seaways, simultaneously as barriers and connectors, is invariably the mark of a young and growing civilization.

Conversely, the lack of this faculty has caused disintegration or stagnation throughout history. The Persian Empire never recovered from the loss of the naval battle of Salamis in 480 B.C. The decades known as the "Golden Age of Athens" began to decline only after the disastrous naval expedition to Sicily in 415 B.C., and a decisive naval defeat in 405 B.C. Medieval and modern history hold many other such examples.

The point is, America today is a maritime nation, dependent upon the seas for existence and protection. Maritime power, applied at the right time, in the right

'NO SUBSTITUTE for sea power—one generation—or a dozen from now,' SecNavs says to Navymen and Marines.





NUCLEAR power has been accepted as 'normal' for subs.

place, and with the right amount of force is vital — just as it always has been since time began. We ignore this lesson of history at our own peril.

I firmly believe the importance of Sea Power is increasing with each passing year. Possibly even more significant, I believe Americans are becoming more aware of this fact and recent events bear out this conviction. It is evident that there is a growing awareness that situations such as Lebanon, Laos, and Taiwan Straits may increase in the future instead of lessen.

This awareness is reflected in President Kennedy's amendments to the 1962 budget. In that connection, many of you certainly deserve much credit for having shown that our Navy and Marine Corps have the ability and the versatility to meet our changing national defense needs.

ELEMENTS OF FUTURE NAVY AND MARINE CORPS — Though there are bound to be changes in the fundamental balance and structure of our forces, I do not see any major missions of the Navy or Marine Corps that are not vital to the nation.

The future of the manned aircraft is excellent. In limited war we will still need to depend upon a pilot's eyesight and judgment to find targets, to evaluate them, and to assess damage done to them. The advent of *Polaris* does not dim this need.

The *Polaris* system will contribute substantially to providing a deterrent-retaliatory force, but will not replace any other naval weapon — either manned aircraft or attack type submarines. We need them all.

If any one current development could be called significant, it is the realization that our most probable call to battle will be that resulting from the nibbling, tantalizing tactics of potential enemies to test our will in brush fire or limited war situations. And here — as we have for years — the Navy-Marine Corps air-sea-ground teams excel. They will be needed badly, and new ideas and concepts for amphibious assault will find a fertile field.

And last, but not least, surface ships will be with us — the cruiser to carry the bulky, high-powered, heavy air defense radars and missiles, and the destroyers to do everything.

A moment's reflection should assure you that there is a future in every major field.

PERSONAL CHALLENGE — People are the key to our success.

As Secretary of the Navy, I believe it my duty to say

to you as the leaders of our Navy and Marine Corps that you are first, dedicated Americans.

Second, that you are dedicated officers of the United States in whom the President of the United States has placed special trust and confidence in the protection of our nation.

Third, you are — and you must be — Navy and Marine Corps professionals. You must be the world's best.

I view you not as line officers or submariners or aviators, infantrymen, artillerymen or specialists, but as members of the Navy-Marine Corps team charged with a multitude of missions and the responsibility for carrying them out.

You must bring dedication, imagination, stamina, and enthusiasm to your work every day.

In return, I will say to the responsible leaders in government and to the people of this country that you are trained and dedicated to the protection of peace throughout the world.

I will say this in such a way that there will be a realization of the contributions your services have made in the past and that you as individuals are making today.

I will tell them that you are devoting your lives to the preservation of our homes and to the future of our children and this nation.

SERVICE — Each of you had your personal reasons for joining the Service. Uppermost among those reasons must have been patriotism or you probably would not have joined, no matter what the other reasons were. In addition, you knew that you were entering a life of service to your country, and that there would be many times when your devotion to duty would be tested. You knew that there would be sacrifice. And so must it be.

Realizing this, may I assure all of you that your best interests are foremost in my mind and I hope you will be able to see this interest reflected by my actions.

OFFICER CORPS — We must maintain an officer corps that remains dedicated, honest, honorable, and respected.

