NAVAL AVIATION NEWS

JULY 1977


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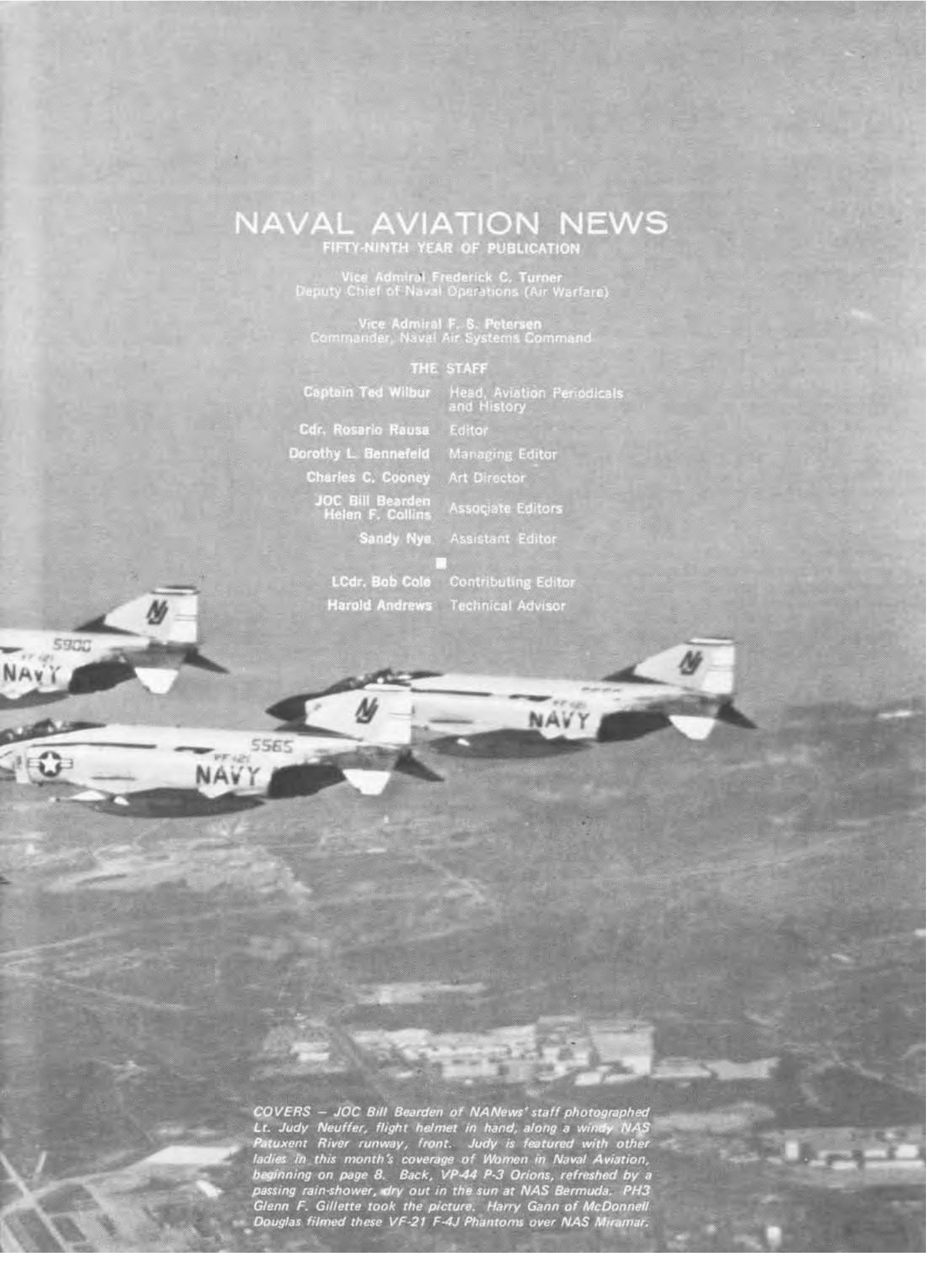
FIFTY-NINTH YEAR OF PUBLICATION



COVERS – JOC Bill Bearden of NANews' staff photographed Lt. Judy Neuffer, flight helmet in hand, along a windy NAS Patuxent River runway, front. Judy is featured with other ladies in this month's coverage of Women in Naval Aviation, beginning on page 8. Back, VP-44 P-3 Orions, refreshed by a passing rain-shower, dry out in the sun at NAS Bermuda. PH3 Glenn F. Gillette took the picture. Harry Gann of McDonnell Douglas filmed these VF-21 F-4J Phantoms over NAS Miramar.

editor's corner

Like Brother, Like Brother. Both fly CH-53s in HMH-363 at MCAS Santa Ana. Both are about six-and-a-half-feet tall and weigh in around 230 pounds. Both are athletic. Each has a wife and one son. Twins? Darn near. Except that David A. Stockwell is 30 and his brother, A. Dean Stockwell, is 17 months younger. Both wanted to fly jets or helicopters but the decision was taken out of their hands. Neither could comfortably fit into the cockpit of Marine Corps jets. The *Sea Stallion* proved plenty big enough, so the brothers pilot them now. When it comes to basketball, the word is that while one brother controls the boards, the other scores the points. We don't know which does which, but at HMH-363 it doesn't seem to matter.

A Family First? Could be. AD2 Michael D. Dietze and YN2 Virginia M. Dietze were advanced together on the same day by Captain M. R. Byington, Jr., VX-1's C.O. Virginia is the squadron's training yeoman while Michael is a mech in the maintenance department. The squadron is based at NAS Patuxent River.

Rampaging Strangler? The VA-83 *Rampagers* must be proud of their own NC1 Don Copes. As career counselor, the former ADJ is given the major share of credit for increasing first term adjusted retention rates from 25 percent in FY 76 to 86 percent. Career retention rate in the *Corsair II* squadron is 100 percent. Copes began turning things around during a cruise aboard USS *Forrestal* where he conducted one-on-one interviews with little more than a cruise box for an office. The fact that Commander John Waples, VA-83's skipper, is nicknamed "Strangle" hopefully has nothing to do with pressuring youngsters to stay in the Navy. The squadron, by the way, marked its 27th birthday recently with a party at Lake Newman near the unit's headquarters, NAS Cecil Field. According to a report, the afternoon highlights were the cake cutting by the skipper and a pie-eating contest which rapidly degenerated as Cdr. "Strangle" Waples imprinted a certain Lt. Schmidt's face onto a pie pan with the pie still intact.

Swan Dive. Linda Battistini told the story in NADC Warminster's *Reflector*. A young mute swan somehow had gotten separated from his flock and landed on the military compound. The handsome creature was spotted by NADC civilian test pilot Jack Pettit who was fearful for its safety during flight operations and doubtful of the food supply. (It was January and a carpet of snow covered the ground.) A team of naturalists from a nature center were summoned when local efforts at capturing the bird failed. James Hertock of the technical support department and AC3 Brian Phillips of the naval air facility made several unsuccessful attempts to capture the swan. The swan is a strong bird capable of injuring humans. Even though not fully grown, NADC's bird had a six-foot wingspan. Phillips and Hertock finally launched a night retrieval mission. They flashed a strong light at the swan, temporarily blinding him. Hertock then tried a flying tackle but was bowled over by the bird. Phillips was finally able to cor-

ral the swan. Feted by personnel for a time, then turned over to the nature center, the swan was finally released to its natural habitat.

NADC Commander Captain Clifford M. Rigsbee holds the swan.

Requiem for a Mascot. USS *Lexington's* Charlie, a sea lion, has passed away. A popular attraction at the carrier's home port, NAS Pensacola (*NANews*, July 1976), Charlie had been a friend of CVT-16's crew since he moved in alongside in 1970. Charlie had been missing from his sanctuary at Allegheny Wharf for months. Investigation finally revealed that in August 1976, the mascot was retrieved and taken to the Gulfarium

near Fort Walton Beach. Seriously ill with pneumonia and other injuries, Charlie expired at the Gulfarium.

NAVAL AVIATION NEWS did you know?

Fire-Fighting Truck

NAS Point Mugu's fire chief Charles White considers his unit's new crash fire rescue vehicle a real innovation in fire fighting. The P-4A truck is capable of extinguishing a 16,000-square-foot area of blazing jet fuel in just 20 seconds. A minimum of 25 hours of training is required before fire fighters are qualified for its operation. Special instruction is also necessary for the public works personnel who maintain and repair it.

The multi-purpose truck provides quick-response fire-suppression capability in aircraft crash fires and can also be used for different types of fires. Powered by a 425-hp Caterpillar engine, the 46,600-pound truck can travel at speeds up to 35 mph. With a capacity of 1,500 gallons of water and 180 gallons of aqueous film-forming foam, it can reach flames 200 feet away with its roof turret. The extinguishing agents are released through either the roof or bumper-mounted turret, or through the handline hose. The system can also pump from a fire hydrant or draft water supply in structural fire-fighting operations. The new truck replaces the MB-1s and MB-5s previously used at Point Mugu.

Night Rescue Evaluation

SAR units usually fly the Boeing-Vertol HH-46A. The helicopter's uncoupled Doppler system does not provide an automatic hover capability; therefore it cannot be used to perform night or low-visibility overwater-hover operations unless adequate external visual references are available. A night rescue mission is difficult because it requires instrument flight based on visual cues, such as sighting the survivor. In making the transition to a hover alongside the survivor, there is small margin for error because of proximity to the water (40 to 50 feet) and the high engine power needed to hover.

Boeing-Vertol has developed semi-automatic approach equipment with a "hands-off" hovering capability. After a rescue is completed, control is returned to the pilot. To make an approach, the pilot manually flies to a cruise altitude and selects auto descent on his control panel. During the approach, he controls pitch attitude to steepen or shallow-out the glidepath angle as necessary to reach the target hover position. Once hover is attained, remote control is selected. This activates the crewman's joystick and allows up to plus or minus 10 knots of longitudinal and lateral velocity. After the victim is raised on the hoist, the pilot can transition back to altitude by increasing forward speed.

A Naval Air Test Center team, supported by HCT-16, conducted a technical evaluation at Pensacola in November 1976. It ascertained that the system could safely make a controlled descent from cruise altitude to an altitude selected by the pilot, provide a stable hover and then allow maneuvering from one position to another. It is expected that HH-46A SAR helos will have this additional capability in about a year.

Oscar 12

Oscar 12, a Navy Astronautics Group navigation satellite, on April 14 counted its 1,261,000th mile in an odyssey that began 10 years ago. It is one of five satellites which the Point Mugu unit has in orbit.

Launched April 14, 1967, the 116-pound satellite packed with 34,000 miniaturized components has been in orbit 660 miles above the earth for 87,672 hours.

Considered one of the most important aids to pinpoint navigation, *Oscar*

NAVAL AVIATION NEWS did you know?

12 and the four other small satellites provide the precise reference points needed to fix a position.

For every pound of satellite in orbit there are tons of support equipment located at the Group's headquarters and its four tracking facilities in Maine, Minnesota, Hawaii and California.

Personnel track each passing satellite and relay observations of orbital course to the central computer complex at the Point Mugu headquarters. There, exact predictions of each satellite's orbital position at two-minute intervals throughout the day ahead are computed and supplied to the satellites for use by Navy and commercial users around the world. It requires three satellite broadcasts to calculate a fix.

Captain A. R. Barke is C.O. of the Astronautics Group.

Awards Ltjg. Larry Munns, assigned to VA-128, NAS Whidbey Island, has been named the recipient of the 1976 Britannia Award.

Rear Admiral R. W. Halliday, Commander, British Naval Staff, Washington, D.C., made the presentation to Ltjg. Munns as the student pilot having the highest overall weapons score in advanced flight training in 1976.

The award, originated in 1956 by the Lord Commissioners of the Admiralty of the United Kingdom, is made in appreciation of the U.S. assistance in training British Navy pilots.

Ltjg. Munns has been assigned to VA-115.

During the same ceremony, Rear Admiral William Harris presented AEAN James A. MacBeth a plaque honoring him for attaining the highest overall average ever achieved in Aviation Electrician A School. MacBeth's score was 98.89 out of a possible 99.

Sparrow Lt. John Preves, Pacific Fleet Combat Camera Group, filmed this firing of an AIM-7E *Sparrow* igniting from an F-4N during a recent VF-302 exercise at the Point Mugu range. LCdr. Carl Stattin and Lt. Bob Peterson were the crew members.

Gray Eagle As the Naval Aviator on active duty with the earliest date of designation, Rear Admiral George L. Cassell is the new Gray Eagle. The trophy was transferred to him by retiring Rear Admiral Martin D. Carmody during a Naval Aviators' luncheon at Fort Myer, Va., on May 27. RAdm. Carmody is presently assigned to the Office of the Chief of Naval Operations.

Two former Gray Eagles were present at the luncheon, Admiral Charles E. Brown and Rear Admiral Francis Foley.

Stranger? Ltjg. Rich Heinrich of VF-51 submitted this photograph of a Soviet *Blinder* (TU-22) with Libyan markings being intercepted by a *Screaming Eagles' Phantom* during the squadron's Mediterranean cruise.

In Memoriam On May 14, the day before his 85th birthday, Admiral Charles E. Rosendahl died at the Philadelphia Naval Hospital.

A naval officer for 36 years, Adm. Rosendahl was known for his expertise in light-than-air blimp and rigid airship operations. He volunteered for lighter-than-air service in 1923.

In 1925, he was one of the survivors of the *Shenandoah* tragedy. When the dirigible broke up in bad weather, the admiral safely landed the remaining forward portion. When the German *Graf Zeppelin* made its round-the-world flight in August 1929, Adm. Rosendahl was aboard as the official U.S. Navy observer.

Always a staunch supporter of the airship, he commanded the *Akron* when it was commissioned in 1931. He was commanding officer at NAS Lakehurst, N.J., when the *Hindenburg* was destroyed by a hydrogen gas explosion in 1937.

During World War II he commanded the cruiser USS *Minneapolis* until 80 feet of the vessel's bow was blown off during the battle at Guadalcanal. Later he supervised the building of 168 ships which were used on anti-submarine patrols along the Atlantic and Pacific Coasts.

In 1947, Rosendahl was awarded the Distinguished Flying Cross and the Distinguished Service Medal.

One of Adm. Rosendahl's dreams was realized last October when the Airship Association received the deed to 13.9 acres on NAS Lakehurst which will be the site of an airship museum (*NANews*, January 1977, p. 3).

grampaw pettibone

Fuel Saved — Aircraft Lost

An SH-2 was away from NAS Home Plate completing a cross-country instrument training flight. It stopped at AFB #1 for fuel and would require an additional stop at AFB #2 prior to arriving at that day's final destination. Before leaving AFB #1, the aircraft was fueled with JP-4.

The only preflight discrepancy noted was a slight oil leak in the vicinity of the number one engine speed decreaser gearbox. Prestart checks were normal. After some difficulty in getting both engines started, the aircraft departed for AFB #2. Because transient service would be closed by the time they arrived, the pilot in command elected to re-file inflight to an NAS en route that would have transient service available at their ETA.

The request for change of routing was approved and the flight continued climbing to assigned altitude. The crew next noticed that the auxiliary fuel system had failed to pressurize and that fuel transfer was not possible. The cause was suspected to be an open fuel precheck panel door which prevented auxiliary fuel tank pressurization.

The aircraft commander computed and the copilot confirmed that the NAS refueling stop was still attainable with either single or dual engines. In order to increase the fuel reserve for landing, the aircraft commander elected to secure his number two engine and continue on his re-filed route of flight.

Consideration was also given to diverting to four possible landing sites. The ultimate decision was to "press on" on single engine.

At approximately 6,000 feet, 39 miles south of the NAS refueling stop, the *Seasprite* crew heard a loud scream from the number one engine and saw flames and sparks erupting. The aircraft commander took control

of the helo from the copilot and entered autorotation. The number one engine was secured while an attempt was made to start number two. It failed to start and, after several tries, it was secured.

The crew tried to restart number one but it oversped and was secured again. An attempt to autorotate to a private airstrip along the flight path was made but the SH-2 touched down about 600 feet short of the runway. The helo landed tail first and rolled over on its side, sustaining strike damage. The crew egressed uninjured.

