

JANUARY 1971 / \$1

# AIR FORCE

and **SPACE DIGEST**

*The Magazine of Aerospace Power / Published by the Air Force Association*

## DRUGS AND THE AIR FORCE



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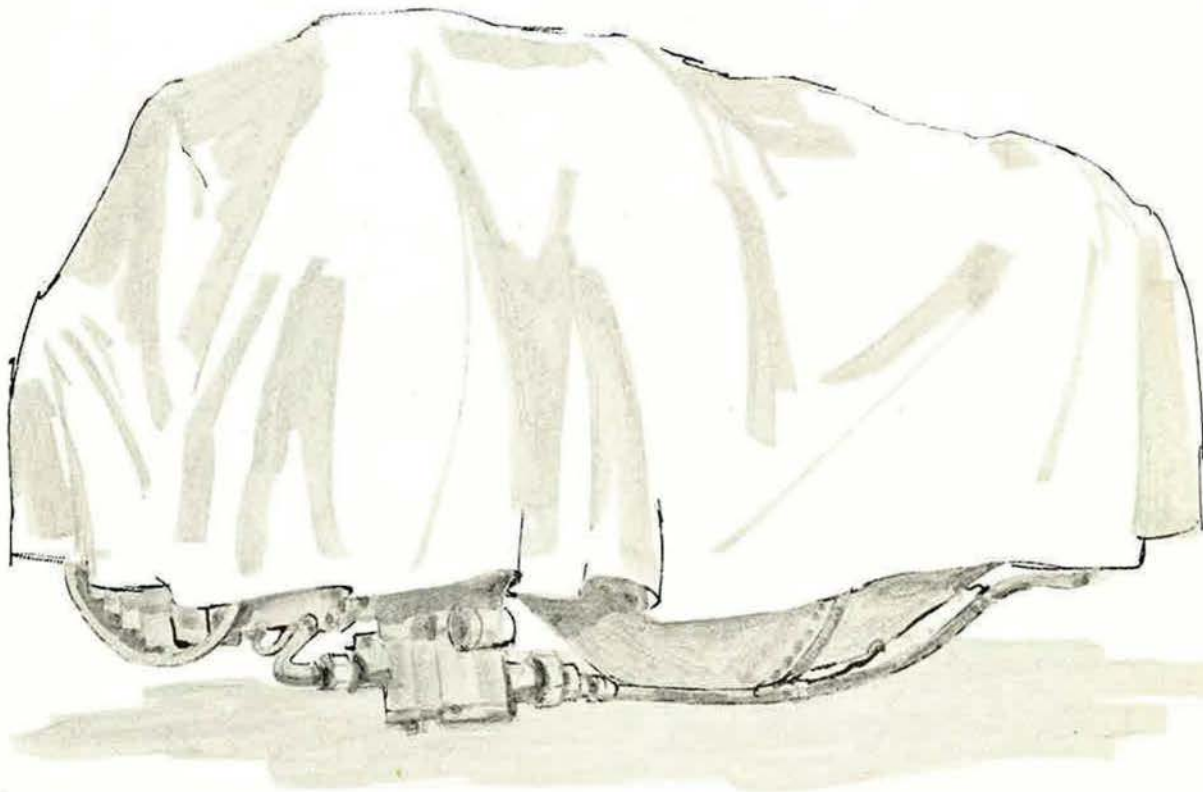
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# AIR FORCE



and SPACE DIGEST

The Magazine of Aerospace Power  
Published by the Air Force Association



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The reusable Space Shuttle will go up & down,  
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for the price of launching one of these.



Until now, the attraction of any space launching has been the complex sequence of the launch itself.

As things stand now, an expensive launch vehicle boosts its payload and then falls uselessly into the sea.

When NASA's manned space stations are in orbit, they will have to be frequently supplied from earth. So a launch will have to be less of an event and more like a regularly scheduled airline operation.

Using one-shot launch vehicles each time would be too expensive.

NASA thought there had to be a better way to handle this shuttle traffic.

There is.

It's a recoverable, fully reusable booster and orbiter: a space shuttle.

What it will do is this:

It will put an end to having a cast of thousands attend to every launch.

It will put an end to dumping expensive launch vehicles into the sea.

Once the orbiter is on its way, the crew will fly the booster back and land it, about the same way a plane lands. Then the booster will be checked, refueled and readied for another launch

in less than two weeks. Plans are for the shuttle to operate up to 100 times.

It will put an end to having every manned space mission wind up as a recovery operation at sea. Once the orbiter has unloaded its passengers and cargo at the space station, the orbiter's crew will fly it back and land it, about the same way a plane lands.

It will make more than 50 trips for the cost of launching one manned mission today.

It will be able to tend or recover unmanned satellites.

It will carry several passengers and up to 25,000 pounds of payload.

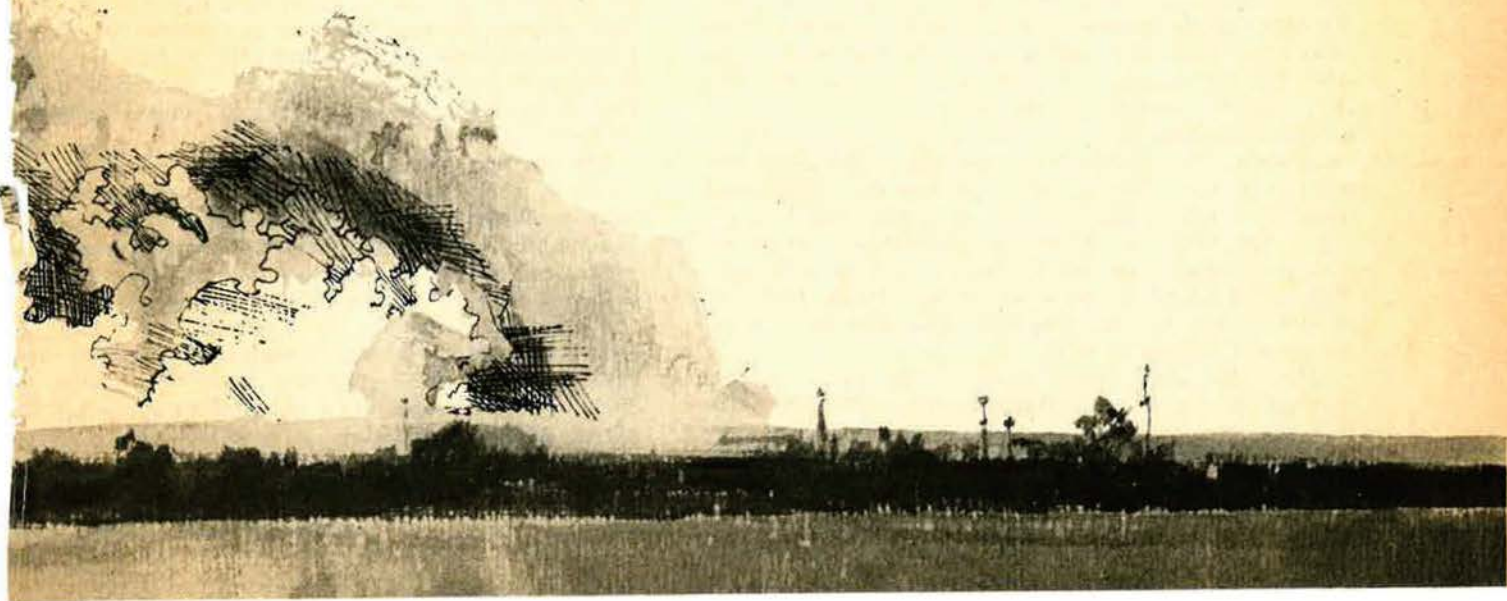
And it will reduce the cost per pound of transporting cargo to one-tenth what it costs today to get into space.

It's challenging a number of people's technology. Including our Convair Aerospace Division's.

At General Dynamics, we put technology to work solving problems from the bottom of the sea to outer space... and a good bit in between.