The fitness report system is time-tested and adequate. I urge you to set high standards of honor, integrity, and achievement and to be ruthless and positive in reporting on the fitness of anyone who does not meet these standards. I would remind you that when you do not report poor performance on the part of a subordinate, you are downgrading the entire officer corps and yourself.

RESPONSIBILITY AS SPOKESMEN — Do not forget that you are an officer twenty-four hours a day. The authority of special trust and confidence with which the President of the United States commissioned you cannot be put aside for purposes of convenience or personal expediency.

With or without your uniform, despite any official disclaimer and regardless of the enticement of anonymity, you are in matters of defense and national policy a Navy or Marine Corps spokesman. As such, you inherit a responsibility which I hope none of you wish to avoid. With reference to your fulfillment of this responsibility, I ask your help and cooperation.

The Navy's top civilian and military leaders cannot effectively fight for the kind of Navy we all want if they must be forever explaining away or defending some counter-policy utterance made by a well-intentioned but

misguided and, in the end, irresponsible officer who hides his actions behind anonymity.

I have a simple rule of thumb by which I hope you will all govern your actions: Recognize and accept your own responsibility by insisting upon being quoted by name, rank, and billet. Your responsibility will then be fulfilled much the same as when signing the log for your watch. In short, if you are not willing to be quoted by name, you should not be speaking.

LEADERSHIP — This brings me to General Order Number 21 on Naval Leadership. This General Order was not intended as a panacea for leadership deficiencies. It must be used as a guide — as a constant reminder that we must concern ourselves every moment of every day with leadership.

No one could possibly set down in writing all of those many facets of individual judgment and character that go into the make-up of a good leader. Leadership is not something that you can compute by modern scientific methods. It is something that you and I must feel — must be aware of and must practice — sometimes without any guidance whatsoever.

In your own areas of responsibility, I charge you with providing careful guidance and firm leadership for your portion of our Navy.

NEED FOR INFORMED NAVY AND MARINE CORPS — Our men must be uppermost in our minds. But we are responsible for more than just physical well-being; we are responsible for keeping our men informed of our country's goals, history, and heritage, in addition to our naval operations, tasks, and missions.

Some weeks ago, we started distribution of films of the President's press conferences. This was done so that all of our officers and men aboard ships could also see and hear what the President of the United States had to say, his statements, his reactions to questions, his philosophy, and his attitudes.

We cannot expect our men and women to be motivated without a basic knowledge of the need of the contribution they are making. They must be informed to the point of realization that their service is not the traditional peace time service. We are obligated in these days of cold war to let them know the depth and breadth of the contribution they are making to our country and the peace of the world.

I want our men to know this: I want us to have, as we must, the best informed Navy in history.

RECOGNITION — In the cold war, the junior officer or petty officer who gives his job more than is required, and in the process makes an important and lasting contribution, is entitled to recognition more tangible and less private than that made possible by use of the fitness report.

- In order to stimulate and encourage the pursuit of excellence and improvement in the less glamorous fields of operations, administration and management, I intend to establish an award system for recognizing junior officers, lieutenant commanders and majors and below, who excel or make major contributions.

- Additionally, I will institute some new form of recognition of outstanding leadership examples among petty officers and non-commissioned officers at the ship and company level.

SPECIALIZATION — The increasing complexity of our Navy requires increasing specialization. We must look into the possibility of slowing down the rotation in order to guard against transferring our officers and men at about the time they become really proficient in a particular job. We cannot afford rotation merely for the sake of career pattern.

In today's Navy the demands of the various tasks are so different and so taxing that no one officer or man can hope to become even moderately proficient in all. The requirements of operations at sea, of international relations, of logistics, and other aspects of the Navy Department's mission are equally demanding and require the same attention to continuity of assignment.

In naval career planning the needs of the Navy must come first and the contribution of an officer or enlisted man to the fulfillment of the Navy's mission must be given greatest weight in considering his recognition and promotion.

PERFORMANCE — Several questions occur to me in connection with the foregoing.