Grampaw Pettibone says:

Holy smokes! Charge this one to a faulty safety device — between the ears. These fellers were obsessed with gettin' to their final destination. First they decided they could fly a trip segment routinely on a single engine. Next they elected to shut down the only engine developing power before bringing the other engine up to speed. There is strong evidence to suggest the copilot never recognized the number two engine had actually attained idle power and kept attempting restarts.

It would have been a lot more professional if this crew had turned around when the fuel transfer problem was first encountered and AFB #1 was only 25 minutes away. How long would it have taken to secure the suspected fuel precheck panel door? Passing up available divert fields was just plain foolish. This was a preventable loss and that really upsets my ulcers. Don't ever be so anxious to "get on down the road" that you lose foresight and sound judgment.

Blow the Bugle — Beat the Drum

Your ole Gramps wishes to acknowledge the aeroplane flyers and fixers of VA-37 who have completed six years of accident-free A-7 driving. A sensational all-hands effort never before accomplished by a single jet jockey CV bomb dropping outfit. I got so excited one of my suspenders broke. Good on you guys! Whoopee!

ILLUSTRATED BY Osborn

Pettibone's Mailbag

Dear Gramps,

I am a naval reserve officer and captain for a major commercial airline, with 23 years aviation experience. On my drill weekends, I have access to *Naval Aviation News* and particularly enjoy G.P. The recurring accident themes I have read and continue to read prompted this letter. I sometimes wonder if we aviators will ever get it all together and reduce the accidents resulting from judgment, supervisory and pilot error. Specific recurring errors I have noted over my career cover a wide spectrum and include:

supervisory disregard for Natops

supervisors succumbing to the pressure of operational necessity

supervisory disregard for aircrew fatigue

aircrews flying low altitude routes with no idea of en route altitudes, topography or hazards

aircrews who do minimum cross-country flight planning

aircrews who consider only VFR conditions and are not prepared when IFR conditions are encountered

aircrews who are in such a hurry to launch that they launch with a wingman who is marginally briefed

aircrews who only nod in agreement with a flight weather briefer and do not ask questions about the content or significance of the briefing

aircrews who, once away from home plate, perform flathatting or unauthorized flight maneuvers

aircrews who do not use FSS metro en route

aircrews who perform IFR section departures on cross-country flights with existing weather below minimums for a return landing should it be necessary

aircrews who never question the pilot-in-command or flight leader just because he is senior or is the squadron Hot Rock

aircrews who do not routinely use the takeoff, penetration or landing checklist

aircrews who overstress aircraft and don't report it

aircrews who won't admit when they are too fatigued to fly or emotionally upset by severe personal problems that make them safer on the ground

aircrews who still suffer from get-home-itis

aircrews who still confuse exceptional skill with faulty judgment

aircrews who think a wave-off or missed approach is a sign of weakness

aircrews who fail to recognize the importance of reporting flagrant flight violations to proper authority

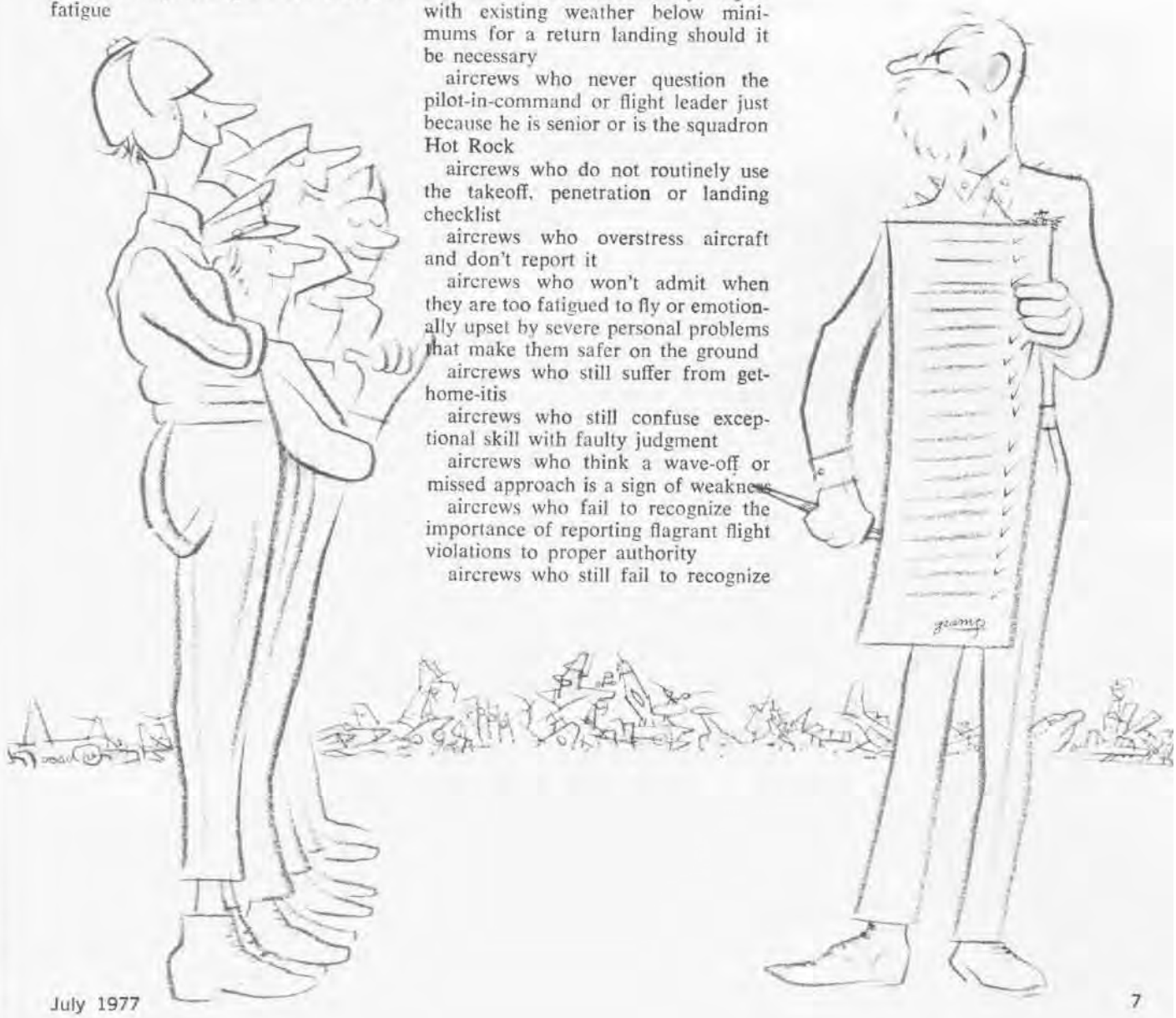
aircrews who still fail to recognize SOP violations as indicators of poor pilot judgment vice superior piloting ability.

Hopefully, you can share this list with your readers and the minority it addresses will take heed.

I. M. Concerned

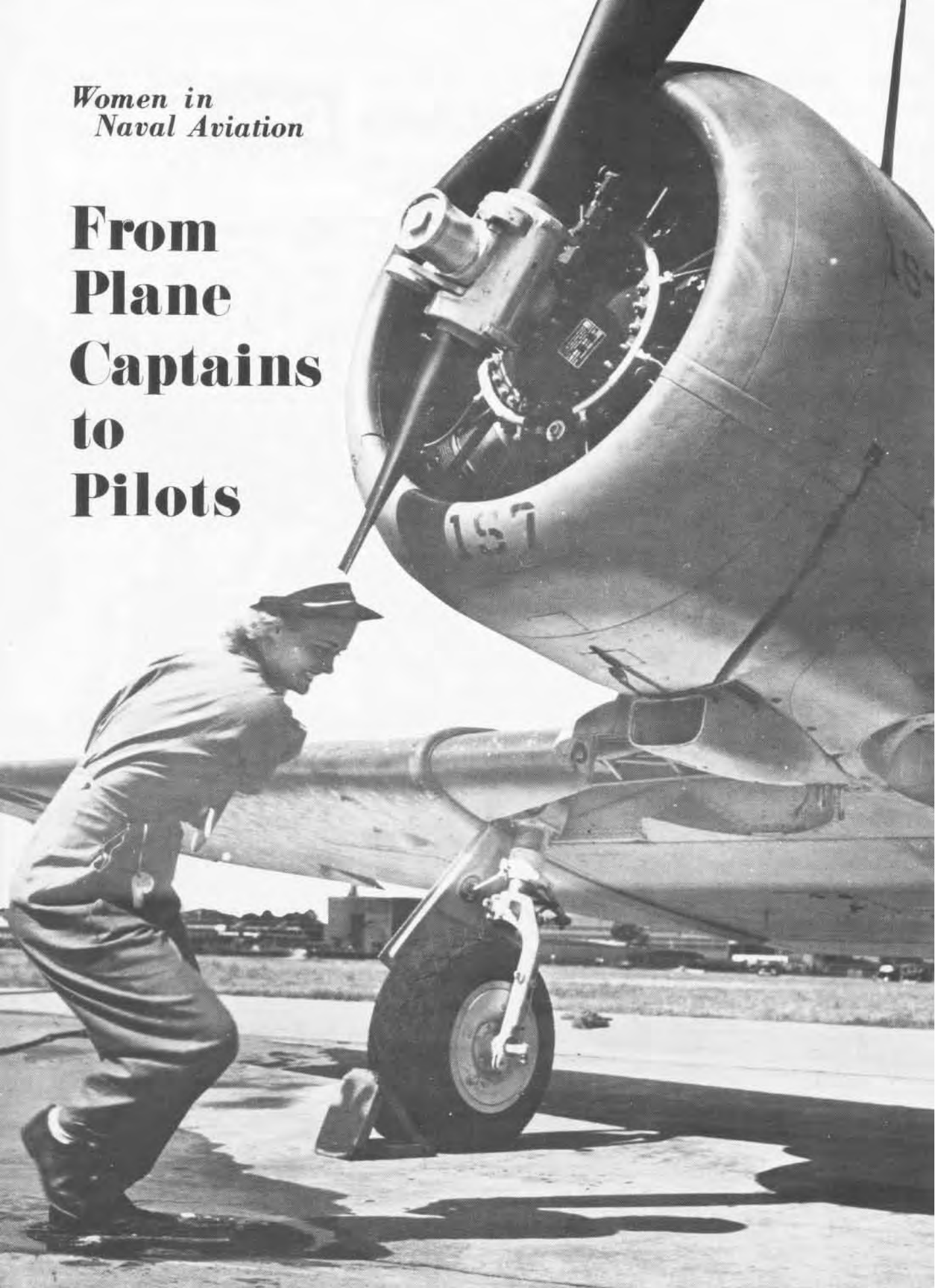
Grampaw Pettibone says:

Amen! Aircrews and supervisory types can use this list as a review of past and current problems. Read ye the list and heed this shipmate. He has spoken the truth! Perhaps it will be news to pilots and NFOs of recent vintage, but the aviation types referred to in this letter have been around a long time. Only their gravestones are different. Nowadays you gotta do more than kick the tires and twang the wires!



Women in Naval Aviation

From Plane Captains to Pilots



By Helen F. Collins

Thirty-five years ago they left their jobs as housewives and homemakers, their teaching, office and sales jobs, their careers in many fields — to join the Women's Reserve and fill the gap created by the wartime drain on naval manpower. In was July 1942. America was deeply involved in the worldwide conflict. At first, the numbers were small but, counting all the Waves (Women Accepted for Voluntary Emergency Service) who were in the service at some time during WW II, approximately 105,000 women served. At the start, the Navy estimated that 25,000 would be needed, but the figure was revised when the Bureau of Aeronautics alone needed that many to serve aboard naval air stations and facilities in the United States. One of the youngest of the Navy's bureaus, BuAer was less bound by tradition and welcomed the opportunity to add to its strength by using womanpower. More women served in Naval Aviation than in any other one branch. In fact, by war's end, approximately 26,000 had been involved in aviation activities.

During the war, enlisted women in aviation were storekeepers, metalsmiths, mechanics, plane captains, electronic technicians, air controlmen. They photographed planes, packed parachutes, taught navigation and were meteorologists and Link instrument instructors. They were even pigeonmen, for the blimps still carried pigeons which needed keepers.

Officer jobs were in photo interpretation, meteorology, aircraft recognition, gunnery, radio/radar, air navigation, air combat information, communications procedures, air fighter administration, Link celestial navigation and in air transport. But women were not Navy pilots. *BuAer News Letter* No. 176 of August 15, 1942, tells of a plaintive query received from Ann O'Hara, a 14-year-old high school junior from Minneapolis, "Why can't girls win wings as well as boys? I've wanted to be a pilot since I was seven." In answering the letter, one of the Navy's veteran pilots confessed that there was no reason why women shouldn't fly as well as men. He wondered, though, if they could patrol 20 hours at a stretch on instruments over the foggy Atlantic, or land on the heaving deck of a converted merchantman carrier; if they could peel off on a dive-bombing attack against a Japanese cruiser, as he wished he could right then. He then admitted, reluctantly, that women could probably do all these things and eventually might. The *News Letter* concluded the item with, "In the interim Miss O'Hara will continue in high school."

In the early days, as Navy women began to appear on the scene, male resistance was not too well hidden. But it soon changed to acceptance and then to admiration as the females acquitted themselves well. They held their own and broke down the barriers. During one tower operator's first day on duty at a Hawaiian facility, she received a "Hello, Redskin Tower, this is Buck Rogers at 198,000 feet. Request straight-in approach." The answer was immediate and controlled. "Hello, Buck Rogers, this is Redskin Tower. Circle the earth twice, Flash Gordon is on final."

Soon after the war, an oldtimer, a diehard male chief aviation machinist's mate at NAS Whiting Field, commented, "I didn't want women mechs but I had to take them. I was wrong. I have nearly 200 women manning this line and it's the best line we've ever had. That gal over there," he said with satisfaction, "she's my number one plane captain."

In April 1946, after their wartime service had ended, the Women's Reserve was established on a permanent basis. In 1948, the Women's Armed Services Integration Act phased out the Women's Reserve and changed their status from reserve to regular. By 1967, 20 ratings were open to women, and women in blue were scattered throughout the country and beyond to points in Europe and the Far East.

On March 25, 1966, Ens. Gale Ann Gordon, MSC, USNR, became the first woman in the history of the Naval Air Basic Training Command to solo in a Navy training plane, a VT-1 T-34 *Mentor*, at Saufley Field. With an M.A. in experimental psychology, she had been commissioned the previous September as a member of the flight surgeon class at the Naval Aerospace Medical Institute, Pensacola. Since she would be working with pilots, she had been assigned to the class for part of her training as an aviation experimental psychologist.

On December 20, 1973, Navy's first two women naval flight surgeons graduated from the naval flight surgeon training program at the Naval Aerospace Medical Institute. They were Lieutenants Victoria M. Voge and Jane D. McWilliams. Both graduated in the top half of their class and were the first women to be graduated as naval flight surgeons in the program's 51-year history.

A new phase of Naval Aviation history began in early 1973, when Secretary of the Navy John W. Warner announced that aviation training for women would begin that spring. Eight women had been selected to enter the Navy flight training program. The test program was established to promote equal rights and opportunities for women throughout the service. It would determine the feasibility of using women in non-combat flying billets in helicopter and transport

Link training, Shrine Mosque, Atlanta, 1943.

Women in Naval Aviation

Far left, WW II parachute rigger. Top left, inspection of salvage materials at Pearl Harbor, 1945. Lower left, on duty in control tower at NAS Anacostia. Below, pulling the chocks on SNJ at Corry Field, 1942. Bottom, ejection seat trainer, 1952.

squadrons. After the women had completed approximately 18 months of training, had received their wings and served six months in flying billets, the program was to be evaluated to determine its success and future participation levels.

Of the eight women selected, four were already naval officers on active duty. They reported to Pensacola on March 2 to begin their flight training. Four came from civilian life. (Civilian candidates coming into the program are recent college graduates.) They first attended the Navy Officer Candidate School in Newport, R.I. They were commissioned on May 16 and reported to Pensacola on June 4 for flight training.

Six of the original group of eight received their Wings of Gold: Jane M. Skiles Odea, Barbara Ann Allen Rainey, Judith Ann Neuffer, Ana Marie Fuqua, Joellen Drag and Rosemary B. Conatser.