## **GENERAL DYNAMICS**

1 Rockefeller Plaza, New York, N.Y. 10020



# 1971 — Less Money, Fewer People, More Jobs

By John L. Frisbee

SENIOR EDITOR/PLANS AND POLICY

**T**HE year that has just closed was not the best of all years for the Air Force, nor was it the worst. There were some big pluses, like the go-ahead for engineering development of the F-15, B-1, and AWACS—projects long postponed but urgently needed to modernize the force. On the minus side, overall Air Force capability continued to deteriorate, as opposed to the rapidly expanding and modernizing Soviet air and rocket forces and their huge research and development program.

The year that lies ahead will not be another "Year of the Big Systems." Those that at least got off the blocks in 1970 are still five to seven years away from operational status. Authorization to proceed with prototype development of the A-X close-support aircraft (perhaps before 1971 dawns) looks reasonably sure. But there are no other major systems that are likely to get a green light in 1971.

Air Force capabilities, vis-à-vis their counterparts in the Soviet Union, will continue to deteriorate for several years to come. In that respect, 1971 will be "more of the same." In comparing force capabilities, one year flows into the next with no sudden break; the trends and events that shape defense structures are to a large extent either long-range or open-ended.

A few years ago, when the Air Force was younger and perhaps less statesmanlike, such a prognosis for the new year would have provoked considerable pessimism, if not anger. Today the mood is neither pessimistic nor optimistic. It is realistically sober. "Worst-case" planning is dead. The planners recognize what must be done to regain USAF's once substantial lead in military aerospace. They also know that what can be done with the funds available will fall far short of that minimum. And this fact, too, must be cranked into the plans.

The new year—the next four or five years, in fact—may involve risk taking to a degree unequaled in the last quarter century. We say "may" because the international situation could be cooled by an acceptable SALT agreement. NATO-Warsaw Pact negotiations could reduce the danger of conflict and the burden of arms on both sides. Settlements could be achieved in the Middle East and Southeast Asia. But the odds aren't good that any of these things will happen in 1971.

The odds aren't good because they hinge on the strength of the US negotiating position—and that position has weakened steadily over the past five years. Already the USSR has reached overall parity in strategic nuclear forces and numerical superiority in land-launched

missiles. The Soviets continue to modernize and expand their tactical air, airlift, naval, and army forces. Now, the Soviets are backed up at any bargaining table by very formidable military forces in being, and by a research and development base that is the broadest and thickest in the world.

The curves on the chart of comparative US-USSR total military capabilities are approaching the crossover point. When—or if—this happens, the United States and its allies will cross over into a new realm of experience for we have never before been confronted by a militarily superior Soviet Union, apparently still wedded to a policy of world domination. It's not a pleasant prospect.

Against this background, the portents for 1971 form a picture that is somber, but not yet desperate. The technological lead gained by the US in the 1950s and '60s hasn't quite run out; the well-seasoned professionalism of US military people is not equaled by any other major power; some steps toward at least minimum essential Air Force modernization have been taken. On balance, the US probably still has a narrow margin of operational superiority over the USSR, and the USAF over its Soviet counterparts.

In the near term, that margin will continue to shrink. Over the next several years, there will be some additional loss of Air Force operational effectiveness while, hopefully, weapon system development programs are translated into ready equipment to fill some widening gaps.

Closing the gaps would be difficult under the best of circumstances. It will be especially hard in a period of tight defense dollars. Secretary of Defense Melvin P. Laird recently told the Economic Club of New York that in dollars of constant Fiscal Year 1971 purchasing power the current defense budget is some \$17 billion below that of three years ago.

For the year ahead, the total defense budget may increase by perhaps one to three percent, with most of the increase absorbed by higher operating costs. Not to be ignored are the continuing pressures in Congress and elsewhere for still further reduction of the defense budget despite a deteriorating US defense posture.

Planners think that the Air Force share of defense appropriations may also decline slightly. Further personnel cuts are in the wind—probably close to an additional 30,000 military people and a like number of civilian employees. Some base closings, both at home and overseas, are inevitable. Wherever possible, technology will have to be substituted for manpower.

At present, about sixty percent of the Air Force budget goes to general support activities and forty percent to the strategic, tactical, and air mobility functions. These percentages must be reversed. Austerity programs and management innovations will help, but in the long run only adequate funding for advanced weapons will really solve that problem.

The Air Force outlook for 1971 can be summed up in three phrases—less money, fewer people, greater responsibilities. The array of immediate problems inspires awe. Southeast Asia demands will continue to drain Air Force resources. Vietnamization is ahead of schedule, and USAF forces in SEA have been reduced from 62,000 to about 45,000. But some Air Force units will be there for an indeterminate time, interdicting the supply routes through Laos and Cambodia, a job that must be done if Vietnamization is to succeed.

Other tactical air units must be kept at a high state of readiness, since they will play a dominant role in implementing the Nixon Doctrine. These are highly mobile, flexible, low-visibility forces, easily engaged and easily disengaged.

Air National Guard and Air Force Reserve units have to be reequipped, now that their range of responsibilities has been broadened to compensate for reduction of active-duty personnel, and to ready them for immediate availability in contingencies.

In addition to these and other problems, the Air Force will likely have a couple of roles-and-missions issues on its hands in 1971 as the Army reaches for its own close-support capability with the AH-56, and the Navy for a blue-water strategy that would put all US missiles at sea and pack off the Air Force bombers to the boneyard.

All of these issues are important, but they are only a sampling of 1971 fare. It seems to us, however, that two problems transcend all others in their immediacy. The first has to do with deterrence; the second with people.

Lacking assurance of acceptable arms-control agreements, and while waiting out the slow process of reequipping our strategic forces, the name of the game is, more than ever before, *deterrence*. When a nation's ability to fight successfully against an aggressor declines, the radius of its deterrent influence shortens, but the need to deter attack increases. All forces of every military service that do not contribute to deterrence need to be looked at with a critical eye.

Some modernization of strategic offensive forces is going forward with the slowed-down replacement of older Minuteman missiles by the MIRVed Minuteman III that carries three independently targeted warheads. Two wings of FB-111s are being added to SAC's bomber force, but these cannot make up for the reduction of B-52s and the phase-out of the B-58s. There are no plans for a near-term increase in either missile or bomber forces or for improving strategic defensive forces. Hence, for the next few years, the ability of the strategic offensive forces to survive an attack becomes crucial.

Standing high on the "do-now" list is improved survivability of the Minuteman force—the critical element of the Assured Destruction concept on which our deterrent structure must rest until wider options are added as the B-1 joins the force around 1977. Today, Minuteman is highly survivable—more so than the submarine-launched Polaris. At any given time, some forty percent of the Polaris submarine fleet is tied up in four known ports, presenting extremely soft targets. But Minuteman's present invulnerability can't be taken for granted in the future, when more than 450 Soviet SS-9 missiles could be

equipped with three five-megaton warheads apiece. That would make it a different game.

The order of priority for improving Minuteman survivability is: first, increased hardening of missile sites, using techniques developed during the Air Force's investigation of hard-rock silos. This can be started now. Next priority would be hard-point defense to supplement the Safeguard ABM system, and ultimately, missile mobility. The last two options aren't immediately available. The first is, and we believe it to be absolutely essential.

The Air Force's hardware problems are manageable, given the money—and the time. People problems cannot be so easily solved.

Today the Air Force is an "all-volunteer" service, with the highest average of professional competence in its history. How many younger Air Force people would have "volunteered" had it not been for the hot breath of the draft is a question. Low retention rates for first-term airmen and junior officers are evidence that too few volunteers want to make the Air Force a career.

It is all but certain that the Air Force, along with the other services, must soon become an all-volunteer force in the strictest sense of the term. It could happen this year if Congress fails to extend draft legislation beyond June first. Unless the Air Force career is made more attractive—especially for airmen—both the Regular service and the Reserve components may be in for deep trouble.

Better pay, better housing, and other amenities that money can buy are important career attractions, but the recruiting and retention problem goes deeper than that, and Air Force officials know it. The thousands of young people who have joined the Peace Corps, VISTA, and similar programs bear witness to the fact that intelligent, responsible young men and women are willing to make very real sacrifices of personal comfort and convenience for what they believe to be worthwhile goals. They expect to pursue those goals in an environment that includes informal personal relationships, a large measure of personal freedom, the exercise of initiative, the opportunity to use fully their abilities, and the respect of their peers. This combination of attitudes and attributes will never be completely attainable in a large, structured organization like the Air Force.