Could we not make changes in our selection and detailing systems to permit earlier determination of an officer's ability to command, possibly at the level of commander or very junior captain, and thereafter be able to use officers in billets of great importance for longer periods of time?

In an age of technology, should we not place more emphasis on engineering duty officers? Should we not take steps to increase even further the vitality of this group — particularly in the junior ranks? And should we not have greater communication between the line officers and the technical officers? Should there not be more line officers in the Bureaus and more technical officers in the offices that deal with requirements and planning?

Why can we not set up a system which will clearly fix responsibility for design, procurement and production within our Bureaus and keep personnel in specific programs long enough for them to achieve credit or bear the blame for their work and decisions?

You can be sure that there will be included in the instructions that I give to Selection Boards the criteria that officers should be selected and promoted based not on their ability to keep their finger on their number,

INCREASING complexity requires specialized ability.



but on the past and present demonstration of the initiative and courage to make their greatest contribution to their service and country consistent with their respective abilities.

COMPETENCE — Never have our needs for competent men been greater.

Let us have men with the vision to say, "This item, this system offers an inadequate return for its cost and for the efforts we must put into it. It is neither urgent nor obvious."

Let us have men who know the wisdom of savings — savings of men, dollars and materials — so that we can build and man more ships and aircraft — so that we can improve the quantity, the utility and the quality of our weapons to better preserve freedom. I say to all of you — the officer or enlisted man who by his own industry and while making positive contributions saves enough money to pay his own salary has truly served his country well.

Let us have men with the judgment to say of our forces and our tools: "This is their true potential. This is their potential for keeping the peace, and failing peace, this is their potential for winning wars."

If there were time, if there were money, if there were anything less than a total threat we could condone a few people doing somewhat less than their best. We could condone a few people preoccupied with the hatching of the nest egg of retirement. That we cannot condone these things is now beyond our own choosing.

OFFICER TRAINING — In our officer training of these times:

Should there not be more emphasis on international affairs and national motivations, including the actions and reactions of nations to the ebb and flow of world events?

Should not every one of our officers speak at least one foreign language?

Should not we better stress the economics of government? Do we train our officers to view our needs in the light of our over-all economy and to try to evaluate a naval requirement in terms of our nation's over-all ability to provide and sustain it?

Should we not, in the light of the rapid technological changes, provide better means for our officers to stay on top of their areas of special knowledge through inten-

SURFACE ships, including DDs and CAs, have big roles.



sive periodic courses of short duration in our own service schools or in universities throughout the country?

SHIPBUILDING AND MODERNIZATION — I am particularly interested in the modernization of the Fleet, which leads directly to our shipbuilding and aircraft procurement programs. It is obvious that we cannot go on hoping that someone is going to wave a magic fiscal wand to modernize our aging Fleet.

If we continue to build ships that last 20 years at the rate of 20 or so a year as we have been in the past, we can see the day when we will have a Navy of half the number of ships we have now. This must not be. We must find ways to build ships more cheaply, while at the same time expressing our needs more clearly.

Perhaps the answer lies in less sophisticated ships — or more ships of exactly similar design. I am not at all convinced we have to hand tailor every ship that comes off of the ways. We cannot hope to embody in each ship and aircraft all of the improvements that our technical laboratories can dream up. If we did so, a ship would never go to sea, because our technical progress is never-ending.

Too many of our modern ships have cost too much, have been late in delivery, and are severely restricted in performing their missions because of the premature incorporation of hoped-for advances in technology and frequent changes made to their specifications.

In that connection we must not become subservient to commercial vendors, no matter how well intentioned, who give us proposals for things that fit neither our needs nor our pocketbook.

We must be ruthless in eliminating projects of dubious value. We cannot use our active shipbuilding and aircraft purchase programs to carry long-range research and development programs. We must consider the cost of sophistication and its impact on reliability and the numbers of individual ships and aircraft we are able to buy. We must realize when we are pushing the state of the art.

We need to take a close, hard look at the fiscal and technological facts of life and figure out just what we do need — be sure we are right — and then pursue our goals with vigor and good judgment.