Jane Skiles Odea was recruited from civilian life after graduation from Iowa State University with a degree in political science. Her father was a Naval Aviator in World War II and her mother was a reserve Navy Supply Corps officer during the war.

Barbara Ann Allen Rainey entered the program as a Navy officer. She had served on the staff of the Supreme Allied Command, Atlantic in Norfolk. Her father was a Navy commander and she was a graduate of Whittier College in California. She was the first of her class to win Wings of Gold.

Judith Ann Neuffer came to the Navy by way of Wooster, Ohio, and Ohio State University. She also was a Navy officer on active duty when accepted for flight training. Her father


McWilliams


Voge


Gordon

Fuqua

had been an Army Air Corps combat pilot in World War II and taught her to fly a Piper *Cub* when she was 16. After becoming a pilot, Judith Neuffer was Navy's first woman member of the *Hurricane Hunters* at Jacksonville and the first woman to fly into a hurricane.

Ana Marie Fuqua came from a strictly civilian background. Her father was a civil engineer. She had graduated from the University of California and already had a private pilot's license when a Navy recruiter interested her in the opportunity to become one of Navy's first female aviators.

Joellen Drag's father is a retired Navy commander. She came into the program as a civilian, a graduate of California State College with a degree in political science.

Rosemary B. Conatser's father had been in the Air Force and her mother in the Navy Nurse Corps during World War II. Rosemary earned her private pilot's license at 17 and graduated from Purdue University with a degree in aviation technology. She had FAA flight engineer and pilot ratings.

No further flight training was scheduled until the success of the program to that point could be evaluated. Two years later, in 1975, CNO authorized a second class of flight training for women. Out of this class of eight, one student washed out and one continued in flight training. The six who earned their wings were Catherine C. Mills Gehri, Mary C. Giza, Mary L. Jorgensen, Jean F. McCaig Rummel, Donna L. Spruill and Linda E. Vaught.

These women and the others who followed came from varied backgrounds, as did the first group. But background and college education do not transform civilians into capable officers. Military and specialized training and then experience are the tools which make the transition a reality. What the women had in common were motivation, character, competence plus adaptability, dedication, and lots of perseverance.

The third class of women in flight training was different. It was the first class at the aviation officer candidate school at Pensacola to include women. The school had previously been open

only to male candidates. Instead of making the transition from civilian life to basic aviation at officer candidate school in Newport and then progressing to Pensacola for flight training, as in the past, the women candidates reported directly to the Naval Aviation Schools Command, Pensacola for 16 weeks of aviation officer candidate (AOC) training.

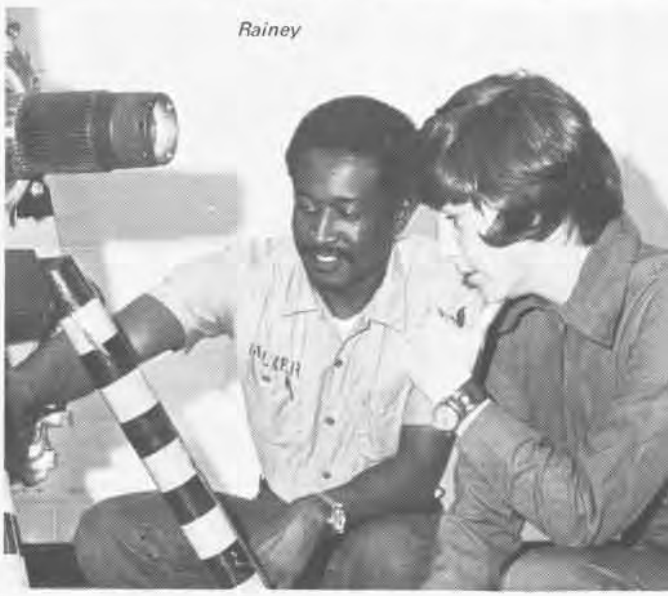
The first six women to graduate from AOC school received their commissions February 18. Three, Barbara C. Habedank, Sue Ann Mason and Patricia Welling, who are working for their aviators wings, remained in Pensacola after graduation to begin their flight training. Of the remaining three, Cecilia Frau and Denise Ackley will become air intelligence officers after a 20-week course at the Armed Forces Air Intelligence Training Center at Lowry AFB, Colo. The sixth woman, Marlene Simmons, went on to school at the Naval Air Technical Training Center, Memphis, to be followed by a course in aviation supply maintenance material management at the Naval Supply Corps School. Her first duty station will be NAS Whidbey Island, Wash., where she will be aviation maintenance duty officer.

The last three women, Ensigns Frau, Ackley and Simmons, represented more firsts. In 1976 the Navy opened to women restricted line officer specialties previously closed to them. This made women eligible to become naval air intelligence and aviation maintenance duty officers.

In the third group, besides the three graduates from AOC school who were going into flight training, there were six other women who reported to

Drag

Neuffer



Rainey

Odea

Conatser

Class 1	Current Duty	Aircraft
Conatser, Rosemary	NAF China Lake	A-7
Drag, Joellen M.	HC-3, North Island	H-46
Fuqua, Ana Marie	HC-6, Norfolk	H-3
Neuffer, Judith A.	VXN-8, Patuxent River	RP-3
Odea, Jane M. Skiles	VR-24, Rota	C-130
Rainey, Barbara A. Allen	VR-30, Alameda	T-39, C-9
Class 2		
Gehri, Catherine C. Mills	HSL-31, North Island	SH-2
Giza, Mary C.	VR-1, Norfolk	T-39
Jorgensen, Mary L.	VC-7, Miramar	A-4
Rummel, Jean F. McCaig	VR-30, Alameda	T-39, C-9
Spruill, Donna L.	VRC-50, Cubi Point	C-130
Vaught, Linda E.	VXN-8, Patuxent River	RP-3

Pensacola for flight instruction: five Navy officers on active duty and one student from the second class still in training: Gayla J. Ambrose, Milady A. Blaha, Pamela A. Kreuger, Andrea A. Rice, Janet L. Rollings and Lucy B. Young.

The women in the third class who began flight training with previous flight experience were Janet L. Rollings and Lucy B. Young, with private pilot licenses; Barbara C. Habedank with a private pilot's license and commercial and instructor ratings and over 500 flight hours; and Sue Ann Mason with a private pilot's license and instructor, instrument instructor and seaplane ratings, qualified as a ground school and aerobatic instructor, with over 1,000 flight hours.

(An enrollment goal of 15 women for flight training has been approved by Chief of Naval Operations Admiral James L. Holloway III. Selection of women candidates for fall 1977 training is being made this month.)

The woman who successfully completes flight training is assigned a 131X designator. She is required, as are all aviators, to serve 4½ years on active duty after designation, and will probably perform her service in the multi-engine and/or helicopter community. She flies multi-engine transport aircraft and SAR helos, and can also serve in weather reconnaissance and in training.

Her opportunities are limited by Section 6015 of Title 10, U.S. Code — Women Members: duty, qualifications; restrictions . . .

"The Secretary of the Navy may prescribe the manner in which women officers appointed under section 5590 of this title, women warrant officers and enlisted women members of the Regular Navy and the Regular Marine Corps shall be trained and qualified for military duty. The Secretary may prescribe the kind of military duty to which such women members may be assigned and the military authority which they may exercise. However, women may not be assigned to duty in aircraft that are engaged in combat missions nor may they be assigned to duty on vessels of the Navy other than hospital ships and transports. Aug. 10, 1956, c. 1041, 70A, Stat. 375."

Since under current law women may not serve in combat ships and aircraft, they can therefore serve as pilots only in a limited capacity, as in fleet force support squadrons not engaged in combat missions or which do not land aboard ships. The standard practice has been to assign women in a manner so as to make the best use of their talents in line with the needs of the Navy. The physical requirements are the same for both male and female. The ability to do the job is the sole measure.

However, although the restrictions remain, the Walls of Jericho continue to tumble: In 1973, the Air Traffic Control Officer School at NAS Glynco admitted its first woman student, Ltjg. Shelly Robinson.

Last year, Lt. Sharon McCue became the first woman to be designated an aviation maintenance duty officer (AMDO). It took her three years to get her 1100 surface officer designator changed to the 1520 AMDO. She began her naval officer career in 1970 and applied for the maintenance designator three times. Her first two applications were administratively rejected because the designator was in the restricted line category. When some of the restricted line specialties were opened up, including the maintenance designator, her application was finally approved.

When Janna Lambine, daughter of a retired naval commander and a geology graduate, was admitted to the previously all-male Coast Guard Officer Candidate School, Yorktown, Va., she had no idea that she would break still another tradition by becoming the Coast Guard's first female pilot. While at officers school, she applied for flight training, was accepted and on March 4, 1977, was designated a Naval Aviator at NAS Whiting Field. She flies helicopters for the Coast Guard.

In the Navy's enlisted ranks the number of women scheduled to be on active duty in 1977 is 20,000, a threefold increase from the 5,000-strength level in 1972. Twenty percent of these will be oriented in aviation fields. The 20 percent represents only 4 percent

Navy's first female line officer, RAdm. Fran McKee, with first women graduates of AOCS. Right, female candidate goes through same AOCS program as men.

Lts. Sharon McCue and Mike Despain check maintenance status of VS-41 aircraft.

of the total enlisted force. (As of April 1977, in the Navy overall, there were about 520,000 personnel, more than 63,000 of them officers. Total women were approximately 3,600 officers and just over 19,000 enlisted.)

When the all-volunteer force became a reality, the ability to recruit in an all-voluntary-force climate led the services to consider the largely untapped resource of women.

Since statutory restrictions prohibit female shipboard seagoing assignments, women are not assigned to squadrons which deploy for extended periods. All overseas shore duty counts as sea duty for women. Efforts are being made on a continuing basis to distribute women evenly throughout the Navy and to preclude the concentration of career women in shore duty billets.

There are 24 enlisted ratings available to women and they are limited to stateside shore activities and overseas shore duty (sea duty). Every rating has been analyzed by billet base to arrive at the number of women who can be accommodated without encroaching on the shore duty opportunities of their male counterparts. A new pattern of overseas duty has been designed for enlisted women to make sea/shore rotation patterns for enlisted men and women more equitable.

The Navy has experienced a dramatic increase in the number of enlisted women in recent years and plans are being implemented to broaden their opportunities for assignments and job satisfaction.

Although the Judge Advocate General decided it was permissible to assign women to squadrons in billets other than in an aircrew status, women since 1975, are no longer detailed to deploying squadrons. It was felt that a large female population could jeopardize squadron readiness to deploy as emergency requirements might dictate, because of the berthing and other problems at deploying sites. The policy is under review for women in administrative ratings only, so that women might carry more of their fair share of sea duty and so that more might enter those ratings.

The women who have what it takes to qualify for aviation training can choose from the many technical occupations in the Navy's enlisted aviation ratings programs. The Navy teaches them to perfect the needed skills. Following recruit training, the candidates who meet training qualifications when they enlist are assigned to technical schools to learn the special skills related to their occupational fields. All apprenticeship training is the same for both men and women.

There are women who have served in Naval Aviation long enough to be nearing veteran status. One already has. Master Chief Avionics Technician Italia F. Birkinsha, the senior enlisted woman on active duty, retired recently after more than 30 years of service. At one time during her career, she was an instructor in radar theory and repair at the AV "B" school. She was promoted to master chief in November 1966, which made her the senior enlisted woman at the time of her retirement. Master Chief Birkinsha retired in ceremonies at her last duty station, the Naval Weapons Center, China Lake.

AZAN Washburn directs VF-301 Phantom.

Today, there are more than 100 women officers and 1,000 enlisted women serving in air components of the naval reserve. Although each specialty and skill is open to women, the same limiting factors apply here. A mobilization billet for a particular rating must be in other than a combat-oriented or seagoing unit.

During the last fiscal year, while overall inactive duty naval reserve personnel strength decreased, the number of women in the selected reserve increased from about 2,700 in June 1975 to more than 3,400 in June 1976. Currently, of the 11 programs in the nationwide naval reserve, aviation has more than one-third of the approximately 2,950 enlisted women and one-fifth of the 505 women officers. Because of the high reenlistment rate of women on active duty in the Navy (44.5 percent of 1,313 eligible during FY 76) the number of post-active-duty females eligible for affiliation in the reserve was only 699.

"Flying is my first love," says Continental Airlines stewardess AZAN Cyndee Washburn, VF-301, who is the only woman on the naval air reserve flight line at Miramar. "At first there were a few men who thought I was out of place, but we are a team now, doing our job. Each member looks out for the others when we are around the aircraft. Not only is our safety important but the safety of the men who fly the planes." Washburn earned her flight crew wings at NAS Glenview.

AK2 Jo Ann Dee was selected as the 1976 "Outstanding Enlisted Naval Reservist," an award presented annually by the Naval Enlisted Reserve Association to an inactive duty enlisted reservist for distinguished performance and service. Dee was assigned to Intermediate Maintenance Activity 1806 at NARU Norfolk.

Future travel into space will undoubtedly include women. Among the first may be Dr. Mary H. Johnston of NASA's Marshall Space Flight Center, Huntsville, Ala. She, along with several other women scientists and engineers, has received special training

HM Mary Kanikula aboard SAR CH-46D.

Marine PFC Katie Dixon, jet mechanic.

PO3 Linda Knuth, aviation mechanic.

AA Christine Ballard, Albatross maintenance.

AG2 Linda Stewart, Navy parachute team.

AN Roseann Roberts, helo plane captain.

ADJ2 Ann Laymon, plane captain, SH-3A.

AG3 Sharon Germillion checks weather.

which would qualify her for the space lab.

Navy pilot, Lt. Judith Neuffer, now assigned to VXN-8 at Patuxent River, has applied for admission to NASA's space shuttle program. She is the first woman to be designated an aircraft/mission commander in the RP-3 *Orion*.

Basic medical testing is going on at the Johnson Space Center in Houston, Texas. It is part of NASA's program to compile physiological information on women as baseline data for comparative studies on future women astronaut candidates. Clinical research in female physiology to develop selection criteria for women in the space shuttle mission began in 1973 at the Ames Research Center in California.

Legislation to amend Section 6015 of Title 10, U.S. Code is now being considered which, if passed, would permit Navy women for the first time to land aircraft on carriers, serve on temporary duty on any vessel not engaged in combat and on permanent duty on vessels similar to hospital ships and transports not expected to be assigned a combat mission. Such an amendment would provide the flexibility that would allow the Navy to take full advantage of the skilled woman force available. It would also supply a broader training base and ensure that women would have the best career opportunities possible.

Naval Aviation is a demanding and challenging profession, not only for those who fly but for all the members of the team.

The woman officer shares the responsibility of all officers for keeping Navy Aviation an effective force. For the enlisted woman, becoming a professional in Naval Aviation is only the first step in an exciting and worthwhile experience. A high level of capability is demanded and women are seeking to prove that they can do whatever is required in the many different environments in which Naval Aviation operates.

Ltjg. Rosemary Conatser speaks for many, if not most, Navy women as she expresses her own feelings.

"Why do I want to go to a tactical squadron, to fly off a boat, and perhaps be shot at?

"My reasons are the same as those that have always attracted men to Naval Air. It is because I have experienced the satisfaction of the first

step — winning Gold Wings — and I want to continue to succeed at what is the most demanding form of aviation. I want to become a full professional in my chosen vocation.

"I began flying when I was 15 and the sense of joy is as much with me now as on my first solo. It has taken different forms as I mature. What was once a quest for fun has developed into the desire to be a professional naval officer, learning to handle responsibility, with command in mind.

"If I have learned anything in my few years as a female in a male world, it is that the two are far more alike than not. The basic human aspiration to be happy with one's life work takes as many forms as there are individuals."

Women astronaut candidates are given basic medical testing.