Nevertheless, the Air Force does have an obligation to adjust as closely as it can to the norms of the society it serves. And it *has* adjusted, more rapidly and more extensively than the other services. But there is a limit, not yet reached, beyond which adjustment cannot go. There is a point where "liberalization" becomes prejudicial to discipline and operational efficiency.

In mid-January, the Air Force Project Volunteer Working Group will submit its report on ways to improve recruitment and retention so that programmed force levels can be supported. We believe the Group will come up with some imaginative and enlightened recommendations. Indeed, it must, for Air Force leaders are faced with the need to create what many older officers and NCOs will consider a social revolution within the service—a revolution that threatens hard-earned personal status and the comfortable, traditional ways of doing things. There is bound to be internal resistance—emotional resistance, which is the hardest kind to combat.

Striking the best balance between "liberalization" and tradition will test the wisdom of Air Force leaders as severely as three wars have tested their courage and professional competence. This *is* a revolution, and revolutions are dangerous things. But it's a revolution that has to be won, or all of us will be the losers.—END



## Use of Defense Dollars

*Gentlemen:* I read with interest the Air Force Association's 1970-71 Statement of Policy.

The implication is that the weakening of the defense of the United States is a function of budgeting—and thus a function of the number of dollars allocated to the defense establishment.

No question is raised as to the manner in which the past dollars have been used. Is one to assume that the Association feels that good judgment and proper utilization of dollars have been exhibited in such programs as the F-111, the C-5, and some of the other programs?

If the Association does feel that some or many of these programs have been handled in a wasteful manner, is there any assurance that increasing the allocation of funds to the defense establishment will produce any greater defense capability? Or is it possible that with the present restriction of funds, the discipline of lack of funds will once again call for the program of "More Bang for the Buck"?

ROBERT KAHN  
Lafayette, Calif.

• *Of course there has been waste and mismanagement in the past and most notably in programs where the Air Force was ordered, by civil authority, to do what was done. But there still exist military requirements which must be met—as economically and efficiently as possible. We have yet to find an AF officer, or an AFA member, who is in favor of waste.*—THE EDITORS

## They Were There

*Gentlemen:* Please let your readers know that the Instrument Division of Lear Siegler, Inc., was at the 1970 AFA Convention in Washington and that we *did* hold briefings in our exhibit area.

I am sure you can understand our disappointment when reading your account of the Convention in the November issue of AIR FORCE/SPACE DIGEST we found that we were not even listed as being there in your "Roll of Honor."

Many thousands of attendees visited our booth and heard our briefings on Navigation Systems and Weapons Delivery Systems, and we had a full three-day schedule of briefings. In addition, our hospitality suite attracted a crowd every minute we were open.

Oh yes, we plan to exhibit and hold briefings in the 1971 show, too.

H. R. WALTON, Manager  
Product Information  
Lear Siegler, Inc.  
Instrument Division  
Grand Rapids, Mich.

• *The Exhibit Director, who provided us with the "Roll of Honor" listing, offers his apologies. He says that Lear Siegler, Inc., was present but inadvertently not counted. He also omitted IBM Office Products and Lord Manufacturing, which requested space within ten days of the event, and listed JetCraft and Fairchild Hiller, both of whom canceled just prior to the Exposition. He will do better in 1971.*

—THE EDITORS

## Effective Articles and a Citation

*Gentlemen:* I have distributed copies of the November issue to retrainees, staff, and Generals Simler, Montieth, and Wiedeman. I am happy to report that ["Where Airmen in Trouble Earn Second Chance," by William Leavitt] received many favorable comments from readers of every rank. It is indeed an outstanding article. I appreciate the fine representation given us through [Mr. Leavitt's] writing skill and knowledge. Congratulations on a job well done.

Two other articles in the November issue hit me right between the eyes. "Held Captive in Hanoi—An Ex-POW Tells How It Was," by Lt. Col. Norris M. Overly, and "The MIA/POW Campaign: 'We Have Not Reached Our Goal,'" by Maurice L. Lien.

As I read these articles, I felt great empathy with our prisoners. Then another sadness overtook me—the hell that the wives of these men are going through night and day. I thought if anyone deserves a medal or citation for courage and bravery, it is surely these brave wives, sweethearts, and mothers.

I wrote for my comrades in arms who are now prisoners, this citation to their loved ones:

### CITATION TO MY WIFE

"This Citation is presented to my wonderful wife . . . for many years of faithful duty in this Air Force life . . . duty as housekeeper, bookkeeper, consultant, chauffeur . . . child educator, interior decorator, doctor, and nurse . . .

around the world wherever we roam . . . you turn a house into a home . . . a castle where the cares of the day . . . somehow seem to melt away . . . always a source of inspiration . . . even during times of lonely separation . . . charming hostess, loving wife . . . patient mother, essence of life . . . for all these achievements and many more too . . . this Citation I present to you."

If it is worth passing on, please do; if not, it's just a thought shared by us.

MAJ. JOHN R. KLUTZ  
Assistant Chief, Ops & Trng  
Hq. 3320th Retraining Group  
(ATC)  
Lowry AFB, Colo.

## Thoughts From an Ex-POW

*Gentlemen:* Congratulations on "Held Captive in Hanoi—An Ex-POW Tells How It Was," by Lt. Col. Norris M. Overly, November issue. This type of direct, factual, personal reporting is the only way to break through the mass of verbiage that serves only to cloud the Vietnam POW situation and, in fact, our whole relationship with the Red world.

May a former POW—Japan—clarify a few things for some of your members? All POW camps are *not* the same. There may have been some in Europe which resembled the existence of "Hogan's Heroes," but very few. If you were a member of the Japanese POW camp (and the Japanese had *never* had previous experience with captive Caucasians), it was significantly different from being in a Stalag. (Statistically, whereas one percent of European POWs died in captivity, thirty-seven percent died under the Japanese.)

The effects on returnees seem significant since we are still dying at an obviously accelerated rate—perhaps a reflection of being POWs for an average of thirty-eight months, rather than the ten months of the average European POW.

Yet we speak in awe of the treatment of those held by the North Korean Reds! We know something of what we speak, and the stories from Korea made my flesh crawl.

Those poor men in North Vietnam! Under a completely sadistic regime, lacking the knowledge and understanding of the Japanese, scant though it was; lacking the basic sense of



dignity which was inherent in the Japanese soldier or officer; lacking any sense of responsibility except to the Communist leadership; capable of any torture as long as it is "for the Party."

The average American plays fair, expects others to play fair, believes what he hears people say, so he is most gullible when exposed to the double-talk of the Reds. And does not learn! Does not want to learn, because in learning, he would have to take another look at what some of his political leaders say to him. And the POWs suffer therefore! More pressure should bring more realization of the problem—and a better life for the POWs. Let's put the pressure on!

LT. COL. GARRY J. ANLOFF, JR.  
(RET.)

Carmel By The Sea, Calif.

### Retrainee Program

*Gentlemen:* Your article "Where Airmen in Trouble Earn A Second Chance," by William Leavitt [Nov. '70 AIR FORCE], was well received by both he staff and retrainee population. The article is truly an outstanding presentation and description of what we are attempting to do here in the Group. As you well know, we are asked daily for information about the mission of our unique organization. We feel that our article . . . best describes our program in a most interesting and informative manner. . . .

LT. COL. HUGH R. SHANNON  
Hq. 3320th Retraining Group  
(ATC)  
Lowry AFB, Colo.

*Gentlemen:* We would like to express our thanks for permission to reprint the fine article written by Mr. William Leavitt, entitled "USAF's 3320th Retraining Group—Where Airmen in Trouble Earn A Second Chance," which appeared in the November 1970 issue, for distribution to our General Court-Martial jurisdictions.