Our proposed 1962 shipbuilding program represents a significant increase over the post-Korea program. We must do even better, particularly over the next seven or eight years, to make a significant improvement in the existing state of over-age and obsolescence in our Fleet.

AIRCRAFT PROCUREMENT — In the same vein, I am interested in reversing the trend of a declining and aging inventory of aircraft by at least procuring aircraft in excess of anticipated losses. Our aircraft development plans and our aircraft shopping lists need similar searching examinations.

How much high speed and sophistication do we need? Do we need numbers of medium cost close-support aircraft or fewer multi-million dollar close support aircraft?

Here again, we need to project our plans carefully as far into the future as possible and then go all-out to stop the trend where sophistication is pricing us out of business.

SURFACE WEAPONS — We need to examine surface weapons in the light of our future roles and missions.

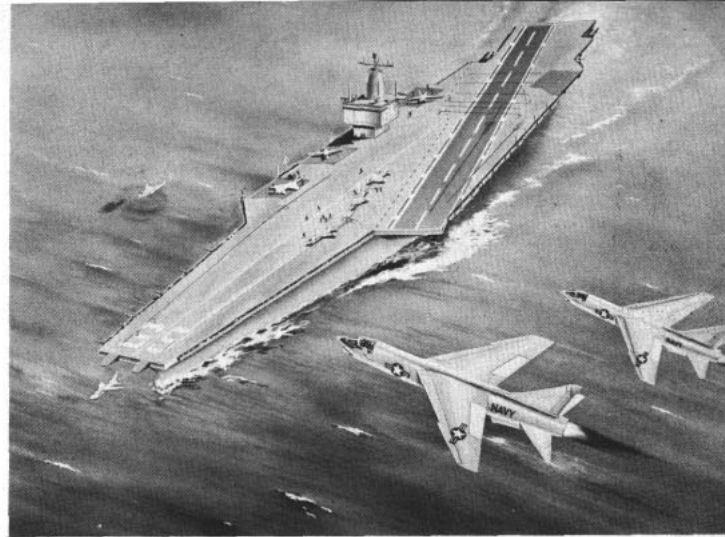
Should we reemphasize our amphibious and limited war capabilities and the kinds of surface weapons which best support them, even at the expense of our ability to press carrier-borne air attack against strategic targets? As strategic missiles come in, does anything else go out?

What is the surface to surface weapon of the future? against other ships? and for shore bombardment?

Is it *Talos* and possibly *Terrier*? Or do we need something as long range and powerful as *Polaris*?

Or will we need five-inch and cruiser main battery guns for the foreseeable future?

How badly do we need *Typhon* as a replacement for *Talos*, *Terrier*, and *Tartar*? Can we afford it?



THE ERA of surface nuclear propulsion is almost here.

ANTI-SUBMARINE WARFARE — There is no doubt in my mind that the potential enemy submarine threat is one of the most serious we face. If not countered it could permit an enemy before many more years to be able to use the missile-carrying submarine to destroy our cities. With uncontrolled conventional and nuclear-powered submarines he could destroy any seaborne effort we might make during or after an initial attack.

It is therefore vital that we maintain control of these two variations of the submarine threat.

To do so, what greater emphasis can we place on our ASW effort? What proportion of our effort must we place on surveillance systems? What better use can we make of our present equipment? Can we find cheaper ways of obtaining the same promising results we are now getting from our newer but heavy and very expensive equipment?

All of these problems have been carefully studied by our present ASW organization from the ASW Committee on down — but sometimes fresh, young brains come up with something new, simple, and unapparent.

This is a fertile field — and one where the pay-off means much to our nation's safety.

ADVANCED FLEET ANTI-AIR WARFARE CONCEPTS — Should we press ahead for the *Eagle-Missileer* air superiority weapons system? If we are unsuccessful, what alternate means do we have for defending against low-flying snoopers and large-scale, low-level attack? Against guided missiles?

If we feel that this concept is vital to our future ability to control the air over our Fleet and over areas of amphibious operations, how can we best present this necessity to the Administration and to the Congress?