ENLISTED RATINGS AVAILABLE TO WOMEN

ABE	Aviation Boatswain's Mate (launching and recovery equipment)
ABF	Aviation Boatswain's Mate (fuel)
ABH	Aviation Boatswain's Mate (aircraft handling)
AC	Air Controlman
ADJ	Aviation Machinist's Mate (jet engine)
ADR	Aviation Machinist's Mate (reciprocating engine)
AE	Aviation Electrician's Mate
AG	Aerographer's Mate
AK	Aviation Storekeeper
AME	Aviation Structural Mechanic (safety equipment)
AMH	Aviation Structural Mechanic (hydraulic)
AMS	Aviation Structural Mechanic (structures)
AO	Aviation Ordnanceman
AQ	Aviation Fire Control Technician
AS	Aviation Support Equipment Technician
ASE	Aviation Support Equipment Technician (electrical)
ASH	Aviation Support Equipment Technician (hydraulics and structures)
ASM	Aviation Support Equipment Technician (mechanical)
AT	Aviation Electronics Technician
AX	Aviation ASW Technician
AZ	Aviation Maintenance Administrationman
PH	Photographer's Mate
PR	Aircrew Survival Equipmentman
TD	Tradevman

UP WITH

Interview with Sandy Nye

Lt. Judy Neuffer was in the first group of females to undergo Navy flight training. A pilot in VXN-8, NAS Patuxent River, Md., she is a designated aircraft and mission commander in the RP-3 Orion. *She has applied for the space shuttle program, selections for which will be announced later this year.*

Among many other achievements in her young career in Naval Aviation, she was the first woman to fly an aircraft through the eye of a hurricane.

Born in Wooster, Ohio, Neuffer has always been exposed to aviation. Her father, an Army Air Corps pilot in WW II, has always either managed or worked at airports. He started giving her flying instruction at age 15. She soloed in a Piper Cub *at 16.*

NANews *interviewed Lt. Neuffer at VXN-8 before she left for a three-year tour as a detailer at the Bureau of Naval Personnel in Washington.*

NANews: What does your job entail as a plane commander in VXN-8?

Lt. Neuffer: As the aircraft commander, I am in command of that particular aircraft and a crew of 11 or 12 while we are flying. I make decisions that need to be made throughout the flight and am responsible for the safe conduct of the flight.

Do you think you chose flying as a career because you grew up around airports?

I definitely think so. My whole life has been involved with aviation. I spent many summers at the airport helping my father and it's something I have come into very naturally just because I have been around it so much. I really can't imagine what life

FRONT JUDY

would be like without flying.

How old were you when you first learned to fly?

I was 15 when I started taking instruction and 16 when I soloed in a Piper *Cub*.

When did you decide that you wanted to be a Navy pilot?

When I enlisted, the flight program was not open to women and I had no idea that it ever would be. I was a computer programmer initially in the Navy and, while I was doing that job, the Navy opened the flight program to women, indicated that it was taking applications and anyone interested should apply. I jumped at the chance. I applied and was accepted, deciding it would be great to be doing something worthwhile as well as something I enjoy.

Before flight training, was it your intent to become a pioneer in women's Naval Aviation?

No. I was in no way trying to be any kind of pioneer. I would say that I was at the right place at the right time. I have never set out to blaze any trails. I enjoy doing what I have been trained to do.

Now that women have proven their competence in Naval Aviation, do you think there will be a great increase in the number of women enrolling in the flight program?

I think we will continue to get more into the program. But, at this point, we are restricted in the type of flying we can do because of the federal laws that prohibit us from participating in combat situations. Of course, the majority of flying in the Navy is oriented toward combat. Women will continue to enroll but until more squadrons are opened up to us, I don't imagine that there will be a large number of women in the program.

What emotion best describes your feeling as you flew into the eye of a hurricane?

That's hard. First of all, it was something I had been anticipating for some time. I had asked for orders to that squadron because I wanted to do that type of work, and I was in the squadron for quite a while before the storm season started. Actually, it's hard to say what I felt when we were in the storm because I was very busy. Your time is totally committed when you're flying into a storm and you're concentrating on what you're doing, the purpose being to get into and out of the storm safely. I wasn't really conscious of anything other than using my training to fly the aircraft properly to get into the storm. I'm sure that subconsciously I was feeling fear because I was very tense, but mainly I'd say that it was a very busy, exciting time — the culmination of a great deal of training and anticipation.

Why do you want to be part of the space program?

That's something that I've wanted to do as long as I can remember. It's been my dream, more than anything else, to fly into space. I didn't think I'd ever have the chance to realize that dream, but recently the Navy indicated that it was looking for applicants for the space shuttle program, specifically women. Again, I feel I was in the right place at the right time. I have a degree of experience now that I hope will be helpful. My application is in and it's a matter of waiting to see what happens.

When will you know if you're been accepted?

I applied directly to the Navy selection board which convened in May. It will select a number of applicants and submit them to NASA, as will the other military services. NASA will then make the final selection. If I'm not selected by the Navy then that will be the end of it. But I'll know I gave it my best shot.

How do you feel about flying in combat?

I have no more desire to fly in combat than my fellow male pilots. If the federal law should be changed allowing women to participate in all aspects of aviation, I would expect to draw the same type of duty as any

other Navy pilot. I would be trained to do it and I would accept it as my duty.

Would you like to land on a carrier?

That has to be the highlight of any Navy pilot's career. It's the one thing that really sets the Navy pilot apart from other pilots. Again, because of the federal law, I have been prohibited from participating in any flying that could be involved in combat. I wish that when I went through the training command I had been allowed to land on a carrier as a student, just for the experience, even knowing that I'd never receive orders to a squadron operating from a carrier. I regret not being given the opportunity to have an experience unlike any other in flying. Landing on a deck that's bobbing out in the ocean *has* to be very exciting — and frightening — I'm sure.

What are some of your interests outside of aviation?

Right now the Navy and flying occupy 100 percent of my time because, even when I'm not flying, I have a ground job here in the squadron. When I'm not on duty I have to spend a great deal of time studying to maintain my proficiency and knowledge in the aircraft.

In the past when I had more free time, I enjoyed scuba diving. I'm a certified scuba diver.

How has your male crew reacted to you as plane commander?

I couldn't ask for better support than I've received over the past several years while I've been flying with crews. The men have been outstanding. It's hard to say enough good about the crew I'm flying with right now. Each and every one of them is a very special friend.

That's not to say that I haven't received some resentment along the way because that's inevitable. I'm doing something which is different, a change from the way things have been. And it's harder for some people to accept change. There has been some resistance along the way. Once the fellows fly with me and realize that I'm just trying to do what I've been trained for, they can see I'm not out there to prove anything, to pose a threat to them or to be better than them. By far, the acceptance has been terrific. It's made the last few years very enjoyable.

Do you feel that men in general, in your career as a Navy pilot, have made special efforts to make you feel like one of the guys?

It's not been my desire to be one of the guys. I want to be a member of the team, not one of the guys. I think there's a very distinct difference. I'm a woman and I'm very glad to be a woman. Again, after the men have flown with me and realize that I've been trained just like any other pilot, they simply treat me like a member of the crew, with no special considerations.

However, I do know that the language on my crew is not as colorful as it is on others. There are changes in that respect and I appreciate that, but I've never requested it.

Has working in a mostly male environment helped your social life?

No, not really. As I've said, I'm kept very busy with my ground job and flying. I have very little time to make contacts outside the squadron, so my social life is nothing out of the ordinary. I know a lot of women who think, "What odds — one woman and all those men!" Even though there are some advantages to my situation, there is also a lot of hard work. I get grubby when I'm in my flight suit and at night I spend most of my time studying. It's not as glamorous as it may seem.

Sometimes I really long to have a woman to go to lunch with or to talk woman things with. I just can't go to the wardroom and sit down to talk about woman things with the guys. So there are advantages and disadvantages to the situation.

Do you have a specific goal in mind for your future in Naval Aviation?

If I have a long-range goal, it's in the space program. I just take one day at a time, trying to be the best pilot I can be. I try to stay flexible and be able to move in whatever direction becomes available to me. I don't know if I'll make the Navy a career. As long as I feel that I can make a valid contribution to the Navy, this is where I'll stay.

Is there any advice you would give a woman now entering the flight training program?

I really tried to prepare myself before I started the flight program. I think I was prepared for what I encountered except for the notoriety — the interviews, the pictures, the public affairs part of it. I never imagined that anyone would be that interested. It has been an enjoyable sideline to what I've been doing, even though it was a surprise initially.

My overall advice is that motivation is the key. I would say I'm a very average person. I don't have any special skills. I'm not gifted or in any way superior to anyone else. Most any other woman would be able to do what I have done — if she were motivated. It's a lot of hard work. Even for a woman coming into the program now, it's still relatively new. She must realize that there will be people who will be suspicious of her motives. She is going to be an oddity to a degree, so her motivation and ambition will have to carry her through whatever she encounters.

How would you sum up your total experience so far in Naval Aviation?

It's been a very exciting time. I've never worked harder in my life, but it's been worth it. I've seen the world, from one pole to the other. I've certainly had opportunities that many women haven't had. I've been in the right place at the right time and I've been lucky.

It's given me an opportunity to push myself to the limits of my potential and to really use whatever talents I have. And there's a great deal of satisfaction to be gained from that, knowing the job that I've done and what I've achieved.

Any other comments?

Just that I feel very fortunate about the acceptance I've received from my crew. These fellows will remain good, close friends forever.

They've made the difference between *doing* a job and *loving* a job.

Fifinella and Friends

By Helen F. Collins

About the time that women were beginning to fill the gaps in Navy's ranks, another group of women was being recruited in a special experimental program to serve as pilots with the Army Air Forces during World War II. The Women Airforce Service Pilots (WASP) program was organized in September 1942 under General H. H. "Hap" Arnold, Commanding General of the Army Air Forces. It began as two organizations, the Women's Auxiliary Ferry Command (WAF) and the Women's Flying Training Detachment, which were merged into the WASP in August 1943. Jacqueline Cochran, a prominent American aviatrix, was their director.

Women pilots were to be trained to take over a large area of noncombat flying in order to release men for combat zone assignments. A small number came into the program already highly qualified and required little additional training to fill the Air Transport Command's need for ferry pilots. A larger number needed extensive training for a variety of flying duties.

An amazing number of women, approximately 25,000, applied for admission to the WASP program. Of the 1,830 who were accepted, 1,074 completed the course. The flood of applications might be explained by over-glamorization in newspaper and magazine stories. Not only thousands of American women but several hundred Canadian women and some from England and Brazil applied. Whatever glamor may have been attached to the idea of women flying military planes quickly vanished during the arduous training and flying days that followed.

During their 27 months of operation, women ferry pilots flew 77 types of aircraft, moving 12,650 planes over a distance of about 9,224,000 miles. The aircraft ranged from the fastest fighters to the heaviest bombers. In carrying out their operational duties, WASPs flew more than 60 million

Above, Jacqueline Cochran watches as Gen. Hap Arnold pins wings on Lorraine Rodgers. Below, Helen Snapp, flying a Dauntless, tows target for gunnery practice.

miles across the U.S. and Canada. Thirty-eight lost their lives.

The WAVES once had a song which mentioned the "homeless WAFs." They weren't kidding. There was scarcely an airport in the U.S. that the women ferry pilots didn't touch. They crisscrossed the country repeatedly, stopping at remote little towns or big cities for a few hours' rest before going on. When a plane was delivered, the women got back to their bases by the fastest means possible. After several months of sunset and weather landings, some of them made up a log of what towns not to get stuck in.

Women ferry pilots flew planes from assembly lines to points of embarkation for combat zones. They ferried battle-weary aircraft back to maintenance and repair stations. They made a number of test flights, such as testing utility plane engines by slow-time flying. They also checked out planes coming from rework and repair. The women encountered the same flying conditions and problems faced by many male pilots. Some were armed with 45-caliber pistols to guard planes carrying highly secret equipment. The women frequently flew open-cockpit planes in sub-zero weather.

They occasionally caused consternation at military installations which did not expect women to be flying military planes.

Carol Fillmore was piloting a new P-51 fighter and was running low on fuel. When she neared a base in Georgia, which happened to be an all-male training field, she called in for landing instructions. No one answered and so she got into the pattern, and continued to call. Finally, a southern accent broke the silence, "Will the lady who is trying to get in, please stay off the air. We're trying to bring in a P-51." The answer came, "The lady on the air is *in* the P-51."

General Arnold stated that it was common for commanding officers to prefer WASPs over male ferry pilots because a woman pilot ordinarily reached her destination a day or two ahead of the time required by a male pilot. The reason: ". . . she didn't carry an address book with her."

The wife of Captain George F. Rodgers, retired Naval Aviator and editor of *NANews* from 1957 to 1962, was one of the ferry pilots. Lorraine Rodgers was based at Love Field in Texas. She flew planes from the factories to East and West Coast points. Later, at Waco, Texas, as a test pilot, she flight-tested planes before they went back into service after repairs.

Although ferrying planes was done almost entirely in daylight, substantially all other operational duties were carried on day and night. WASP veteran Helen Snapp recalls her service at Camp Davis, N.C., and Camp Stewart, Ga. She became a WASP while her husband was overseas. She flew Army Air Corps *Dauntlesses* and *Helldivers* in night training missions, in simulated bombing and strafing runs, and on smoke-laying flights. She flew radio-controlled drone sorties and towed targets for gunnery and antiaircraft practice.

Of 50 WASPs at Camp Davis, 15 were sent to Camp Stewart to fly special assignments involving exacting instrument work. WASPs served as instrument instructors in the Eastern Flying Training Command, training men who would be going into combat.

A former WASP flight instructor, Ziggy Hunter, Dallas, Texas, is writing a book about the WASPs called *Zoot Suits and Parachutes.* (The WASPs often wore baggy G.I. coveralls which they called zoot suits.) She instructed male flight trainees in elementary and advanced flying in the Navy's V-5 program in Austin, Texas. She also instructed women in primary and advanced instruments, and taught them the flying skills they needed to become WASPs.

The women pilots were under military discipline, subject to military rules and regulations, and it was expected that they would be commissioned into military service once their performance proved successful. However, in 1944 the favorable progress of the war and a lower attrition rate than had been anticipated indicated that there would soon be a surplus of male pilots. When a bill to militarize the WASP was submitted to Congress, it was voted down and on December 20, 1944, the program was brought to an abrupt end as the WASP was disbanded. The proposal had been approved by the House Committee on Military Affairs with the support of Gen. Arnold and Secretary of War Henry L. Stimson. It was defeated by 19 votes.

Today, the women who served as WASPs are petitioning Congress for veterans' benefits. They are championed by Colonel W. Bruce Arnold, USAF(Ret.), son of Gen. Arnold. Two similar bills granting such benefits have been simultaneously introduced before the Senate and the House, sponsored by Representatives Lindy Boggs (La.) and James Quillen (Tenn.), and by Senator Barry Goldwater, a retired Air Force major general, who made many flights with the WASPs in the Ferrying Command at New Castle, Del. Both bills were referred to committee for hearings before coming to a floor vote.

Fifinella, a little lady gremlin with goggles, rode with hundreds of women pilots who flew beside their male counterparts as part of America's air armada of WW II. The WASP insignia was designed by Walt Disney.

A WAF...

The following account of why one woman joined the WAFs is taken from a personal story written by Cornelia Fort. A short time later, she was killed when the bomber she was ferrying crashed in Texas.

"I knew I was going to join the Women's Auxiliary Ferrying Squadron before the organization was a reality, before it even had a name." She was never as sure as she was in Honolulu on the morning of December 7, 1941. At dawn she drove from Waikiki to the John Rodgers civilian airport next to Pearl Harbor, where she was a civilian pilot instructor. She began to practice takeoffs and landings with her student shortly after six-thirty. Just before coming in for the last landing, she looked around and saw a military plane headed right for them. She jerked the controls away from her student and jammed the throttle wide open to pull above the oncoming plane.

As it passed underneath, Cornelia saw red balls on the wings shining in the sun. Honolulu was familiar with the emblem of the Rising Sun on passenger ships but not on military planes. As Cornelia looked toward Pearl Harbor, unbelieving, she saw billowing black smoke. Still, she clung to the hope that it might be some kind of coincidence, or maneuvers.

Then she looked up and saw the formations of silver bombers riding in. She saw something fall from one of the planes and go glistening down, until it exploded in the middle of the harbor. "I knew the air was not the place for my little airplane." She landed as quickly as she could and a few seconds later a shadow passed over her, spattering bullets.

"We counted anxiously as our little civilian planes came flying home to roost. Two never came back. Bullet-riddled, they were washed ashore weeks later."

Cornelia remained on the island for three months until she returned to the United States. None of the pilots wanted to leave but there was no longer any civilian flying. Each had some individual score to settle with the enemy who had brought murder and destruction. For awhile the only way Cornelia could fly at all was to instruct in civilian pilot training programs. Then came a telegram from the War Department announcing the organization of the WAFs and ordering her to report within 24 hours if she were interested. She left at once.