The article provides a concise, up-to-date review of the activities of the 3320th, which will be valuable to our JAGs in the field. Please convey our thanks to Mr. Leavitt for his outstanding work.

BRIG. GEN. MORTON J. GOLD  
Acting The Judge Advocate  
General, USAF  
Washington, D.C.

### Return to the Scene

*Gentlemen:* . . . A great deal of enjoyment and a touch of nostalgia greeted me upon reading your November issue. I know that I am dating myself by admitting this, however, in spite of the Space Age articles which grace your publication, when I see a

topic such as "Memories of Molesworth," by Lt. Col. Harold A. Susskind, or the cartoon "There I Was" portraying Mike Roscovitch. It makes an old-timer feel that he was a part of and perhaps a little value to the "old Air Force" at that. There must be others like myself.

Mike Roscovitch was with the 306th at Thurleigh, Bedfordshire, and started his tour of twenty-five ops in the fall of 1942, at the same time that I started. He was the first in the Eighth to finish the twenty-five required at that time. Mike was commissioned along with myself in the first group of four enlisted men as Gunnery Officers in July of 1943. He was later killed while taking off in a B-17 in Scotland, a tragic death for one who had survived twenty-five rough ones and, if my memory serves me correctly, eight additional missions after he was commissioned. These missions were on a voluntary basis, flying as radio operator, waist gunner, or wherever he was needed.

Instead of the traditional overseas cap that we normally wore, I can see the "Russian" with his fur Russki hat on as he cycled around the field. It was his custom, before takeoff, to cut off the tie of the pilot who was flying with him, regardless of rank. Generals were no exception. There was many a lead pilot flying with half of a tie, the other half of which was placed under a rock at the hardstand. When they returned, the other half was presented to the pilot, who was so glad to be back he was not going to do much complaining. Mike's biggest delight was in throwing the small practice bombs out of the radio hatch over the target and wondering what the expressions would be on the faces of the Germans looking these over after they fell.

It is a great thrill to revisit the old airfields through the Midlands of England, and I know how Colonel Susskind felt as he stood at the end of the old crumpled concrete runways, for I, also, had the opportunity recently. It is strange to see people living in the control towers with wash flying from lines on the roof.

One of the runways at Poddington is being used as a drag strip, and they are breeding maggots for the fishing industry on a commercial basis. This was the home of the 92d Bomb Group.

Thurleigh has been taken over by the Air Ministry and some of the old huts and the control tower are still standing. One of the old farmers told me that every spring, while planting, he plows up .50-caliber shells and brass that no doubt were dumped over to lighten the load while trying to make it back. This was in the vicinity of

Grafton Underwood, which was the home of the 384th Bomb Group, outside of Kettering.

Again, may I say that your magazine is enjoyed immensely, more especially when articles such as these are published, whether they be relating to B-17s or B-24s (we will not go into the merits of each at this time).

HAROLD F. LIGHTBOWN  
Boston, Mass.

### Late Notices

*Gentlemen:* In your "Airmail" section were listed two reunions which would have been difficult for anyone concerned to attend, as one was past and the other was going on at the time of arrival of the magazine.

Neither concerned me, but, with a reunion for my World War II outfit being planned, it would be a shame if I, or any other former member of our group, missed a reunion due to a communications lag.

Couldn't you put a message in your column reminding planners that the message in time is as important as the planning?

FRANK P. HANSEN  
Port Jervis, N.Y.

• *Those two notices arrived too late to make our October closing. They were run in November so that interested persons would at least have someone to touch base with to get on the list for future reunions. Reunion notices should reach this office eight weeks prior to the issue in which they are to appear. In future, we will run a little "reminder" box every few months.—THE EDITORS*

### UNIT REUNIONS

#### 20th Air Force

The Second Annual Pacific Reunion Tour of the Marianas, Japan, and Hawaii will be held in the summer of 1971. All Air Force veterans are eligible. For details contact

Richard M. Keenan  
4465 MacArthur Blvd., Suite 8  
Washington, D. C. 20007

#### 12th Bombardment Group

A thirtieth anniversary reunion of the 12th Bombardment Group "Earthquakers" of WW II will be held June 24-27, 1971, at the Sheraton-Dayton Hotel, Dayton, Ohio. Men who served with this group and are not on the mailing list contact

Thomas B. Reid  
3317 Braddock St.  
Kettering, Ohio 45420

#### 343d Fighter Sqdn.

A twenty-fifth anniversary reunion of the 343d Fighter Squadron will be held at Topeka, Kan., on August 21, 1971. Contact

O. L. (Bud) Daugherty  
P. O. Box 479  
Topeka, Kan. 66601



By **Claude Witze**

SENIOR EDITOR, AIR FORCE MAGAZINE

## Reasons for a POW Raid

WASHINGTON, D.C., DEC. 8

It is late, by this time, to rehash details of the US raid on a prisoner of war camp at Sontay, North Vietnam. The Pentagon press conference at which Defense Secretary Melvin R. Laird disclosed the details on November 23 was a crowded one, with a tense air. Not a reporter present knew what to expect. Earlier in the day, at the routine 11:00 a.m. press briefing, the customary spokesman had refused to answer questions about any American activity above the nineteenth parallel. Hanoi Radio had said there were strikes in the Hanoi-Haiphong area over the previous weekend. It was not possible to get any comment, and the press corps was not silent about its dissatisfaction. Later, it was announced that Mr. Laird would meet the press again at 3:30 p.m.

He entered the conference a few minutes late, accompanied by Brig. Gen. LeRoy J. Manor, commander of USAF's Special Operations Force (USAFSOF), part of the Tactical Air Command, and Col. Arthur D. Simons, from the Army's Fort Bragg, N.C., on temporary duty as Deputy Commander, Joint Contingency Task Group Ivory Coast.

"Ladies and gentlemen," said Mr. Laird, "I want to give you now the details of the only operation that took place north of the nineteenth parallel this past weekend."



President Nixon pins Distinguished Service Medal on Brig. Gen. LeRoy J. Manor, USAF, in charge of the Sontay raid. Team members in background are TSgt. LeRoy M. Wright, USAF, SFC Tyrone J. Adderly, USA, and Col. Arthur D. Simons, USA, who led the actual raid.

—Wide World Photos

He did. General Manor, who was in command of the operation, and Colonel Simons, who led the team in its futile search, were allowed to answer questions. It was not until a few days later that all the details came out, of the months of rehearsal at Eglin AFB, where a replica of the Sontay camp was built, of the size of the commando force—about fifty Green Beret volunteers—and of the air cover provided for the helicopters. It was the kind of operation that never is routine, but has been done before many times, particularly in World War II.

Almost as astounding as the news of the raid was the loud repercussion on Capitol Hill. Sen. J. William Fulbright, chairman of the Foreign Rela-

tions Committee, was distressed for fear we were not being nice to Hanoi. "It certainly is a very provocative act to mount a physical invasion," he said. "It may lead to other things—who knows?" The next day, bare twenty-four hours after the Pentagon disclosure, Senator Fulbright had Mr. Laird before his committee and the cameras, for a televised quiz that ran more than two hours. The Senator, who laments publicly that the White House can command television time when the President wants it, put on a show that was not unlike his previous productions, featuring Dean Rusk, who was Secretary of State in the previous Administration. Like Mr. Rusk, the Defense Secretary stood up to be counted. Out of the hearing came an expression of Mr. Laird's determination to do something about the prisoners of war. Chairman Fulbright and some of his colleagues displayed concern that Hanoi would be irritated and the nonproductive Paris peace negotiations jeopardized.

It was about a week before the reply came from Ambassador David K. E. Bruce in Paris. "The truth is, Mr. Bruce declared, "that the other side has failed in virtually every respect to treat our prisoners of war decently, or in accordance with internationally accepted standards of civilized behavior." There is no evidence that Mr. Fulbright, in his deep concern about Hanoi's sensitivities, even has acknowledged this fact.

Mr. Bruce said Americans still are dying in captivity, some of them known to have been alive in North

Defense Secretary Laird appears on Capitol Hill to show picture of a model of POW camp near Hanoi. He faced hot questioning from Senate Foreign Relations Committee.