NUCLEAR PROPULSION — We have for several years come to accept nuclear propulsion in submarines as normal rather than unusual. We are well along in developing tactics to use its great advantages and to overcome its few weaknesses.

The era of nuclear propulsion in surface ships is almost here. What plans can we make to exploit its many advantages *before* rather than after we have it? If we know what we plan to do with it, perhaps we can then more wisely decide how much of our money we want to put into building more nuclear-powered surface ships.

We can, of course, put together a nuclear-powered task force built around the *Enterprise*, *Long Beach* and *Bainbridge*. But is this the best use we can make of this high-speed, virtually unlimited mobility?

A single ship — representing a substantial segment

of sea power — will be able to range over 750 miles a day anywhere. In the era of multiple trouble spots and limited wars, would not two nuclear-powered frigates be worth three ships that are tied to oilers and pre-occupied with fuel conservation? We need to think big and well into the future. Past experience is a good base, but it should not limit us.

ORGANIZATION — In your devotion to your job I have noticed that some of you sometimes lose sight of the problems and capabilities of other elements of the Navy. For this reason I feel it is important that no artificial organizational barriers exist to promote this compartmentation. Therefore, I intend to take a close look at previous Board reports and when justified, make organizational changes. For instance:

Do we need an Aircraft and Missile Characteristics Board to parallel the action of the Ships' Characteristics Board? Or should we abolish the Ships' Characteristics Board and go about both problems entirely differently?

Should we put greater emphasis on test and evaluation by creating a board specifically to advise the Chief of Naval Operations and myself when a system will be ready to be placed in a ship or aircraft?

Why should not the Inspector General have authority within the Military Sea Transportation Service and within the material Bureaus?

QUESTIONS — During the next several months I intend to pose to the responsible officers a number of ques-

WHAT IS the surface-to-surface weapon of the future?





WHAT greater emphasis can we place on ASW effort?

tions. Many of these I have touched on already. In asking these questions you can be assured that my motivation is not criticism, but rather an honest desire to make sure that we do not overlook any avenue that may promise greater progress in fulfilling our missions.

These examinations — the answers to these questions — may often reveal we are doing the best we can. But in responding to these questions, if there is, through your own abilities, opened up but one more avenue for progress, I shall feel that my work has not been in vain. Likewise, if we can block off even one thing that is sapping our strength and effectiveness, we shall have done something worthwhile.

I want you to understand thoroughly that I have no preconceived answers to these questions. I also know that a previous study can undoubtedly be produced concerning any one of them. It very well may be that there are no logical answers to some of them. The answers to others may indicate major changes are in order.

EXAMPLES OF QUESTIONS—Here are a few more questions that have occurred to me since assuming my present duties.

In this day and age, with our tempo of vitality — necessary operations so high, are we dissipating the dedication and interest of our junior personnel by spending too much time in exercises, training higher echelons of command? — exercises at least in part necessitated by the rapid turnover of senior officers?

Would an objective evaluation show that we are spending too much on basic research and not enough money on test and evaluation and that we are inventing more than the Navy and industry can intelligently use?

SECNAV Connally addresses Naval and Marine officers.



Or is the case just the opposite?

Does any other area in the Navy in addition to *Polaris* lend itself to the creation of a Special Projects Office?

Our Bureau Chiefs administer complex organizations handling billions of dollars annually. What more can we do to help them in these heavy responsibilities?

Why should not senior officers involved with the design and procurement of ships and aircraft bear the same responsibility and suffer the same penalty as a ship commander who carelessly allows his ship to be damaged?

Why is our first reenlistment rate not higher? Have we explored all avenues to attract good men and to persuade them to reenlist?

Are we on the right track in our recruiting and reenlistment programs? I have here in my hand a series of pamphlets used in recruiting. These pamphlets are replete with promises of schooling, privileges and good liberty. They seem to infer that the thinking man starts to aim toward retirement before he is old enough to vote. Let me make it clear that I am in favor of every bit of schooling we can give a man. I am in favor of privileges so long as they are firmly meshed with responsibility. I am in favor of good liberty and well-earned retirement benefits. But would it not be better to offer our prospective recruit unlimited opportunity to serve his country, to compete with the best of the nation's youth for promotion in a forward-looking, fast-moving organization, opportunity to aid in protecting the security not only of our own country, but of the entire free world?