"Because there were and are so many disbelievers in women pilots . . . officials wanted the best possible qualifications to go with the first experimental group. All of us realized what a spot we were in. We had to deliver the goods, or else there wouldn't ever be another chance for women pilots in any part of the service.

"None of us can put into words why we fly. It is something different for each of us. I can't *say* exactly why I fly but I *know* why as I've never known anything in my life.

"I, for one, am profoundly grateful that my one talent, my only knowledge, flying, happens to be of use to my country when it is needed. That's all the luck I ever hope to have."

A WASP...

Velta S. Benn became a WASP toward the end of the program. She served as a staff pilot and instrument flight instructor at Merced, Calif., until the WASP was disbanded. The demise of the program, however, did not end her ties with military aviation.

She became involved—among the multitude of other aviation-related activities that have occupied her life—in helping produce training films.

In 1967, while gathering material for a script for four Navy films, she spent some time with VT-4 in Pensacola. There, she made several arrested landings and catapult shots aboard USS *Lexington*, flying in the rear seat of a T-2B jet trainer with an instructor in the front. The films covered air-to-air gunnery, field carrier landing practice, carrier qualifications and spin characteristics of the T-2B. Velta is believed to be the only woman to have made carrier arrested landings, actually piloting an aircraft into the gear.

Velta also flew a P-3 while researching material on flight planning, ATC, en route and terminal procedures. She participated in a series of films on high angle of attack and spin characteristics of the A-7 *Corsair II*, TA-4F *Skyhawk* and OV-10 *Bronco*. She also worked on an ejection seat training film. In 1973 Velta participated in aircraft performance conferences at NAS Patuxent River as part of her research for other films.

This remarkable woman flyer was an FAA accident prevention counselor from 1971 to 1974 and promotes aviation safety through personal appearances and seminars. She is also an FAA pilot examiner for private, commercial, multi-engine and instrument ratings.

Velta has over 27,000 flight hours to her credit. Although never in the military, she has spent many of those hours making her contribution to better, safer Naval Aviation.

When a group of Navy League Sea Cadets, ages 11-17, and five cadet corps officers from Coconut Grove, Fla., were at Key West for active duty training in aviation familiarization, one of them

donned a VF-101 flight helmet during a demonstration and lecture on survival equipment. Other training consisted of films, lectures and tours of the many air station facilities.

The Navy supports the Naval Sea Cadet Corps as part of its overall effort to create a favorable image of the Navy in the minds of American youth.

Capt. J. E. McCardell, the air station's C.O., received a plaque for his support of the Sea Cadets in Key West.

The *Woodpeckers* of VP-47, commanded by Cdr. William C. Bloh, have completed 15 years of accident-free flying, surpassing 110,000 hours.

For the first time in the squadron's history, two TA-4s from H&MS-14 have flown in support of another squadron.

At Roosevelt Roads the aircraft flew three sorties per day in support of VMA-331 which was providing close air support for the amphibious landing parties participating in *Caribex 77*.

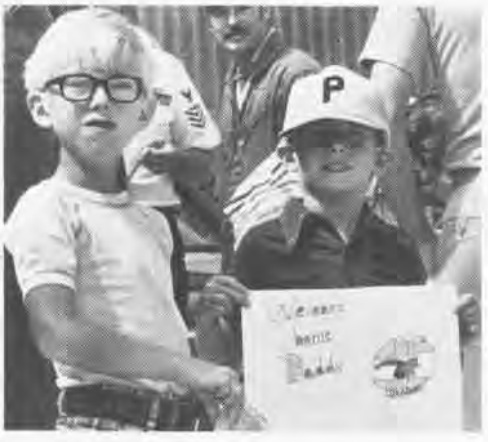
H&MS-14 C.O. is LCol. C. D. Smith.

Embarked in *IFK*, the *Tophatters* of VF-14 recently completed a fourth consecutive year of accident-free flying. Participating in air superiority missions in the Med, the squadron went on to exceed 10,000 accident-free flight hours the following day.

LCdr. Iola M. Mombrun, head of the Aircraft Intermediate Maintenance Department, Barbers Point, recently became the Navy's first woman aircraft intermediate maintenance officer, according to an air station release. She runs one of the largest departments on the air station — a department which provides direct support to fleet aviation units.

During a recent deployment in *Enterprise*, VS-29 aircraft logged over 2,500 hours of accident-free flight time and participated in numerous tracking exercises with U.S. and foreign nuclear-powered submarines. The North Island-based squadron is the first operational squadron to deploy to WestPac with the S-3A *Viking*.

LCdr. Bill Matton's sons anxiously await his arrival after VP-56's five-month de-



ployment in the Med. The *Dragons* recently returned to their home base at Jacksonville. Operating since November from NAF Sigonella, VP-56 logged thousands of flight hours in support of maritime and antisubmarine patrol efforts for the U.S. Sixth Fleet and NATO.

Graduates of the Naval Test Pilot School gathered at Patuxent River in April for their 29th annual symposium. Approximately 400 test pilots attended, including many dignitaries.

Featured speaker for the symposium was VAdm. Frederick C. Turner, Deputy Chief of Naval Operations (Air Warfare). He told the TPS graduates and guests that trends in the Navy are presently very positive. He also described the future of V/STOL.

The 500,000th ground controlled approach landing at Sherman Field, Pensacola was made by LCdr. Jim Fausz, presently attached to *Lexington*, flying a privately-owned SNJ-6 from Mobile, Ala. ACCM Thomas Schmidt, the oldest air controller at Sherman Field, guided the SNJ-6 in on the record landing.

LCdr. J. H. Long, LCdr. M. T. Burke, ADJ1 W. C. Hutchinson and AT1 G. Downs of VRF-31 recently made an unexpected departure from the squadron's ferry mission to perform a spur-of-the-moment search and rescue mission.

LCdr. Long and his crew were refueling their UH-1N at Chase Field when two pilots ejected from a TA-4J. No on-station SAR capability exists, so LCdr. Long offered his services.

He and his crew launched, recovered the downed aviators and returned them to the helo pad at the branch dispensary. They were treated for minor injuries.

LCdr. Don Walsh, assistant maintenance officer of replacement training squadron HS-1, Jacksonville, pins aircrew wings on his son Mike.

AWAN Mike Walsh is currently awaiting orders to a fleet helicopter antisubmarine squadron at Jacksonville.

ABF1 Chuck Cochran strolls across the frosty flight deck of Norfolk-based *Iwo Jima* testing the ice. The snow and ice, accumulated overnight as the ship passed through a cold front, made *Iwo* sparkle, until they melted later in the morning.

Changes of command:

VA-22: Cdr. Lee Cargill relieved Cdr. Al Dundon.

VA-115: Cdr. Jay T. Grafton relieved Cdr. Russell E. Whipps.

VA-125: Cdr. James W. Keathley relieved Cdr. Denis R. Weichman.

VAW-123: Cdr. Robert Allen relieved Cdr. L. Hebert.

VF-32: Cdr. E. H. Crabbs relieved Cdr. A. H. Fredrickson.

VF-33: Cdr. Stephen Phimister relieved Cdr. Thomas E. Davis.

VF-114: Cdr. Theodore M. Wanner relieved Cdr. Waller J. Davis, Jr.

VP-16: Cdr. Austin W. Rehfield relieved Cdr. Richard A. Silverman.

VP-48: Cdr. John W. Ciboci relieved Cdr. John G. Burton.

HC-1: Cdr. Roland Habicht relieved Cdr. Ray Lazo.

MABS-13: Maj. W. L. Cadieux relieved Maj. T. C. Byall.

MAG-46: Col. Simon J. Kittler relieved Col. Kenneth H. Wilcox.

VT-3: Cdr. J. W. Hawthorne relieved Cdr. N. A. Matolay.

VTC-21: Cdr. Donald C. Klein relieved Cdr. Charles A. Chaires.

NARDET Miramar: Cdr. H. F. McCloskey relieved Capt. C. M. Domville.

Correction to the June *NANews:*

HSL-30: Cdr. Bradley A. Butcher relieved Cdr. Jerry M. Hatcher.

George Gay

Remembers Midway

It was a grim unequal duel. The meager forces of Rear Admiral Frank Jack Fletcher and Rear Admiral Raymond A. Spruance, 25 combatant ships in all, sortied from Pearl Harbor in the closing days of May 1942 to do battle with a vastly superior Japanese Armada flushed with victory and anxious to eliminate the remnants of the American Fleet from the Pacific. The clash that ensued was one of the great naval battles of history. One young American Naval Aviator not only participated in the fight but watched the spectacular struggle from a unique vantage point. This is the story as told by George Gay, retired Trans-World Airlines Captain in an interview with Commander Richard C. Knott on April 8.

Knott: Captain Gay, you were a 25-year-old ensign in 1942, assigned to Torpedo Squadron Eight aboard the aircraft carrier Hornet. Like you, many of the pilots in the air group were young and inexperienced. Did you feel adequately prepared for combat?

Gay: That's a little difficult to answer. There was no base line to use for comparison. None of us had been in combat—we didn't know what a *Zero* could do. We had to take Commander Waldron's word for it that we were ready. Actually, he kept us so busy that there wasn't much time to think about it. We knew we were going to do our best and that was all there was to it.

[LCdr. John C. Waldron was the commanding officer of Torpedo Squadron Eight. He was colorful and hard-driving and drilled his crews unmercifully in every aspect of their trade.]

Your aircraft was the Douglas Devastator TBD-1. How well suited was it for the job you had to do?

Well, I guess in its day it had been a pretty good airplane. It was certainly better than some of those big old cumbersome biplanes that the British were still using. But it was not a modern aircraft by any means—and it was slow. LCdr. Waldron had scrounged around and gotten us some armor-plated bucket seats and twin-mount 30-caliber machine guns for our gunners.

The Devastator had neither of these as standard equipment?

That's correct. We tried every way we knew to get that airplane into as good a combat condition as we could.

I imagine they were pretty vulnerable to attack by Japanese Zeros.

Yes — but even the TBFs *[Grumman Avengers]* which came along later were vulnerable. When you're down on the water low, at that speed, it's difficult to maneuver.

So no matter what kind of aircraft was used, it was the nature of the torpedo bombing mission which made you vulnerable to both fighter attack and antiaircraft fire?

I would say yes. Of course we'll never see this kind of warfare again. I always felt that it might have been better to damage those capital ships and then use torpedo bombers to finish them off.

It's my understanding that the TBD-1 could carry either bombs or a torpedo. How was it used for bombing?

[laughter] It was supposed to have a high altitude bombing capability. We had that old Norden bombsight in it but you couldn't get that aircraft up to 12,000 feet with a hydraulic

jack. We had practiced some high altitude bombing with water-filled bombs but we realized right off the bat that that kind of bombing was not going to be effective against naval vessels.

So at Midway the TBD-1s used torpedoes only?

Absolutely!

How about the reliability of the torpedoes? How close did you have to get to the target to have a reasonable chance of getting a hit?

It was all speculation. Those things were World War I Mark 3 torpedoes. We built plywood fins and attached them to the back to give them a better chance to reach the target.

How much practice had you had working with torpedoes prior to Midway?

The day I took off with that torpedo [*at Midway*], I had never seen it done before, much less done it myself — that is, take a torpedo off a carrier. We didn't have any dummies to practice with.

Was that the case with most of the pilots in the squadron?

Nobody had any experience with them. Waldron and a couple of Chief NAPs [*enlisted pilots*] had been in the Navy long enough to know what a torpedo was, but I really didn't know exactly what they looked like until I got out on the ship.

What was the procedure for getting one to the target?

We were supposed to get down to approximately 80 feet off the water, we had to slow down to 80 knots, and we were not supposed to be more than 1,000 yards from the target when we released. That put you right on the bull's-eye.

How about the other aircraft in the air group—the fighters and the dive bombers? How did they stack up against the enemy?

The F4F [*Grumman Wildcat*] had 50-caliber guns, self-sealing tanks and armor plating and it worked out pretty well. The SBD [*Douglas Dauntless*] was the newest and best we had in dive bombers but most of the pilots in our air group had never flown the airplane prior to Midway much less pushed it over into a dive.

How did that happen?

After we left Norfolk, we sailed down the coast, through the Panama Canal and up to San Diego where the dive-bomber pilots traded in their old biplanes for SBDs. We then proceeded to San Francisco where we picked up Doolittle's people and took them across the Pacific for their raid on Tokyo. From there we went tearing down toward the Coral Sea but were unable to get there in time for that battle. We hadn't been able to fly while Doolittle's B-25s were on the flight deck, and after they left there was no time for practice except for a few scouting missions. I went out on a four-hour submarine patrol with depth charges and a full crew and came back and landed aboard the carrier. Waldron came out, slapped me on the back and said, "Two more of those and you're qualified." That was the first time I had ever landed aboard a carrier. The dive-bomber pilots had it worse because they were new to their airplanes as well.

Considering the inexperience of most of the pilots and the nature of the equipment you flew, how would you characterize the confidence level among the pilots in your squadron before the battle?

Well, I don't know — there's something about American youth that makes them want to try even when the odds are pretty high against them. We had trained hard. Waldron instilled confidence in us and we just felt we could do the job.

This was really a crucial battle. Had you been defeated at Midway there would have been no naval forces in the Pacific capable of repelling Japanese attacks on Hawaii or even on the West Coast of the United States. Was this something you thought about in those hours before the battle?

Waldron had explained what we were up against, so we knew how serious this was and we knew that if it went the wrong way, it would be pretty bad for the United States.

[*The Americans had only three carriers. Hornet and Enterprise were part of Task Force 16 under RAdm. Spruance. RAdm. Fletcher commanded Task Force 17 with one carrier, Yorktown, which was still badly damaged from the Battle of the Coral Sea. These two forces rendezvoused northeast of Midway on the 2nd of June to await the enemy.*

[The Japanese had a fleet of almost 200 ships including well over 100 combatants. An occupation force of transports and their escorts approached Midway from the southwest while the striking force under Vice Admiral Chuichi Nagumo made its thrust from the northwest. This latter force was made up of battleships, cruisers, destroyers and the carriers Akagi, Kaga, Hiryu and Soryu. Support forces of additional battleships, cruisers and destroyers moved in from the west while Admiral Isoroku Yamamoto, aboard the super battleship Yamato, exercised overall command and followed about 600 miles behind Nagumo with still another additional force. To confuse the Americans, Vice Admiral Moshiro Hosogaya was sent with two more carriers to attack Dutch Harbor in the Aleutians.]

What was your first significant contact with the enemy?

On June 3 a PBY spotted a Japanese force to the southwest of Midway and reported, "Main body." Well, that turned out to be the invasion forces.

Did you launch a strike against these ships?

No, we were looking for the striking force with the carriers and were expecting them from the northwest. Based on what we knew about their operation, it didn't make sense for them to be coming in from the southwest. Intelligence had been very accurate and had even predicted the diversionary attack on the Aleutians, so we held off for more information.

George Gay holds lithograph of a Devastator.

As it turned out, the striking force we were looking for did come in from the northwest and we went after it the following day.

Was anything done about the invasion force on the 3rd?

Yes. The Army sent out some B-17s and during the night PBYs went out and made torpedo attacks on those ships.

[*Incredible as it may seem, four PBY Catalinas were sent to attack the Japanese invasion force on the night of June 3. Three of the PBYs found the transports and surprised the Japanese with a night torpedo attack.*]

But that was a preliminary to the main battle. When did you get into the fight?

On June 4 a PBY searching to the northwest spotted planes from the Japanese striking force and reported, "Many planes heading Midway," and gave the range and bearing. Now this meant something to us. They had launched their planes to attack Midway and that meant the ships had to be close enough for their aircraft to get back. It gave us a rough idea of where they were and, by golly, they were right where we figured they ought to be.

So you took off on the basis of that information and headed for the enemy?

Yes. The fighters and dive bombers took off first. They formed up and went out at altitude. Some Torpedo Eight aircraft were on the hangar deck, so by the time we got off we were about 18 minutes behind the others. We went out low so as to be in good position to attack when we arrived. Waldron thought he knew exactly where the Japanese were and laid out a course which was different from the rest of the air group. I was the squadron navigation officer and he asked me to bring up the rear and track him on the way out, so, if anything happened to him, I could lead the squadron back. That's how I happened to be "tail-end Charlie."