—Wide World Photos

Vietnam after being shot down. We have no information on how or when they died. Mr. Bruce continued:

"If the record is bad enough concerning our men captured or missing in North Vietnam, it is even worse in regard to those captured or missing in South Vietnam and Laos. Except for a few propaganda broadcasts, we have never had any information from any source whatever on the fate of these men. Over all these years exactly one letter has been received from a person in this category. We know that several prisoners in South Vietnam have been murdered, and we fear for the fate of many others.

"It is clear that the other side has deliberately chosen to flout their international legal obligations under the 1949 Geneva Convention, and their moral and humanitarian obligations to the prisoners and their families. They have chosen to try to use these men, and our deep concern for them, as bargaining pawns to achieve their political objectives. This is unconscionable and unacceptable. It is inhumane to the prisoners themselves. It is also inhumane to their families."

The Ambassador listed thirteen types of North Vietnamese violations of the Geneva Convention, none of which has attracted the attention of Mr. Fulbright. These violations include torture, solitary confinement, the concealment of POW camps, insufficient food and medical care, lack of mail and parcel delivery, no release of the sick and wounded, no release of names of POWs, and no inspection of POW camps by the International Red Cross.

Mr. Bruce said the North Vietnamese consistently refuse to discuss the issue at the Paris talks. This is despite a US offer by President Nixon to release more than 36,000 Communist prisoners in return for fewer than 5,000 US and South Vietnamese prisoners held by the other side. "They show no concern for their own men, and flout our concern for ours," the Ambassador said.

The North Vietnamese argue that the Americans in their custody are not prisoners of war, but "war criminals." It is a distinction not recognized by the Geneva Convention, or by the United Nations. Mr. Fulbright has not expressed his opinion. He did block Senate approval of a resolution commending the Sontay Camp raiders for their exploit. The resolution had been introduced by Sen. Robert Dole of Kansas and cosponsored by one-third of the Senate. Unanimous consent was required, but the Arkansas Senator would not give consent. He said he was "just too skeptical about this whole operation." Yesterday the House adopted a similar resolution. The vote was 347 to 15.

### The Budget on Deadline

As we go to press, final action on the Fiscal 1971 Pentagon budget is imminent. There will be some compromises between the House and Senate, in conference, and there will be another floor debate. From the record, it appears that critics of defense spending have been forced to shift their guns, for the most part, from firing aimed shots at specific weapons

to a barrage designed to alter basic policy. They have not done well trying to stop the Army's ABM and USAF's B-1 bomber; the debate probably will center on Southeast Asia, overseas commitments, arms control, and the volunteer army.

Newest version of the Defense Appropriations Bill came last week from the Senate Committee on Appropriations, which recommended a fund of \$66.4 billion, which is \$2.3 billion less than the Administration estimate and \$389.5 million under the amount recommended by the House. It will be necessary to provide another \$1.6 billion to meet the cost of pay increases already in effect for military and civilian personnel. With this considered, the new bill is about \$4.6 billion under the Fiscal 1970 appropriation.

In its differences with the House of Representatives, the Senate Appropriations Committee has disallowed \$653.9 million, added in the lower chamber for programs not requested by the Administration. That figure includes \$417.5 million for additional ships for the Navy. The Senate committee refused flatly to recommend any appropriation not included in the budget as drafted by the President.

The committee did not say there is no hope for these items; if they are submitted as supplemental requests, they will get prompt attention.

For the Air Force's aircraft-procurement program, the committee favors an appropriation of \$3.2 billion—\$113.6 million less than the budget estimate and \$1.7 million less than  
(Continued on following page)

## SUMMARY OF BILL BY MAJOR CATEGORIES

Functional title	Budget estimate, Fiscal Year 1971 (new budget obligational authority)	Amount recommended by Senate committee	Difference from budget estimates, 1971
Title I—Military personnel	\$21,032,800,000	\$20,778,575,000	—\$ 254,225,000
Title II—Retired military personnel	3,194,000,000	3,194,000,000	—
Title III—Operation and maintenance	19,512,045,000	19,211,671,000	— 300,374,000
Title IV—Procurement	17,358,600,000	15,970,110,000	— 1,388,490,000
Title V—Research, development, test, and evaluation	7,345,600,000	6,960,100,000	— 385,500,000
Title VI—Combat readiness, South Vietnamese Forces	300,000,000	300,000,000	—
Title VII—Special foreign currency program	2,621,000	2,621,000	—
<b>Total, Department of Defense</b>	<b>\$68,745,666,000</b>	<b>\$66,417,077,000</b>	<b>—\$2,328,589,000</b>
Distribution by organizational component:			
Army	\$20,210,665,000	\$19,619,452,000	—\$ 591,213,000
Navy	21,200,700,000	20,288,503,000	— 912,197,000
Air Force	22,055,600,000	21,301,561,000	— 754,039,000
Defense agencies/OSD	2,084,701,000	2,013,561,000	— 71,140,000
Retired military personnel	3,194,000,000	3,194,000,000	—
<b>Total, Department of Defense</b>	<b>\$68,745,666,000</b>	<b>\$66,417,077,000</b>	<b>—\$2,328,589,000</b>

the House recommendation. In Fiscal 1970, the appropriation was \$3.4 billion.

For the procurement of missiles, the committee recommends an Air Force appropriation of \$1.4 billion. This is \$150.2 million less than requested, but it is \$8.1 million more than the House allowance.

In a third category, providing for the procurement of such items as munitions, vehicles, electronic gear, and support equipment, an appropriation of \$1.3 billion is recommended. This is \$144.5 million less than requested and \$36.1 million under the House allowance.

Shifting to Research, Development, Test, and Evaluation, the committee allocates to the Air Force a little more than \$2.7 billion. Last year USAF had \$3.1 billion for this purpose. The Fiscal 1971 recommendation would be \$164.9 million less than requested, but still is \$43.7 million more than the House would allow.

While it is impossible to forecast the outcome of the House-Senate conference over these differences, the reports of the Senate and House Appropriation Committees do bring out a couple of major issues. One, of course, is the Navy's ship program. The House Armed Services Committee, headed by Rep. L. Mendel Rivers, is eager to expand the floating fleet, but it can only authorize, it cannot appropriate, the funding. That committee authorized \$435 million more for ships at sea than the budget requested. The House Appropriations Committee cut this to \$417.5 million. Disallowed by the Senate Appropriations Committee, some compromise will have to be found.

Of more interest to USAF are the arguments surrounding the AV-8A Harrier VTOL aircraft for the Marines. When the House Appropriations Committee studied this area, it came up with a challenge to the Defense Department. The Pentagon must make up its mind, the House group said, among the Harrier, the USAF A-X close-support fighter, and the Army's AH-56 Cheyenne helicopter gunship. Development funding was continued, but the committee indicated it would not endorse procurement for all three systems. This decision, of course, would force the Pentagon to reopen the entire question of roles and missions, a can of worms not popular with any of the services.

Further, the House committee said, the idea of building the Harrier, a British airplane, in the United States, raises questions about the price. It

can be built cheaper in England. The Senate Appropriations Committee took up the argument. This report favors the restoration of \$32.2 million to the Harrier program, a sum that was deleted by the House from the total budget request of \$96.2 million. The reason is that the Senate group wants to guarantee that, if the Marines buy a production quantity, the aircraft will be built by McDonnell Douglas in St. Louis, Mo.

The Senate committee argues that an increase in the program cost of \$238.5 million—the House committee's figure—is not valid. It says the sum should be \$109.9 million. And, further, that the money would be well spent. It argues that Uncle Sam will get \$184 million back in taxes, that it is in the national interest to produce a VTOL aircraft in this country, that the program will benefit the balance of payments, provide 4,300 jobs, and ensure a responsive support system without reliance on foreign sources. Then, it says:

"The [Senate Appropriations] committee is in accord with the position of the House committee that the AV-8A Harrier aircraft should be considered in the various pending studies on the requirements for close-air-support aircraft. However, it is the view of the committee that the Marine Corps's approved plan for the procurement of 114 of these aircraft for three operational squadrons is in no way contingent upon the result of these studies."