In my first months in this position I have found that when questions come to me in the form of letters, in which the writer makes suggestions for improvement or change in the Services, that the first action by the person given the responsibility of preparing a reply is usually defensive. The proposed answer tends to *justify* past action and present method rather than to inquire into the matter to see if the proposal really has any merit. How can we become more open-minded and less defensive in our actions?

Are we paying enough attention to physical fitness?

Why is the regular NROTC retention rate so low?

Is our selection system wrong? How can we select better motivated candidates? Should we not lengthen obligated service to six or ten years to assure that we get career motivated people in our NROTC program?

Throughout history petty officers and non-commissioned officers have provided technical knowledge and tenure in the Navy and Marine Corps. Have we continued to recognize the value of these people and to place sufficient responsibility on them?

And now the most complex question of all — what additional and continuing steps can we take to ensure that we ever keep our shore establishment trimmed and pointed to the Fleet? How can we make sure that every man and woman who serves — military or civilian — remains forever mindful that the Naval Establishment exists purely and solely to send to sea a fighting Fleet? How can we make sure we all understand that an hour of labor or a pound of supplies wasted ashore may be the price of the seagoing bullet without which we jeopardize our freedom?

ANSWERS — Those are the questions, and now, how should we approach the answers?

ALL HANDS

In May 1941, during the battle of Crete, when England was hard pressed to rescue her troops from the enemy-invaded island, it had to be decided just how far this effort to bring off the men should be pursued. As the Army was in mortal peril and the Air could do little, the task fell upon the wearied and bomb-torn naval units. To Admiral Cunningham, Commander in Chief of the British Mediterranean Fleet, it was against *all tradition* to abandon the Army in such a crisis. Though faced with the probability of further ship damage and loss, the Admiral declared, "It takes the Navy three years to build a new ship. It will take three hundred years to build a new tradition. The evacuation will continue."

The point is this: We have already at our disposal the most important tool for meeting any challenge we may face. The traditions of our Service swept up boldly and carried aloft in the hands of Sailors and Marines of character comprise our only means of success.

By our own actions, good or bad, we determine tradition. The traditions, if any, that we leave for posterity will be governed by the character of the officers and men who comprise the Navy and the Marine Corps today.

Character is the one priceless asset. Devotion to truth, to fact, to high standards—together with the ability to accept criticism while so doing, to recognize strength and weakness in others and to be tolerant of them—these are the building blocks that make character.

And now, what is it that has made our present traditions? What part did character play in their making?

First we have the tradition of *absolute loyalty to the country*. Remember the words of Stephen Decatur who said, "My country! In her intercourse with foreign nations may she always be right, but right or wrong, my country!"

Our next great tradition is *Indomitability* and here I am reminded of David Lawrence's dying words, "Fight her till she sinks and don't give up the ship!", and far more recently, the words of Commander Howard W. Gilmore, who ordered "Take her down" and in so doing chose to ride the conning tower of his sub-

merging submarine to his death rather than expose his ship or his crew to enemy gun fire.

Then there is the tradition of *Instant Readiness*. Remember the words of then Captain J. K. Taussig—who in reporting for duty with a squadron of U. S. Destroyers at Queenstown, Ireland, in World War I, after a hard trans-Atlantic passage said, "I shall be ready when fueled." And remember too, less than three years ago, the Sixth Fleet's response to the Lebanon situation.

We have the tradition of technological superiority. We were the first with frigates, iron-clads, naval radar, naval aviation, and nuclear power.

Finally, we have the tradition of good leadership. No U. S. Navy ship has ever been in the hands of mutineers.