While the rest of the air group was looking for the Japanese, the skipper took us right to them, so, instead of arriving late, we were about six or eight minutes ahead of everyone else.

The Japanese combat air patrol was waiting for us at altitude — about 75 *Zeros*. Since we were the first to get there, we sucked them all down. Why they *all* came down with the experience they had, I don't know. I guess it was overconfidence and it was a fatal mistake, because when our dive bombers showed up a few minutes later they had no opposition.

Can you describe Torpedo Eight's run-in to the target?

Yes. When we got there a cruiser was putting out a smoke screen. We thought we were late and that the fight had already begun, so we tightened up the formation and headed in. The next thing we knew there were *Zeros* swarming all over us. They started knocking off our planes just like that! [*Snapping his fingers several time in rapid succession*]. I saw them all go in the water except one. We were wiped out on the way in. I was the only one who got in close enough to make an attack.

[*Waldron had briefed his pilots beforehand. "If there is only one plane left to make a final run-in, I want that man to go in and get a hit." George Gay was now that last man.*]

The *Zeros* didn't follow me into the antiaircraft fire. They didn't bother me again until I got out on the other side.

On your run-in, did you get hit by antiaircraft fire at any time?

I imagine that the plane was hit by some of the small stuff but nothing big enough to bother me.

And you got your torpedo off all right?

Everything was just like we had been shown on the blackboard, except that when I pushed the electrical release, it didn't work. I had to use the emergency pull.

Some accounts say that you scored a hit on the Japanese carrier Kaga. Have you ever been able to confirm that?

No. I have never been able to get any verification on that. I really don't know. It's very difficult to go back years later and try to find someone from the other side who can remember a particular enemy plane at a particular moment in the heat of battle.

After you dropped your torpedo, did you continue directly toward the ship?

Yes. I didn't want to turn and give them the whole underside of the aircraft to shoot at, so I just bore-sighted the ship. I come in as straight as I could because that was the smallest target I could present.

Were you below the level of the flight deck at that time?

Oh, yes — right on the water. The big guns couldn't depress too well to that level but the little ones were working on me. I picked out a guy on one of those things and he must have known I was looking at him and thought I was going to kamikaze right down his throat. I went right up to the end of his gun barrel and he jumped off the gun.

I remember thinking that I didn't want to fly out the far side and pick up all that antiaircraft fire over there, so I pulled up in a turn and flew down the flight deck. I saw the captain on the bridge waving his binoculars and I went out the stern and flew past a couple of big cruisers. Everybody was shooting at me — the whole fleet. I don't know why they didn't knock me down, because if you had seen all those red tennis balls and puffs of smoke, you wouldn't believe anyone could get through there. It was solid!

But you were not hit by antiaircraft fire?

I don't consciously remember feeling any kind of a jolt that I thought was serious. I was shot down on the other side of the antiaircraft screen by a *Zero*. They all jumped on me when I got out on the other side.

Did you lose control of the aircraft at that time?

They knocked out my rudder and my ailerons. A 20-millimeter cannon took out my left rudder pedal, knocked a hole in the firewall and set the engine on fire. I still had the elevator to hold the nose up. I cut the switch and tried to slow it down and belly it in as best I could. But, with no ailerons or rudder, I couldn't pick up the right wing, so it hit first and cartwheeled the plane in. I had the canopy open but it slammed shut when the nose hit the water. I could not get it open and that's when I got scared. I thought I was going to drown. So I just busted it open.

I tried to help my gunner. He had been hit and I believed he was dead but I had to try anyway. But it went down too fast. When I reached the surface, there was my life raft which had floated clear of the aircraft.

Do you think that all the physical conditioning and training that Waldron had insisted upon helped you?

Yes. He did everything he could think of to give us a better chance. At first we thought he was kind of a nut but after a while we knew we had the best possible skipper. Of course, Torpedo Eight made that big sacrifice but the "old man" was trying.

Did the Japanese try to strafe you while you were in the water?

Yes. They made a few strafing runs at me but fortunately this was the time when our dive bombers began to show up. I'm sure their control people were hollering for them to get back up where they belonged. They only made a few passes at me and I ducked under the water. They came pretty close but I didn't get hit. After that they left me alone.

What was the scene as you saw it from your vantage point in the water? You must have had a very good view of the battle.

Winston Churchill called it a fish-eye view. I was right in the middle of the whole thing. When those three Japanese carriers lost headway they were just downwind of me. Their screen was steaming all around me. I didn't want them to spot me so I hid under a seat cushion that had floated free of the airplane. They thought it was just debris.

So you were able to watch our planes hit those carriers and see them go dead in the water — and they were afire?

Burning like you wouldn't believe. They were like blowtorches — just roaring! You know those carriers were open-ended and the fire was just streaming out of them.

[*These were Akagi, Kaga and Soryu. Hiryu, the fourth carrier of the Japanese striking force, was able to launch its dive bombers and torpedo planes which attacked Yorktown and set her afire. Later, Hiryu was also disabled by American planes and was finally sunk by a torpedo from a Japanese destroyer when it was determined she could not be saved.*]

You were wounded, I believe. Was there any problem with sharks?

No. Fortunately I hadn't seen *Jaws* yet. I didn't think about sharks. A newspaper reporter asked me later about sharks and it kind of shook me up then. I believe that the shark situation was taken care of by those tremendous explosions — bombs going off and ships blowing up: They don't like those kinds of vibrations.

What was the extent of your wounds?

I had a bullet hole in my left arm, a piece of shrapnel in my left hand, and my left leg was fairly badly burned. I lost somewhere in the neighborhood of a pound an hour while I was in the water, from dehydration, blood loss and high adrenalin flow. I was in pretty bad shape by the time they hauled me into the hospital in Pearl Harbor.

How long were you actually in the water?

About 30 hours. When the Japanese left I was able to partially inflate my raft and that helped some.

How did you come to be picked up?

A PBY-5A came out looking for the remnants of the Japanese Fleet on the 5th. The pilot spotted me and flew on by. After he had completed his mission late that afternoon he came back to pick me up. He radioed to Midway for a PT boat to get me but it would have taken about three days to reach me. The pilot, "Pappy" Cole, put it to his crew. He said, "I want to land and pick this guy up but I want to put it to a vote." So they voted and all said, "Yes." The first thing they yelled as they taxied up was "Have you seen any *Zeros* today?" I answered, "No." They said, "Good, let's get the hell out of here." I said, "Let's go," and they just jerked me out of that raft and went.

They made that rescue at some risk to themselves?

Yes, and I was grateful that they did. If a Japanese aircraft had caught them on the water, it would have been all over.

After they picked you up, they took you to Midway?

Yes. Of course, there were no medical facilities left — they had been all bombed out. I spent the night there and the next morning they flew me to Pearl Harbor.

[*George Gay's entire squadron, Torpedo Eight was lost at Midway — 15 aircraft and their crews. He is the sole survivor. In all, the Americans lost more than 300 men, 150 planes, a destroyer and the aircraft carrier Yorktown, but the Battle of Midway had been won. The Japanese Fleet turned and retreated toward Japan. Their losses included more than 2,500 men, 332 aircraft, a heavy cruiser and four aircraft carriers. It was a staggering blow and the beginning of the end for Japan.*]

A Meeting of Old Foes

GAIJIN AKA

June 5th, 1942 — The Imperial Japanese Navy aircraft carrier *Hiryu* was doomed along with Admiral Yamamoto's plan to take the island of Midway from the Americans. Hit by American dive bombers, *Hiryu* was dead in the water and fires raged through the great ship.

In the engineering spaces, Ens. Hisao Mandai directed the futile efforts of a work party of sailors attempting to stem the damage. Communication with the bridge had ceased to exist. When it became apparent that it was a losing battle, Mandai reluctantly ordered the men topside.

The watertight door to the engineering compartment was warped and jammed by the heat of the fires. Laboring for hours with sledgehammers and chisels, the desperate sailors cut a hole in a steel bulkhead. In the meantime the ship had been abandoned. Mandai's party encountered no one as they worked their way up through the wracked and sinking ship to the hangar deck.

On the hangar deck, they encountered another work party under the command of Commander Aiso. A total of 39 men had been left behind when Admiral Nagumo ordered *Hiryu* abandoned.

It was night. In the distance the *Hiryu* officers spied the dim shape of a Japanese destroyer. They attempted to signal the ship but it drew off and vanished into the darkness.

By morning it was obvious that *Hiryu* was sinking. She had developed a list and was down by the bow. No other units of the Imperial Japanese Navy were visible.

The ship's cutter was still slung from the davits. Cdr. Aiso ordered it launched. The only provisions that could be found were a few oranges, some sea biscuits and a case of beer.

The weight of the 39 survivors left the cutter with little freeboard. Fortunately, the sea was relatively calm. Aiso ordered a stub mast rigged and contrived a makeshift sail with a blanket. A small Japanese flag was affixed to the top of the mast. Aiso set course for Wake Island, the nearest point of land held by the Japanese.

June 16th, 1942 — The *Hiryu* cutter had been making very slow progress for 12 days. Heat, thirst, starvation, and exposure were taking their toll. Four men had succumbed and their bodies had been put over the side.

In the afternoon of that 12th day, the spirits of the Japanese survivors suddenly soared as a big seaplane was sighted approaching from the west — the direction of Wake Island. Shouting, laughing, crying, cheering, the exhausted men waved to the big two-engine flying boat as it approached.

Lt. "Speedball" Campbell and his crew of the VP-11 PBY-5 were tired. For nearly two weeks they had flown rescue and patrol in the wake of the historic battle of Midway Island: takeoff at dawn, 14 hours in the air, a landing on the choppy lagoon at Midway, laborious refueling of the airplane with a hand-driven pump from gasoline drums because the Midway fuel system was not operative, an untasted evening meal, a few hours' sleep in an underground bunker, and then takeoff at dawn again.

I was second mech on Lt. Campbell's crew. Ernie Davenport was plane captain and Joe Brooks was the ordnanceman/bombardier. Unfortunately, with the passing of 35 years, I have forgotten the names of the rest

ONI !

On the opposite page, left to right, Frieze, Mandai, Negatomi and Ikeda. At left, is one of the photographs that Frieze took to the reunion.

By Ltjg. C. R. Frieze, USNR (Ret.)

of the crew.

On the 12th day after the Battle of Midway, we had been on patrol out toward Wake Island. On the way back to Midway in the afternoon, I was nearly dozing in the waist hatch and fighting to keep my heavy-lidded, red-rimmed eyes on that endless ocean that had been devoid of vessels since the day we had seen *Yorktown* in her final moments.

I was jolted awake by Lt. Campbell's voice on the interphone. Very quietly he said, "Gentlemen, there's a boat out there ahead of us. It's flying a Japanese flag. Rig out the port fifty. I'm going to make a pass. If they don't haul down the flag, shoot the damned thing down." Almost as an afterthought, he added, "Try not to hit anyone in the boat unless they shoot at us. If they do — sink the boat."

The jubilation of the Japanese sailors turned to despair as the flying boat approached. They could see the big white star on the side of the fuselage which identified the airplane as American. The sail was pulled down and many of the men huddled under it as if it might protect them from the gunfire of the airplane. The flag was taken down also.

The big airplane slanted down and came in at the boat. The Japanese could see the black muzzle of a heavy machine gun appear at the gun blister of the airplane and track the boat as the airplane passed by. One of the Japanese peeled off his undershirt and waved it. The gun remained silent. After one look at the white star on the airplane, Cdr. Aiso sat in the stern of the boat, his head bowed.

Aboard the PBY, we tracked the lifeboat with the 50-caliber machine gun. Our base at Kaneohe had been hit hard on December 7. We had lost most of our airplanes, the hangar was bombed, 17 VP-11 and VP-14 sailors died, and another 75 were wounded in that surprise attack. I, for one, almost prayed that someone in the boat would fire just one shot.

On the lifeboat, the Japanese flag had been hurriedly hauled down and someone was waving something white. We stowed the machine gun and orbited the boat while the radioman contacted Midway. Later, USS *Ballard* (a WW I destroyer converted to a seaplane tender) came to pick up the prisoners and deliver them to Midway. They were the only Japanese prisoners taken and landed on the island.

June 17th, 1942 — A messenger appeared at our airplane with a small box of trinkets — Japanese uniform buttons and insignia. They were "presents" sent to our plane crew by Cdr. Aiso in gratitude that we had not sunk the lifeboat. I didn't appreciate the gesture at the time. I was given a cap insignia that the messenger thought came from the cap of a Japanese ensign. The device went into my ditty bag and later wound up in the bottom of my sea chest with other memorabilia of "the big war." I never saw the prisoners close up.

More than 25 years after the Battle of Midway, I read Walter Lord's very fine documentary of the battle, *The Incredible Victory*. It was obvious that Lord had interviewed survivors from that lifeboat that we found. Lord indicated that there had been but two officers on the boat — Commander Aiso and an Ens. Mandai.

By then, I was traveling regularly overseas for an aircraft manufacturer, including visits to Tokyo. Intrigued, I dug out the little brass cap device and set about finding the original owner whom I presumed to be Ens. Mandai. A retired Japanese air force general, who works for our Tokyo consultant firm, located Mandai readily. After the war and repatriation, Mandai had remained in the Japanese Maritime Self Defense Force. He attained the rank of rear admiral before he retired in 1975.

I contacted Mandai and we corresponded. In August 1976 I was scheduled into Tokyo on a business trip. Mandai was delighted. I indicated to him that I could meet with him either on a Friday night or on the following Saturday. He requested that

we have dinner together on Friday.

Mandai was also intrigued at the thought of this reunion of old enemies. Without my knowledge, he set about locating other survivors from the boat. Several were still alive.

On August 22, 1976, I met Mandai in the lobby of the Tokyo Hilton. I had not known what to expect but he was not a Japanese warrior of WW II propaganda. Unusually tall for a Japanese and nearly my own height, Mandai was a well-dressed businessman. His command of English is excellent — a blessing since my Niihongi extends barely beyond *Kombanwa, ekaga desu ka?*

We sat for several hours over a bottle of Black Label and later over dinner — two old mortal enemies reminiscing about a long-ago battle. Then Admiral Mandai sprang his surprise. He had arranged a reunion for Saturday with other survivors of the boat. He had located several but most lived far from Tokyo and could not make the trip. Two planned to come, however, making a two-day train trip for the occasion.

When I commented that it was too bad that more of them didn't live nearby, Mandai chuckled and said, "Actually there *is* another survivor living here in Tokyo. There were three officers in the boat — me, Cdr. Aiso, and a lieutenant who would not allow Mr. Lord to use his name or even indicate that he was there."

When I asked if the lieutenant would be at the meeting, Mandai chuckled again. "No," he said, "the lieutenant is still fighting WW II. He's still mad! If he comes to the meeting, you better wear a bullet-proof vest!!"

On Saturday, Adm. Mandai picked me up at my hotel. He took me first to the Tokyo shrine that is the Japanese equivalent of our Arlington Cemetery. We paid our respects to the war dead and then proceeded to Ichigawa Kaikan for the meeting.

The other two survivors in attendance were Koichi Ikeda, now a fruit and vegetable storekeeper in Saga Prefecture, and Takashi Nagatomi, a businessman from Fukuoka. Cdr. Aiso died in 1948 after repatriation; however, one of his sons (a psychiatrist in Tokyo) attended in his stead. We met in a small room in the presence of four reporters and two photographers from the Japanese press.

We had difficulty because neither Ikeda nor Nagatomi speak English but an interpreter had been assigned to me. The atmosphere was quite restrained and formal during the press conference. We posed for photographs and answered questions about that long-ago battle.

It is interesting to me that the question most often put to me by the reporters was, "*Why* didn't you sink the boat?" My answer was that we couldn't. The flag had been hauled down, no shots were fired at us and a surrender signal was made. They were an exhausted bunch of battle survivors drifting helplessly under our guns.

A professor from the University of Tokyo, a friend of Adm. Mandai, was present and he later clarified the curiosity of the reporters about our not sinking the boat. He stated that the Japanese enlisted personnel were never told of the Geneva Convention. His comment was that in those days the Japanese warrior was not told about it. He was simply taught to kill the enemy anytime and anywhere.