Another rub is possible over the International Fighter aircraft, or Freedom Fighter. The House approved a request for \$30 million, while the competition still was under way. It was won by Northrop with its F-5-21, an award that was announced on November 20. Still, the Senate committee would disallow the \$30 million. It has a double-barreled argument. First, the \$28 million provided for this purpose in the Fiscal 1970 budget has not been obligated. Secondly, the Secretary of Defense has failed to meet a request of the committee, which asked him to provide an explanation of his decision, if he proceeded to procurement of the airplane. Now, it says, its turn-down is based "on a total lack of information on the program." It is a failing that can be remedied. The Pentagon will argue that the entire \$58 million, from the two budgets, is required at once.

The Air Force's Minuteman program receives strong support in the Senate report. The House had cut \$50 million from a request for \$77 million

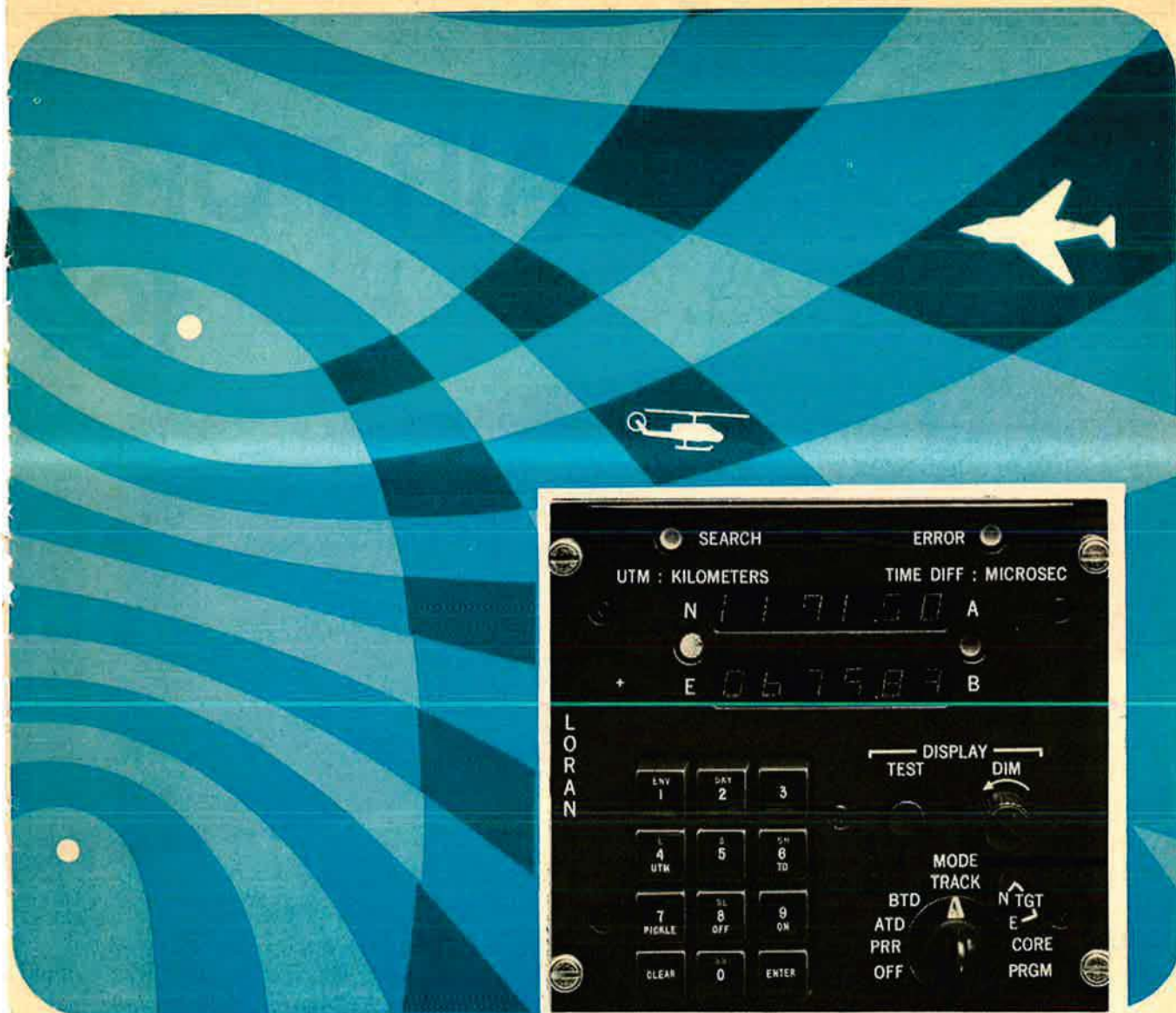
for the rebasing program and the Senate committee would restore \$34 million of that money. It argues that this much is needed if USAF is to come up this year with a sound proposal to add mobility or hard-point defense to the Minuteman silos. Another Minuteman item is the proposal for a launch from an operational base to prove the system works. The House frowned on that, and cut out a request to pay for it, consisting of \$19.8 million in R&D funds and \$3.2 million from the procurement category. The Senate committee would restore these requests. It says the test is in the national interest.

At another point, the House cut \$23.5 million out of a request for \$87 million for the USAF Airborne Warning and Control System (AWACS). The Senate would restore it, pleading that the Air Force already has signed contracts based on the assumption that the money will be available. The same kind of action is recommended for USAF's Short Range Attack Missile (SRAM), the F-111 program, and the Subsonic Cruise Armed Decoy (SCAD).

The Senate Defense Appropriations Subcommittee has three ex-officio members assigned to this duty from the Armed Services Committee. They are Democrats Stuart Symington of Missouri, Henry M. Jackson of Washington, and, for the Republicans, Strom Thurmond of South Carolina. It is the latter, alone, who has spoken up about the significance of the defense debate as the Old Year turns into the New. The United States, Mr. Thurmond says, must "reverse its fiscal priorities if it hopes to maintain its strength in relation to the Soviet military threat."

He says the people who talk about reversing priorities by cutting on defense and increasing welfare budgets are not looking at the facts. The Senator continues:

"The facts are that defense spending has been cut drastically since 1952. The defense share of the federal budget fell from sixty-six percent in 1952 to 34.6 percent for Fiscal 1971. Defense's share of the gross national product fell from 13.6 percent in 1952 to seven percent today. Thus, in comparing a period in which we were in the late stages of the Korean War with a period in which we are in the late stages of the Vietnam War, we see that our defense effort has been cut in half. . . . It is apparent, then, that the trend toward ballooning welfare expenses has caused us to neglect our military preparedness. . . ."—END



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By William P. Schlitz

NEWS EDITOR, AIR FORCE MAGAZINE

WASHINGTON, D.C., DEC. 10

Late in November, the Air Force selected Northrop Corp., Hawthorne, Calif., to build the International Fighter Aircraft (IFA), which is to enable the US's Asian allies to cope with the increasing number of Soviet-supplied Mach 2-plus MIG-21s entering the inventories of the Red Chinese, North Vietnamese, and North Korean air forces, among others.

According to earlier congressional testimony, as many as 325 International Fighters may be procured in the years ahead. The initial funding obligation under the fixed-price incentive contract, announced by the Air Force at the time of the award, was \$21 million and covers only start-up of the program and procurement of certain long-lead-time hardware.

Further allocations and the actual number of aircraft to be procured will be subject to "annual congressional review and approval." The Air Force originally planned to award the contract on a noncompetitive, single-source basis but changed to a competitive approach under congressional urging.

The Northrop design, which edged out McDonnell Douglas Corp., LTV Aerospace Corp., and Lockheed Aircraft Corp., is known as the F-5-21, an uprated version of the Northrop F-5 currently in the inventory of fifteen foreign air forces. It will be powered by an improved version of the F-5's engine, the GE J85, of which more than 9,000 have been built. The IFA's engine has been designated the J85-21 and produces 5,000 pounds of thrust.

Detailed performance features of the new aircraft were not released because of security considerations, but the F-5-21 is believed to be in the Mach 1.6 range.