CONCLUSION—I would like to remind you of the words of the President of the United States in his Inaugural Address:

In the long history of the world, only a few generations have been granted the role of defending freedom in its hour of maximum danger. I do not shrink from this responsibility—I welcome it. I do not believe that any of us would exchange places with any other people or any other generation. The energy, the faith, the devotion which we bring to this endeavor will light our country and all who serve it—and the glow from that fire can truly light the world."

Our tasks are great—our responsibilities no less exacting. Whether we are worthy to stand in the reflected light of those who preceded us we cannot now know. That judgment truly can be made only by those who follow us.

Let it at least be said of us:

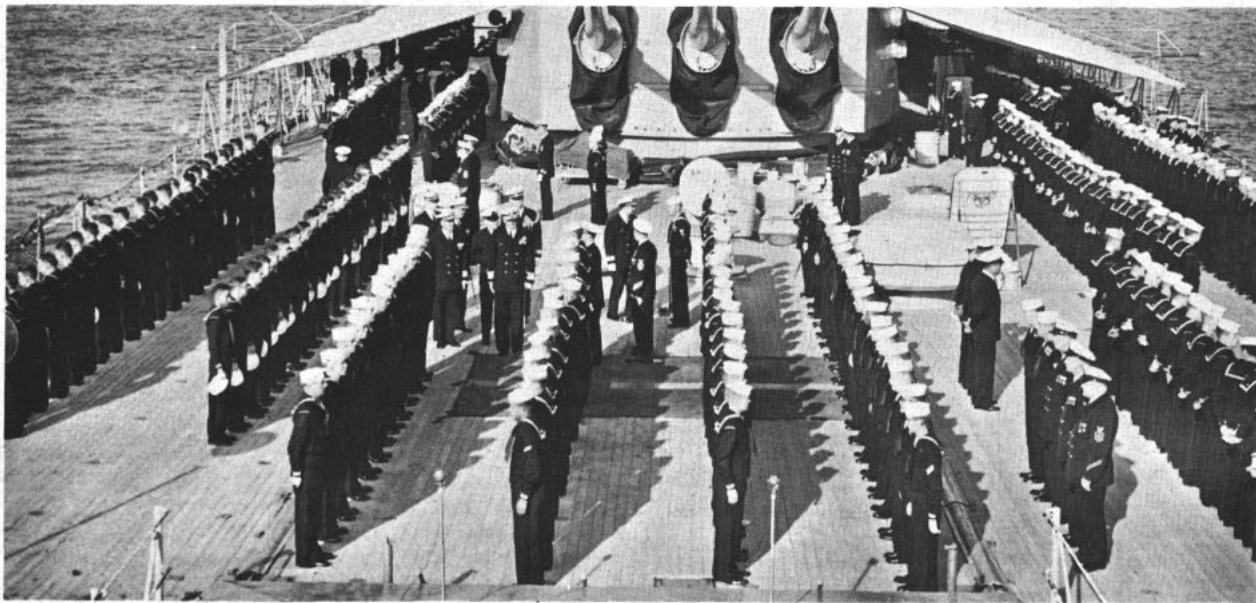
They understood their task—

They accepted their responsibilities—large and small—

They were men and women of courage and understanding—

And above all, they placed Country above Service and Service above self.

PETTY OFFICERS and non-commissioned officers are source of technical know-how in Navy and Marine Corps.



TAFFRAIL TALK

WHILE RUMMAGING through old copies of *ALL HANDS* our Rummaging Editor came up with this rather strange story which appeared in the May 1947 issue.

It had to do, purportedly, with the experience of one of the pilots in a Carrier Qualification Training Unit toward the end of World War II. The facts were never authenticated.

"Seems this pilot was getting practice in catapult takeoffs," the report said, "and everything went 4.0 up to the point where he signaled the ground crew to fire the catapult.

"As planes will on a catapult takeoff, his flashed forward at an extreme acceleration, got flying speed... and stopped in midair.

"Even while the pilot was realizing that something was very unorthodox about this matter, his plane did even worse. It started going backward as fast as it had been going forward.