Following the press conference, we went to another room for a Japanese banquet. When I was asked what I wished to use for toasts, I had the presence of mind to request beer. I had already learned the hard way that Japanese *campais* can go on without end.

This occasion was no exception. During the seven or eight courses that were served, we each made a speech and proposed toasts. We relaxed quickly and soon we were in our shirtsleeves, telling sea stories between *campais*. The hit of the occasion was an old photograph from the National Archives which showed part of the Japanese group disembarking from *Ballard* at Midway. Takashi Nagatomi took one look at the photograph and his, until then, impassive face broke into a broad grin. He pointed at one of the figures at the foot of the gangway. My interpreter said, "That is Mr. Nagatomi assisting his wounded friend."

Knowing that the Japanese aircraft carrier *Hiryu* had also participated in the December 7, 1941, attack on Hawaii, I had taken with me a collection of photographs of the results of the attack on the naval air station at Kaneohe Bay where VP-11 was stationed at the time. Our hangar had been reduced to a blasted and burned skeleton and we lost all but three of our brand new PBY-5s. During one of my little speeches, I presented the Kaneohe photographs as evidence that our old enemies were, indeed, efficient fighting men for whom we had respect.

The photographs were an appropriate gesture. Koichi Ikeda got to his feet after looking at the photographs and made a long, boisterous speech with several *campais*.

My interpreter translated. Ikeda was paying tribute to both the Japanese and American veterans of WW II. His dark eyes twinkled and his broad smiles radiated friendship. At the end (with me being coached by the interpreter) we went through a ceremony in which I poured beer for him into my glass and he toasted me. The interpreter explained that Ikeda had pledged his eternal friendship to his old enemy and that we could never fight again.

Ikeda was not finished. He made another speech which caused all the Japanese present to laugh uproariously. The interpreter explained that Ikeda was conferring a Japanese name on me. It was based on the fact that I have somewhat red hair and he maintained that if it was me peering down at the boat from the waist hatch of our PBY, I was also very sunburned. The name was *Gaijin Aka Oni* which, translated, means Foreign Red Devil.

As I left the banquet to go to the airport to catch my flight home, all of the Japanese trooped out to the car and waved goodbye.

I had approached the meeting with very mixed emotions, even though I had traveled to Japan several times and had shed my bitterness about the December 7 attack many years ago. It was a moving experience to shake hands with those men whom I would have gladly killed 35 years ago and who would have happily killed me, given the opportunity. I left the meeting sincerely wishing them well.

Adm. Mandai and I agreed on a peaceful continuation of our relationship. Now that he is retired he plans one day to come to the United States. This time our battle will be on the golf course.

The little brass cap device, by the way, did not belong to Mandai. It was a chief petty officer's insignia and none of the Japanese could remember to whom it had belonged.

Noel

Davis

By JO2 Jan Mercurio

When Patrol Squadron 62, NAS Jacksonville, was named winner of the Noel Davis Trophy for the second consecutive time, Lt. Sarah S. McCullom, public affairs officer of NARU Jacksonville, decided to find out more about the man it is named for.

Harry F. Guggenheim, a Naval Reserve Aviator in WW II, donated the trophy to the Navy in 1927 in memory of LCdr. Noel Davis, Naval Aviator #2944, "who was active in advancing the interest of Naval and Naval Reserve Aviation." It is awarded annually to the Naval Air Reserve squadron or unit graded the most proficient of its type. The final determination is made by the Naval Reserve Inspection Board.

Noel Davis began his naval career in June 1910 at the Naval Academy. In June 1914 he was appointed an ensign and assigned to USS *California*.

When the U.S. declared war on Germany in 1917, Davis was serving with Admiral Joseph Strauss, Commander, U.S. Mine Laying Forces, who assigned him the responsibility of organizing the mine base at Inverness, Scotland. He eventually supervised the laying of 56,000 mines between Scotland and Norway, mines that blocked many enemy submarines. Following the Armistice, he was responsible for the removal of the mines that remained.

He was awarded the Distinguished Service Medal "For exceptionally meritorius service in a duty of great responsibility as Aide to Commander, Mine Force, in connection with the construction of the North Sea Barrage and, later, as Commander of a division of mine sweepers engaged in the difficult and hazardous operation of sweeping for and removing mines of this barrage under exceptionally difficult conditions."

Davis still wanted action. He entered the aviation school at Pensacola. While there, he met his future wife who was later to fly with him as his radio operator. Mrs. H. B. Merritt, Davis' widow, says of those times, "Oh, I imagine it was very similar . . . much like it is today. Of course they didn't have the equipment that they have now and, when they first started the station, the hangars were just great big tents. They only had five planes. I don't recall what type they were, but I do remember they called them flying coffins."

Later, Davis took a reserve commission to enter Harvard Law School. While at Harvard, he spent a great deal of time at the naval air reserve flying field, helping to bring it to peak proficiency. In 1924, he assumed command of that station for Naval Reserve Aviation at Squantum, Mass. Later, in Washington, he was responsible for all Naval Reserve Aviation.

Mrs. Merritt says she believes he specialized in Admiralty Law because it was the nearest thing to aviation. At the time, the only country with aviation laws was Germany. Davis felt the laws were needed all over the world. Eventually his efforts did open another new field of law.

Aviation occupied much of his time and, in 1927, when a New York hotel owner offered $25,000 to the first pilot to fly nonstop to Paris, Noel Davis added his name to the list of contestants.

Davis was stirred into action when he heard that a French pilot was going to attempt the flight in a French-made Sikorsky. He began seeking the support of big business and wealthy men interested in aviation. The Keystone *Pathfinder* was the result. He named the three-engine biplane the *American Legion* because it was an all American effort — designed, built and flown by Americans. It carried 900 gallons of gasoline and had a specially designed 65-pound radio transmitter.

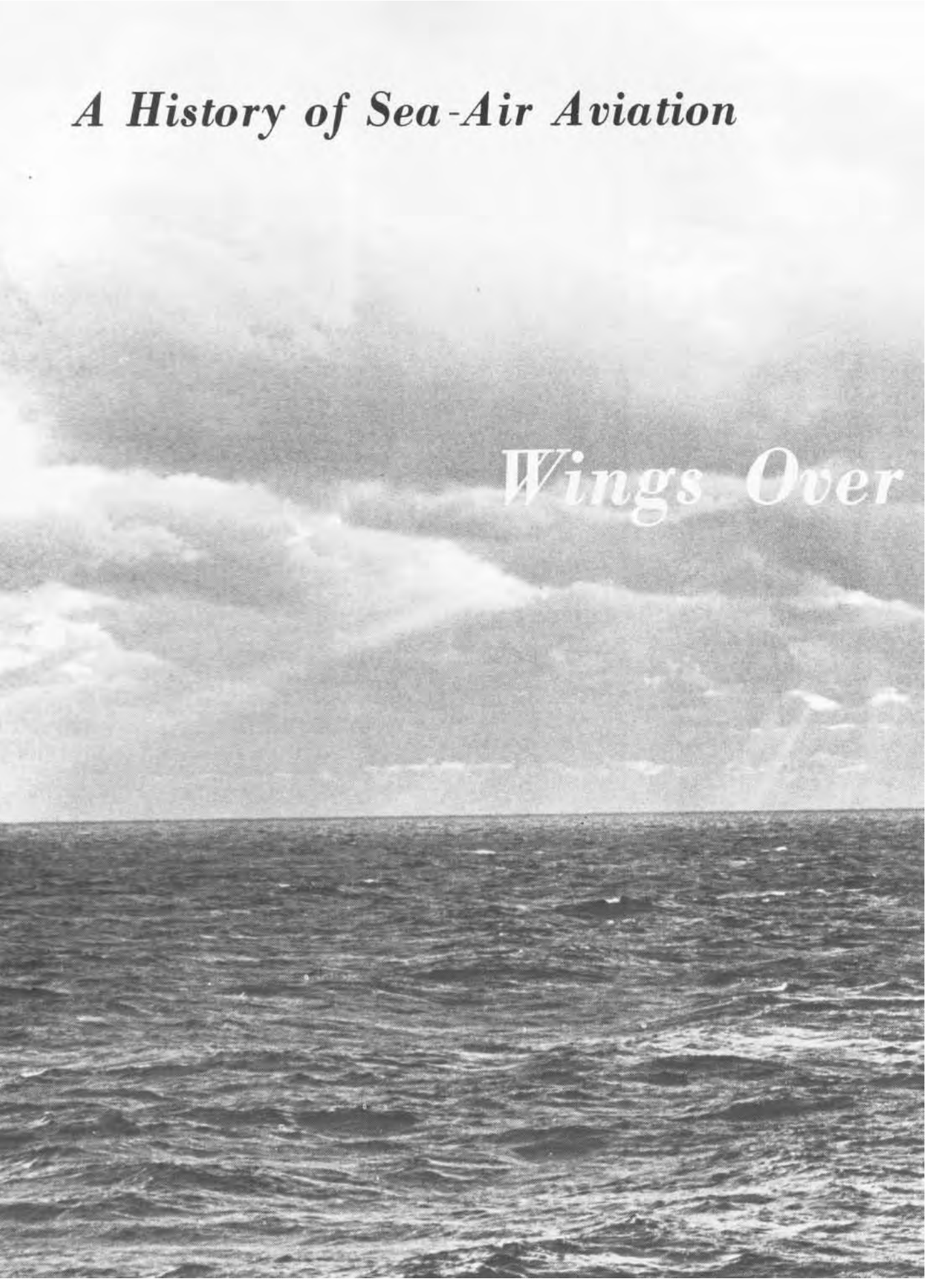
On April 27, 1927, the final test flight began. His wife was to be at the radio controls, but she was unable to make it that day.

The plane, outfitted with all the gear it would carry on the trans-Atlantic flight, was piloted by copilot Stanton Wooster. Davis was checking the instruments. Because of the weight, the plane did not climb as fast as it should have and, at 50 feet, Wooster banked to miss some trees in the way, causing the aircraft to lose speed. The plane crashed and Davis and Wooster were killed.

On May 21, less than a month after the death of Noel Davis, Charles Lindbergh landed his *Spirit of St. Louis* in Paris.

At a special ceremony earlier this year, Commander Charles Combs, VP-62 C.O., accepted a miniature trophy from Mrs. Merritt. The permanent trophy is retained by the Chief of Naval Reserve.

A History of Sea-Air Aviation



The Ocean

By John M. Lindley

This is the first in a series of articles written exclusively for Naval Aviation News. It and those that follow chronicle the history of sea-air flight operations and man's role in them.

The Dream of Flight

Almost five years after he and his brother made their historic flights at Kitty Hawk, N.C., Wilbur Wright addressed a group of French aviation enthusiasts in Paris. He told his audience that he sometimes thought that "the desire to fly after the fashion of birds is an ideal handed down to us by our ancestors who, in their gruelling travels across trackless land in prehistoric times, looked enviously on the birds soaring freely through space, at full speed, above all obstacles, on the infinite highway of the air." Although he did not elaborate upon this idea in the rest of his speech, Wilbur Wright clearly wanted to emphasize two aspects of the age-old desire to fly. On the one hand, he contrasted early man's laborious and gruelling manner of travel with the seemingly effortless flight of birds. On the other hand, the elder Wright brother placed equal emphasis on the mobility inherent in the flight of birds and, again, the implied contrast with the lack of geographical freedom which limited humans. How easily the winged creatures could cross vast expanses of land or water; how difficult for man to do the same. But by 1908, when Wilbur Wright delivered this speech, both he and his brother had experienced in their flying machine the freedom and mobility which had so fired the imaginations of our ancestors.

Wilbur Wright also told the mem-

Winged Griffen

bers of the Aero-Club de France that the idea of flight was "an idea that has always impassioned mankind." He did not need to give examples or evidence of the accuracy of this observation, for the proof was there in the members of his audience. They shared this passion for flight. Had he felt compelled to justify his assertion, Wilbur Wright could have pointed to the winged gods and deities of ancient Egypt, Assyria, Greece and Rome. Or he could have mentioned Western religious art with its winged angels and cherubs. Since he was a widely-read man, particularly in the literature relating to aviation, Wilbur Wright might even have produced examples of the desire to fly in Oriental art and religions. But the intense and taciturn Mr. Wright did none of these things. He assumed, instead, that his audience shared this ancient dream of flight.

Among many expressions of the dream of flight of which Wilbur Wright and his friends were surely aware, the myth of Daedalus and Icarus was probably the best-known. Daedalus was the universal inventor — a skilled architect, mechanic and sculptor. He had designed and constructed the famed labyrinth for King Minos of Crete, but when he lost favor with the king, the inventor and his son Icarus were cast into his own palace of complex corridors. Unable to find his way out of this prison, Daedalus fashioned two pairs of wings for himself and Icarus out of feathers and wax. They then strapped the wings on their arms and flew out of the labyrinth. In the course of their escape from Crete, Icarus ignored his father's warnings not to fly too close to the sun, which indeed melted the wax on his wings, and he plunged into the sea. Daedalus could do nothing for his careless son; so, the grieving father flew on to Sicily where he made a new home and shared his knowledge of the plastic arts with the people of that country.

Regardless of whether the story of Daedalus and Icarus is just a Grecian "tall tale" or an imaginative account of some actual attempt at flight in ancient history, the myth carries a kernel of insight as to the meaning of sea-air aviation. Daedalus was an inventor who clearly understood the technological dimension of flight. In constructing the wings of feathers and wax he took the first practical steps toward mastering the highways of the air. His escape illustrates the desire for speed and mobility which Wilbur Wright articulated in 1908. Daedalus and his son were two men capable of speedy flight from an island prison from which other less technologically-minded persons could not have escaped. Not only did they escape, but they escaped across the sea, a vast trackless expanse which previously had limited ship traffic to coastal waters or narrow seas where sailors would never be long out of sight of land. Even without a modern map of the Mediterranean, the ancient Greeks probably knew that any flight from Crete to Sicily involved crossing the sea without the aid of land to help in navigation. In short, Daedalus accomplished what might be called the first flight of sea-air aviation.

In his reading Wilbur Wright had probably come across another Greek tale of flight relevant to the concept of sea-air aviation: the myth of Bellerophon and Pegasus. Bellerophon was a semi-divine youth from Corinth. He went to Lycia, whose king asked the youth to destroy the fire-breathing monster known as the Chimaera, a beast with a goat's head, the forequarters of a lion and the hindquarters of a dragon. Despite the danger, Bellerophon agreed to accept the king's challenge. Fortunately, a soothsayer told Bellerophon that if he caught the winged horse Pegasus with a golden bridle, to be found in the temple of Athena, that he might vanquish the Chimaera. Following this advice, Bellerophon secured the bridle and easily captured Pegasus. He then

mounted the winged horse and attacked the Chimaera from a great height. With the aid of his marvelous steed, Bellerophon quickly killed the dreadful monster.

The combat between a heroic Greek lad riding a winged horse and a fire-breathing monster evokes a dramatic image of aerial warfare. Both Bellerophon and Pegasus appear in the myth as creatures of supernatural power who are thereby able to destroy the evil Chimaera. The image of horse and rider flying through the air conveys another dimension of meaning. Man wants not only the means to fly but he must also be able to control that flight. Only by possessing the golden bridle could Bellerophon subdue the wild horse with wings, but once he had obtained the bridle, the youth had Pegasus completely under his control, and together they could engage the Chimaera in combat and kill it. Thus the story of Bellerophon and Pegasus captures all the elements of aerial warfare in an imaginative battle. The modern version of this timeless myth is, of course, the story of the World War I flying ace in his Sopwith *Camel* doing battle with the Red Baron.

Not surprisingly, the history of sea-air aviation has embodied the two images of flight illustrated by the tales of Daedalus and Icarus and of Bellerophon and Pegasus. Manned flight in the twentieth century has indeed provided the mobility over land and water that Daedalus first attempted and Wilbur Wright acknowledged. In addition, the Wrights themselves gave signal recognition to the possibilities for aerial warfare in modern flying machines. After Wilbur and Orville Wright made their historic flights at Kitty Hawk in December 1903 and perfected their invention during flight tests in a pasture near their home in Dayton, Ohio, in 1904, they then turned to the U.S. War Department and offered their flying machine for sale to the Army. They offered not only to sell their *Flyer* to the Army, but also to give the military a complete monopoly over its use. What a military advantage that might have been! The Wrights' efforts to sell their *Flyer* to the War Department stands as eloquent testimony to their awareness of the military potential of their practical flying machine.