In announcing the contract award, Air Force Secretary Robert C. Seamans, Jr., stated: "I believe it is important for me to mention that General Ryan, Chief of Staff, USAF, originally recommended, from an operational point of view, a more expensive aircraft. He believed that the additional capability inherent in another proposal would have provided additional insurance against the possible growth of the enemy threats. I

agree with his basic judgment; however, I believed I had to choose the lowest cost aircraft that would do the job, and the data and analyses of our evaluation demonstrated that the F-5-21 can satisfactorily perform the basic tasks as we set them forth in the RFP."



On December 3 the United States Senate rejected the Nixon Administration's request for \$290 million to continue work on this country's supersonic transport.

By a 52-to-41 vote, the Senate passed an amendment by Sen. William Proxmire (D-Wis.) cutting funds for development of the SST out of the Department of Transportation's \$2.7 billion funding bill.

If no accord can be reached between the House and Senate, there will be no further development of the SST. The government has already invested \$708 million in the project.

Following the Senate vote, Secretary of Transportation John A. Volpe announced that the Administration will "most assuredly" seek restoration of the appropriation. He added that the Proxmire amendment could lead to the loss of the US's leadership in

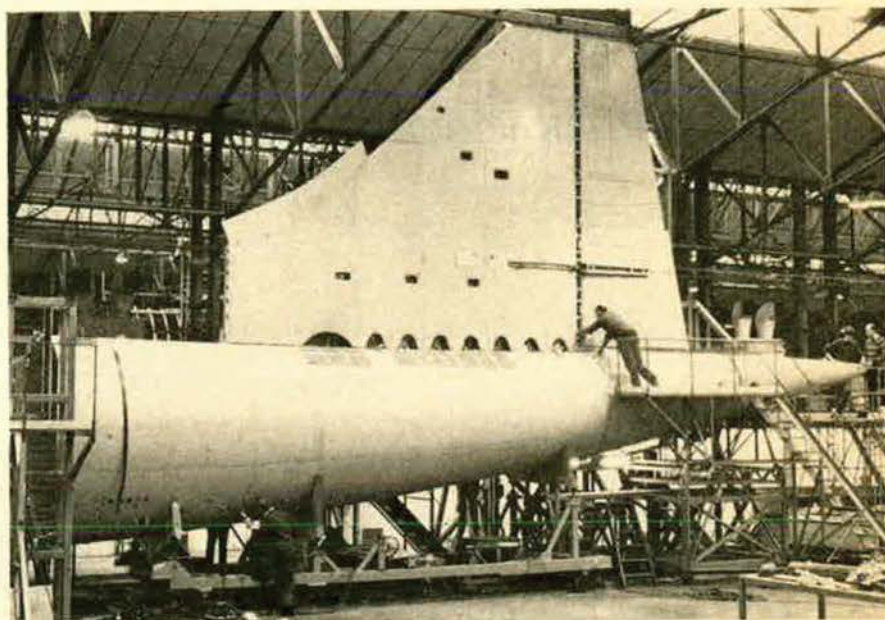
world aviation, to a further decline of the aerospace industry, and loss of some \$50 billion in the gross national product. The Air Force Association, at its 1970 National Convention, passed a policy resolution urging the Congress to authorize, "without further delay, a full-scale American SST prototype construction program leading to an actual production aircraft to retain this nation's aeronautical lead in the decades to come."

Citing the advanced development states of both the British-French Concorde and the Soviet TU-144 supersonic transports, along with the "direct and indirect" advantages to the national security of this country resulting from such a technologically advanced aircraft program, AFA's policy resolution termed the SST program "vital to the national interest."

According to press reports from Paris, the French aircraft industry viewed the Senate action as "a boon to the Concorde."



The blip on the radarscope was unidentified, so two USAF F-4 Phantoms from Homestead AFB, Fla.,



A production-model SST Concorde shapes up at British Aircraft Corp.'s Weybridge plant. (See story above for recent action on the US's SST program.)





USAF adviser Lt. Col. Garold A. Hyde and VNAF Lt. Col. Thai Ba Da inspect an A-37 Minigun. Colonel Hyde has flown more than 200 missions with the VNAF.

scrambled to intercept the mysterious aircraft heading in toward Miami.

And what to their wondering eyes should appear: an ancient ex-Luftwaffe JU-52 transport flapping along at about 100 mph.

George Hamilton, pilot of the rejuvenated trimotor relic from World War II, wasn't concerned when the supersonic fighters swept up to investigate: "I just waved."

Seems that Hamilton and copilot Gregory Tompkins were ferrying the old craft up from South America to its American owner in the US when the JU-52's radio equipment failed as it approached the North American Defense Zone.



Already plagued by budget cuts and reduced political backing, the US space effort has suffered two major project failures in recent weeks. In early November, a costly new Air Force-launched early-warning satellite (that would have expanded missile-attack alert time to about a half hour from the present fifteen minutes) failed to arrive in its designed stationary orbit some 23,000 miles over the Pacific.

The warning satellite is performing part of its mission in the orbit it did attain but is able to spot missile firings in Red China and the Soviet Union only during a third of the time it's in orbit. The military-satellite failure was followed late in the same month by failure of a multi-million-dollar NASA Stargazer unmanned space-telescope mission.

The Stargazer was successfully launched, but the nose cone failed to

separate as scheduled and the booster had to lift an extra 2,000 pounds into space—too heavy a load to achieve orbit. The satellite fell back to earth and burned on reentry.



After a hard-fought contest, five major awards went to the winners of

SAC's recent Aircraft Combat Competition at McCoy AFB, Fla., the Command's 17th "World Series of Bombing."

The event's top award—the Fairchild Trophy—was taken by the 93d Bomb Wing, Castle AFB, Calif. The unit's bomber and tanker aircraft rolled up 1,325 points of a possible 1,650.

The Navigation Trophy was garnered by the 5th Bomb Wing, Minot AFB, N.D.; its team competed against fifty-five other aircrews and racked up 332 of a possible 350 points.

The 340th Bomb Group, Carswell AFB, Tex., was tops to win the Bombing Trophy. The swingwing FB-111A unit scored 685 of a possible 800 points to triumph over the competing B-52 and UK Vulcan II bomber units.

Winning the air-refueling award—the Saunders Trophy—was Altus AFB, Okla.'s KC-135 Stratotanker unit, the 11th Air Refueling Squadron. The 11th totaled up 438 points of a possible 500.

A new award—the Mathis Trophy—was won by the 5th Bomb Wing, Minot AFB, N.D., with a score of 953 points out of a possible 1,150. Sponsored by the AFA, the trophy is in honor of Lt. Jack Mathis, a B-17 bombardier and Medal of Honor recipient who died at his bombsight in  
*(Continued on following page)*

An Atlas-Centaur booster lifts off its pad at Cape Kennedy with the object of orbiting a NASA Stargazer unmanned space telescope. The nose cone failed to separate, and the added weight caused the vehicle to fall back and burn up in the atmosphere, a costly failure. Stargazer, which was to have studied stars, nebulae, galaxies, and space dust, had been the biggest space eye to date.



—Wide World Photos



—Wide World Photos

Army Col. Arthur D. Simons, left, reports on the mission he led to rescue US servicemen held prisoner near Hanoi. With him, from left, are Defense Secretary Melvin R. Laird; Adm. Thomas H. Moorer, Chairman of the Joint Chiefs of Staff; and USAF Brig. Gen. LeRoy J. Manor, in overall charge of the operation. (For a discussion of the mission, see "Airpower in the News" on page 8.)

a raid over Germany in World War II.



As has been reported in these pages from time to time, the nations of Europe are inching toward unity in a series of cooperative ventures in space and aeronautics.

Now, seven European companies have agreed to collaborate through a new consortium in the field of international satellite programs.

The capabilities of the companies joining the new organization extend through the entire range of aerospace, telecommunications, and electronic systems technology. The group has the most significant potential for space activity of any outside the US, most experts agree.