"According to reports, the pilot said of this moment, 'Acceleration in reverse was very fast. I repassed the catapult crew and the other planes which were standing by. My wing finally struck the fire truck, which spun me around and started me going nose first again, but still in the wrong direction. I finally rolled off the runway and stopped.'

"Investigation showed that the tail hook of the plane had dropped as the plane was launched, caught the tow cable, pulled it out far enough to cock the catapult, and then fired the catapult in the wrong direction.

"The pilot, though, is one aviator who'll never be sure."

Now—let's get the whole story. We're waiting for your letters.

★ ★ ★

Back in the roaring twenties, as everybody knows from watching TV, people were interested in practically everything except curling up with a good book. Nevertheless, the Navy recognized the importance of reading as a means of growth, and tried to do something about it.

In rummaging through the *ALL HANDS* attic, we came upon a book list put out by the Bureau of Navigation in 1924. Its preface was written by Admiral W. R. Shoemaker and contained some advice that seems even more to the point in the world of 1961 than it did when it was written.

It emphasized the value of continuous reading and study for both officers and enlisted men as a means of keeping abreast of the technical development of the Navy. However, enthusiasm for furthering your Navy career shouldn't make you intellectually lopsided. Every Navyman should give attention to the large problems of life, to international affairs and to the fundamentals known as culture, for which wide reading is the basis.

The Navy must be prepared to play, the article said, an increasing part in international affairs and relations. Every Navyman may be called to a foreign station either ashore or afloat; every naval officer is a potential commander in chief. Preparations must be made in advance. It will be impossible to catch up at the time when the need is keenly realized.

If you have a general familiarity with subjects such as history, literature, sociology, biography and international relations, you will have it made.

The All Hands Staff

The United States Navy

Guardian of our Country

The United States Navy is responsible for maintaining control of the sea and is a ready force on watch at home and overseas, capable of strong action to preserve the peace or of instant offensive action to win in war.

It is upon the maintenance of this control that our country's glorious future depends. The United States Navy exists to make it so.

We Serve with Honor

Tradition, valor and victory are the Navy's heritage from the past. To these may be added dedication, discipline and vigilance as the watchwords of the present and future. At home or on distant stations, we serve with pride, confident in the respect of our country, our shipmates, and our families. Our responsibilities sober us; our adversities strengthen us. Service to God and Country is our special privilege. We serve with honor.

The Future of the Navy

The Navy will always employ new weapons, new techniques and greater power to protect and defend the United States on the sea, under the sea, and in the air.

Now and in the future, control of the sea gives the United States her greatest advantage for the maintenance of peace and for victory in war. Mobility, surprise, dispersal and offensive power are the keystones of the new Navy. The roots of the Navy lie in a strong belief in the future, in continued dedication to our tasks, and in reflection on our heritage from the past. Never have our opportunities and our responsibilities been greater.

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The Bureau invites requests for additional copies as necessary to comply with the basic directives. This magazine is intended for all hands and commanding officers should take necessary steps to make it available accordingly.

The Bureau should be kept informed of changes in the number of copies required.

The Bureau should also be advised if the full number of copies is not received regularly.

Normally copies for Navy activities are distributed only to those on the Standard Navy Distribution List in the expectation that such activities will make further distribution as necessary; where special circumstances warrant sending direct to sub-activities the Bureau should be informed.

Distribution to Marine Corps personnel is effected by the Commandant U. S. Marine Corps. Requests from Marine Activities should be addressed to the Commandant.

PERSONAL COPIES: This magazine is for sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. The rate for *ALL HANDS* is 25 cents per copy; subscription price \$2.50 a year, domestic (including FPO and APO addresses for overseas mail); \$3.50 foreign. Remittances should be made to the Superintendent of Documents. Subscriptions are accepted for one, two or three years.

• AT RIGHT: MISSILE MASTERS—An ordnance team of Fighter Squadron

VF-141 loads a Sparrow III, air-to-air guided missile, into the wing launcher of an F3H-2 Demon while on cruise aboard USS Oriskany (CVA 34).

ALL HANDS





men of
RESPONSIBILITY