In the years following Wilbur Wright's 1908 speech to the French aviation club, the two dreams of flight illustrated by ancient Greek myths — the hope of over-ocean flight and the possibility of aerial warfare — became realities in the modern history of sea-air aviation; that is, in all types of flight operations from or over the oceans. Whether carrying people and goods for commercial profit or aircrews and weapons for warfare, the airplane of today is fundamentally a vehicle of transportation. In the early years of modern aviation the functional and technological distinction between sea-air aviation and flight operations overland was more apparent and clear-cut than it is today, largely because of the differing limitations in speed, range and carrying capacity between sea-based and land-based airplanes. Although there have been a few amphibian types of aircraft from the very early stages of airplane development, the vast majority of aircraft have been either land-based or sea-based. The former aircraft have relied upon wheeled undercarriages for takeoffs and landings; the latter have depended generally upon floats or pontoons. This distinction was never a problem with lighter-than-air craft such as balloons, rigid airships or blimps. Whatever these lighter-than-air craft lacked in speed, relative to the airplanes of their day, they more than compensated with their substantially greater lifting power and their considerably greater range.

In the 1930s lighter-than-air craft reached their highest level of technological performance and economic feasibility with airships such as the German Zeppelin *Hindenburg* and the American rigids *Akron* and *Macon*. At the same time, however, technological changes and developments in land-based aviation were beginning to eliminate the differences in function between land and sea-based airplanes. Commercial land planes such as the Douglas DC-3 represented a genuine challenge to the dominance of seaplanes, flying boats and rigid airships in long over-ocean flight operations. In the military sphere, the performance improvements in carrier-based aircraft (which were superficially land planes modified for flight operations from a carrier deck) seriously encroached upon the military uses of the seaplane and the flying boat.

This trend toward the blurring of the differences between sea-based and

land-based aircraft continued into the 1940s and 1950s. With the introduction of practical jet aircraft after World War II, the military usefulness of the seaplane and flying boat became even more limited. In commercial air transport the flying boat gave way to larger and more economical land planes. The adoption of the jet transport for long-distance flights by the major airlines in the 1950s soon relegated the flying boat to the commercial aviation backwaters of the world and effectively obliterated the few remaining differences in commercial flight operations between strictly land and sea-air operations.

Although the distinctiveness of sea-air aviation in the commercial domain has largely disappeared today, the functional and technical differences between land and sea-based flight operations have survived the coming of the jet plane in Naval Aviation. As naval strategists pursue new and better ways of combining and coordinating naval air and surface forces in the future, the history of sea-air aviation will continue to provide a varied and changing face. Since the earliest days of aviation, naval commanders have wanted to take aircraft to sea with the fleet because they recognized that the airplane could provide auxiliary support to surface forces in a variety of ways. In World War I and the 1920s the major navies of the world experimented with various solutions to the problem of how to take aircraft to sea with the fleet. After trying many possible methods, they eventually settled upon the aircraft carrier as the most practical and most flexible means. Today the major navies of the world have strong air components and the aircraft carrier has replaced the battleship as the backbone of the surface fleet. Carrier-based aircraft include jets, propeller-driven aircraft, helicopters and vertical or short-take-off-and-landing aircraft, commonly known as V/STOL. Aircraft carriers range in size from the enormous nuclear-powered flattops *Enterprise* and *Nimitz* of the U.S. Navy to the smaller helicopter cruisers *Moskva* and *Leningrad* of the Soviet Navy. Rotary-winged aircraft now fly regularly from these big carriers as well as from smaller destroyer-sized warships. The introduction of the jet V/STOL airplane to the major fleets of the world in recent years has further opened the technological door to all sorts of future possibilities in sea-air aviation.

de Rozier

All of the naval uses of these aircraft derive from the capability of the airplane to serve as a means of transportation. In wartime, navies need to attack land or naval targets which are far distant from a surface fleet; thus they have fitted aircraft with the weapons of war — bombs, guns, rockets or missiles — to extend the range of surface-borne weapons in an attack. Naval commanders have also needed reconnaissance or intelligence about the forces of the enemy. Consequently they have employed airplanes as aerial observation posts since the beginning of World War I. Today sophisticated reconnaissance aircraft carry elaborate electronic gear, radar and other intelligence equipment which can extend the range of the eyes and ears of the naval commander far ahead of his surface fleet. Whether as a weapons carrier or as an observation platform, the airplanes used in the fleet today are still basically vehicles of transportation that are capable of flying over the oceans of the world.

As the stories of Daedalus and Bellerophon show, from the earliest times those who have dreamed or schemed about man flying have recognized the dual potential of the airplane as either a peaceful commercial vehicle or a wartime aerial chariot. But neither the Greek mythmakers nor the pioneers of early aviation explicitly distinguished between flight operations over land and sea-air aviation. Nevertheless certain genuine differences in function and technical characteristics between the two types of flight operations did arise soon after the Wrights brought the success of their flying machine to the attention of the public. These differences were further emphasized with the subsequent development of Naval Aviation after 1910. Thus the history of sea-air aviation properly begins with those who prepared the way for the Wrights and their 1903 triumph.

Pioneers of Aviation

Although there were a number of attempts to imitate the flight of birds prior to the eighteenth century, the first successful work in aviation

came with lighter-than-air craft, particularly balloons, rather than with ornithopers (flapping-wing machines) designed to imitate the birds. Two Frenchmen, Joseph and Etienne Montgolfier, discovered in November 1782 that they could trap a quantity of hot air in an inverted paper bag which would then cause the bag to rise. After several private tests of their findings, they decided to demonstrate publicly this property of hot air. So on June 5, 1783, at Annonay in central France, they launched the first balloon filled with hot air. It rose to about 6,000 feet, according to their calculations, and landed a mile away.

News of the Montgolfier balloon spread rapidly and on August 27th another Frenchman, J. A. C. Charles, a physicist, assisted by the Robert brothers, sent aloft a hydrogen-filled balloon. Ballooning experiments became the rage. The next month Joseph Montgolfier sent a sheep, a duck and a cock up in one of his balloons. Since these farmyard creatures survived the ascent, two men, Jean Francois Pilatre de Rozier and the Marquis d'Arlandes, volunteered on November 21st to be the first human passengers in a balloon. During this first ascent, they were aloft over Paris for 25 minutes. Not to be outdone, Charles and one of the Roberts made the first ascent in a hydrogen-filled balloon on December 1st. They covered 27 miles in two hours. Thus by the end of the eighteenth century, regardless of whether these aeronauts, as early balloonists were called, used hot air or hydrogen to lift their craft, their efforts meant that mankind was no longer permanently limited to earthly travel.

In the nineteenth century, aeronauts continued experimenting with balloons. Because hot air or hydrogen-filled balloons tend to rise, the aeronaut carried ballast which he used to control the height of the ascent. The lighter the craft, the higher it went. To descend, the aeronaut would either wait for the hot air to grow cooler which would reduce its lifting power, or in the case of hydrogen, he would release some of the gas so that the balloon would lose part of its lifting capacity and begin to descend. If the balloon began to descend too rapidly, the aeronaut would hastily throw ballast, usually sandbags, over the side of the basket in which he rode so that the craft would become lighter and thus descend more gradually.

The major problem with the balloon as an aerial vehicle is that it is difficult to control or steer because the winds carry the aeronaut and his craft in whatever direction they happen to be blowing. Consequently, inventive aeronauts searched for a way to propel or steer balloons. Usually they tried some combination of oars or rudders or even propellers. But since most of these imaginative efforts at balloon control depended upon manual power, they generally proved to be very ineffective.

Attempts to conquer the problem of control did, however, bear fruit in the development of the airship or dirigible. A French inventor named Henri Giffard built a 350-pound steam engine in 1857 which was capable of producing three horsepower. When Giffard mounted this engine on an airship 144 feet long and 40 feet in diameter, the following year, he found that it would drive a propeller 11 feet in diameter at 110 rpm. This engine and propeller combination subsequently amazed a curious crowd on September 24, 1852, by controlling the direction of Giffard's hydrogen-filled craft during a flight over Paris.

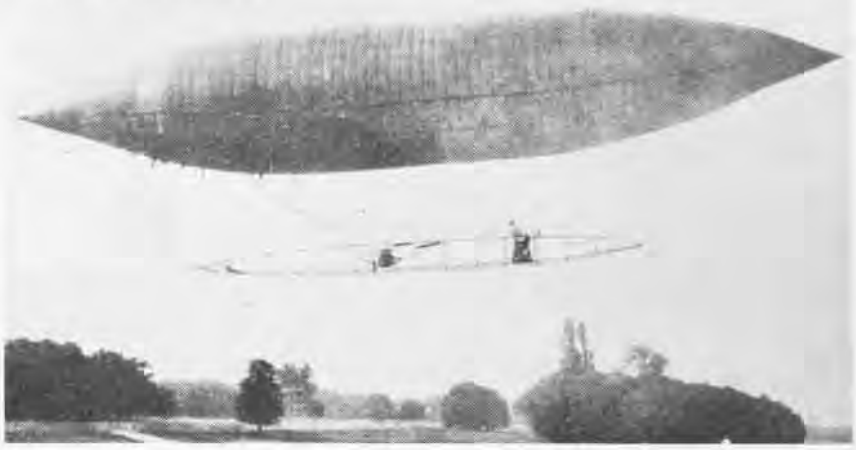
Other airship pioneers began to try different types of engines. Paul Haenlein, a German engineer, used a coal-gas engine in 1872. Since his airship was filled with coal gas, the engine consumed some of the gas which gave the craft its lifting power. Since there was no way to replace the gas lost in powering the engine, the airship was limited in the time that it could stay aloft. Some 11 years later, two Frenchmen, Albert and Gaston Tissandier, propelled an airship with a 1.5-hp. electric motor; their first successful flight came on October 8, 1883. Almost a year later, Charles Renard and A. C. Krebs, also Frenchmen, flew an electrically powered dirigible in a circular flight around a five-mile course.

Although these flights, using steam, coal, gas or electric engines, had shown that an airship could be controlled in flight, all the engines were too heavy for practical aeronautics. Thus the advent of the practical airship was delayed until Karl Benz and Gottlieb Daimler built the first reliable gasoline engines in 1885. David Schwarz of Germany built the first airship powered by a gasoline engine in 1897. Others, such as the Brazilian Alberto Santos-Dumont, followed the pioneering efforts of Schwarz and made numerous flights, bringing fame to themselves and their airships. Probably Santos-Dumont's most famous exploit was piloting his dirigible around the Eiffel Tower in Paris in 1901.

At the same time that Santos-Dumont was making newspaper headlines, Paul and Pierre Lebaudy commissioned Henri Julliot to design an airship appropriately named the *Lebaudy*. It was a semi-rigid dirigible 190 feet long. Following its maiden flight on November 13, 1902, the *Lebaudy* made long distance flights in 1903 ranging from 23 to 63 miles at speeds over 25 mph. These flights signaled the beginning of genuine long distance travel in powered airships.

To be continued

Santos-Dumont in airship



NAVAL AVIATION NEWS letters

Last Deployment?

I read with great interest the article on the HO3S in the *NANews* of January 1977. I was a lieutenant junior grade and officer in charge of HU-1 Det 16 which was aboard USS *Philippine Sea* (CV-47) in 1954. The cruise began in March 1954, with the last HO3S to be deployed in the U.S. Navy. I had the privilege of rescuing four pilots with the HO3S during that cruise. The detachment went on to record five more rescues during the eight-and-one-half-month deployment.

Halfway through the cruise, the HO3S was traded in on an HUP-2 at Oppama, Japan. We had 10 days to become proficient in flying it before returning to the ship.

Congratulations on a fine magazine and great article.

W. F. Quarg, Capt.
C.O., NARU
NAS Alameda, Calif. 94501

C-117s

While reviewing your fine publication, it came to my attention that there is an error in the February *NANews*. Contrary to the story on page 11 about the phaseout of all C-117s in naval service, there are still a few around.

NATTC Lakehurst is the proud owner of a TC-117D which is used for training the center's aircrew survival equipmentmen. The plane is BuNo 12419. It has accumulated 20,212 hours of flight time and is on its last (10th) service tour.

I might add also that at least one other C-117 is still on active duty—BuNo 50782 used by the Naval Air Station, Memphis.

Michael C. Miller
Public Affairs Officer
NATTC Lakehurst, N.J. 08733

Ed's Note: We stand corrected.

French Squadron

I am a P2H navigator in a squadron in the French Navy Air Force. There are only two squadrons in France which have P2Hs. We sometimes read your publications to improve our English and because it is interesting to read about ASW squadrons or safety in flight.

Our squadron would be very happy to have bumper stickers, escutcheons or insignia in exchange for some of ours. We hope to hear from many of your squadrons.

Mr. Laurent Christian
SP 91Y11/A
Paris Naval
Paris, France

One of Our Aircraft Is Missing

Long Island-built birds continue to be prey of the Nassau County Air & Space Museum which is assembling displays and exhibits for its future home at Mitchel Field, once a popular Air Force base near Garden City, L.I.

Latest quarry is an observation-scout seaplane designed and built for the Navy by EDO Corporation at College Point, N.Y., in three configurations: XOSE-1, XOSE-2 and XTE-1.

Inquiries to NavAirSysCom and a search of property records have thus far failed to turn up any XOSEs.

The plane's test pilot, Ralph Romaine (in the cockpit), now an executive at EDO, reports that the craft (Ranger V-770 engine) had a maximum speed of approximately 200 mph and a range of 1,000 miles.

Would anyone knowing the whereabouts of an XOSE or XTE please contact Mr. William Kaiser (516-364-1050)

at the Nassau County Air & Space Museum or EDO Corporation, New York City (212-685-6320).

Ed's Note: *NANews* centerspread, April 1976, featured the OSE.

Published monthly by the Chief of Naval Operations and Naval Air Systems Command in accordance with NavExos P-35. Offices: Potomac Annex, Bldg. 6, 23rd and E Streets N.W., Washington, D.C. 20372. Phone 202-254-4696. Annual subscription: $12.85, check or money order ($3.25 additional for foreign mailing) sent direct to Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Single copy is $1.25 from the same address.

VPB-216-PBM MARINERS will hold their second annual reunion October 27 at the Town & Country Motel and Convention Center in San Diego, Calif. (in conjunction with the second annual convention of the Association of Naval Aviation, Inc., October 28-30). Contact Roger Frangkiser, Box 92, Shell Knob, Mo. 65747, or Bob Smith, 6468 W. 85 Pl., Los Angeles 90045 (213-645-1791). Respond no later than August 1.

Shellback

I am a Shellback and have been since entering the Royal Domain of *Neptunus Rex* on the 5th day of December 1966, onboard USS *Oxford* (AGTR-1).

I am presently stationed with a patrol squadron and lately we have been tasked in an area where our aircrews must fly over the equator. After one such mission I noticed the aircrew received very impressive Shellback certificates. I immediately inquired as to how and why they were so honored. I have always been under the impression that in order to qualify for admission into the Ancient Order of the Deep one 'must cross the "line" onboard a ship and be royally initiated and inspected by His Royal Staff. During the mentioned mission there was no initiation and, in fact, I do believe all the aircrew members were slimy polliwogs.

After an extensive search, I am unable to come up with any concrete information concerning the procedures as to how one qualifies as a Shellback. All my fellow Shellbacks seem to agree.

We request you either set us *real* Shellbacks straight or give our aviation shipmates/polliwogs some guidance.

PO1 J. Watash

Ed's Note: OK. We think, to qualify, you should make the crossing on a ship. We would, nevertheless, like to throw the question to our readership and see what some of you have to say.

Reunion

USS *Wasp* (CV-7) 1939-1942. Crew and squadrons will hold a reunion July 15-17 at Toledo, Ohio. Contact Larry Chute, 1330 Nile Dr., Corpus Christi, Texas 78412.

VP-91 flies P-3s out of Moffett Field, Calif. Led by Cdr. Jerry D. Lambden, the reserve squadron is tasked with antisubmarine warfare missions. VP-91 as it exists today was established in November 1970 as a force squadron under the new Naval Air Reserve concept. It was the first West Coast reserve squadron to fly the P-3. The Pink Panther is the squadron's mascot.

NAVAL AVIATION
NEWS