The members of the consortium are Marconi Space and Defense Systems, Ltd., of the United Kingdom; Etudes Techniques et Constructions Aérospatiales (ETCA) of Belgium; Société Nationale Industrielle Aérospatiale (SNIAS) and Société Anonyme de Telecommunications (SAT) of France; Messerschmitt-Bölkow-Blohm GmbH (MBB) and Siemens A.G. from Germany; and Selenia SpA of Italy.

The new consortium may be an important building block in the eventual creation of a NASA-type organization involving much of Europe.



A new specialized Air Force study course is set to begin in January—the Military Assistance Advisory Course. To be instituted at the USAF Special Operations School, Hurlburt

Field, Fla., the formal objective of the course is "to prepare selected USAF officers with the basic knowledge required for effective execution of military assistance duties."

Col. Charles E. Pope, Commandant of the school, said that, in view of the Nixon doctrine, the role of military assistance in the spectrum of foreign policy and national security has grown significantly. Through the military assistance furnished by the US, allied and friendly armed forces can

contribute in a positive way to their own national and common defense, and thereby decrease the potential for US involvement.

The two-week course, scheduled four times a year, is designed to provide a USAF officer preparing for a military assistance assignment with a fundamental understanding of the US's military assistance program and policies regarding foreign military sales; a familiarity with his prospective duty station's geographical area; and the professional touches required of a United States adviser to an ally.



The Air Force also plans to initiate a specialized program of clinical training next July to qualify Air Force enlisted medical technicians as physicians' assistants.

Under the program, classes of 100 airmen will attend the Air Force Medical Service School, Sheppard AFB, Tex., for several months of the specialized instruction. This is to be followed by intensified study at other Air Force medical centers.

A complete curriculum and job description are currently being assembled to cover the new career field.

Generally, the physicians' helpers would relieve Air Force doctors of time-consuming but routine medical chores, such as suturing wounds and lacerations, applying and removing casts and dressings, and performing medical histories and physical exam-

(Continued on page 18)



Starving survivors of the recent cyclone in the Bay of Bengal scramble for food in Char Chubdia, East Pakistan, as a US Army helicopter drops supplies. After previous helicopters with food were mobbed on landing, the relief helicopters resorted to dropping the supplies. One of the most awesome natural disasters in history, the storm took the lives of untold thousands and left many of the survivors homeless.

—Wide World Photos

# Gen. Thomas S. Power—1905-1970

Gen. Thomas S. Power: a great airman, a great combat leader, one of the men who built the postwar Air Force.



General Power, a pilot and missileman, headed Air Research and Development Command while missiles were in development. The missiles went operational under his command at SAC.

Gen. Thomas S. Power, retired Commander of the Strategic Air Command, died in Palm Springs, Calif., on December 6, of a heart ailment.

General Power led SAC from 1957 to 1964. It was his last assignment in a remarkable Air Force career that dated back through the war years to the stick-and-rudder days of the late '20s.

Born in 1905, General Power lived at Great Neck, N.Y., where he was influenced by the aviation pioneering taking place at Long Island airports. He graduated from the Army Air Corps Flying School in 1929.

During World War II, he first served in England and North Africa as Deputy Commander of the 303d Bomb Wing, followed by an assignment on Guam as Commander of the 314th Bomb Wing. He was Chief of Staff to Gen. Curtis E. LeMay, who commanded B-29 operations from the Marianas.

The two generals were part of a team of top planners preparing the atom-bomb attacks on Hiroshima and Nagasaki. During the firebombing of Tokyo, General Power spent more than two hours over the burning city, photographing the devastating effects of the incendiary raid.

Following the war, General Power served as Deputy Air Commander for the Bikini nuclear bomb tests and also pulled tours at the Pentagon and as air attaché in London.

From 1948 to 1954, General Power served as Deputy Commander of SAC, under General LeMay, and then as Commander of the Air Research and Development Command, charged with a rush program to prepare missiles and launch sites for SAC. Before retirement in 1964, he was to see SAC become the most powerful military force in history.

General Power, known as a spit-and-polish commander in the traditional ramrod-straight manner, also piloted every type of military aircraft from the early trainers to advanced jet bombers. He was awarded many decorations, including the Distinguished Service Medal, the Silver Star, and the Legion of Merit.

On retirement, General Power was named board chairman of Schick, Inc., and was a company director at the time of death. He leaves a wife and a sister.

General Power was buried with full military honors at Arlington National Cemetery.



President Johnson awarded General Power the Distinguished Service Medal when the General retired in November 1964, after heading SAC for some seven years.



While still at ARDC, General Power test-flew one of the early production model B-52s, backbone of the bomber force he later directed as SAC's Commander in Chief.



A Hawker Siddeley V/STOL Harrier in US Marine Corps markings struts its stuff while toting 8,000-pound bomb load. Deliveries of the V/STOL begin in 1971.



US Navy and USAF Aerospace Defense Command pilots discuss the action in a joint ADC/Navy training program involving mock air battles between Navy's F-4J Phantom II and ADC's F-106. Sharpened combat flying is the objective.

inations. The object is better use of medical manpower.

The physicians' assistant program and other programs of its type involving nursing and dental care in the Air Force are the subject of a current study by the Department of Defense to determine applicability to the medical departments of all the three services.



The Department of Transportation announced that the 1972 US Interna-

tional Transportation Exposition would be held at Dulles International Airport from Saturday, May 27, through Sunday, June 4.

This nine-day period includes two weekends, one of which is the three-day Memorial Day weekend. This time span was selected after a thorough analysis of weather potential, hotel accommodations, and expected number of visitors in the Washington, D.C., area. There are no conflicting events scheduled for anywhere else in the world at that time.

FAA Administrator John H. Shaffer said that "the exposition will spotlight America's leadership role in aviation and space as well as other advanced transportation systems." He estimated that the exposition would draw more than a million visitors to its 500-plus exhibits.

Dulles International, run by the FAA, was picked as the exposition site because of its model terminal facility, abundant acreage to house indoor and outdoor exhibits, and parking. Dulles is so equipped that normal airport operations can be conducted simultaneously with the exposition.



The US has invited the member states of the International Civil Aviation Organization (ICAO) to a meeting on international air transport security to take place January 11, 12, and 13 in Washington.

According to the FAA, participants will investigate the establishment of machinery to exchange information on security methods and research and development activities related to anti-hijacking devices, as well as channels of communication among law enforcement agencies to exchange information on threatened acts of hijacking or sabotage.

The meeting stems from President Nixon's call in September for a stepped-up program to contend with air piracy. He ordered specifically that US governmental agencies consult with foreign governments and carriers on the entire scope of techniques possible to foil future sky-jacking.



This winter season the Air Force plans again to keep a weather eye peeled for storms and hurricanes that threaten the Atlantic seaboard.

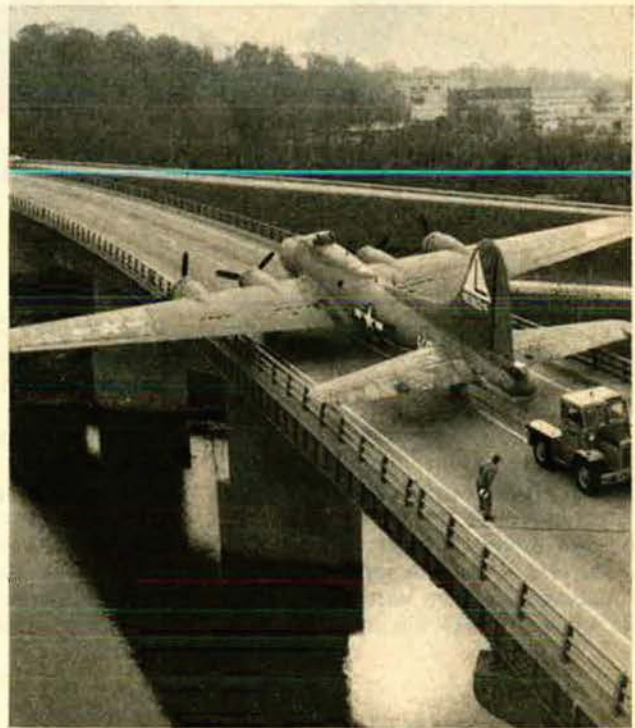
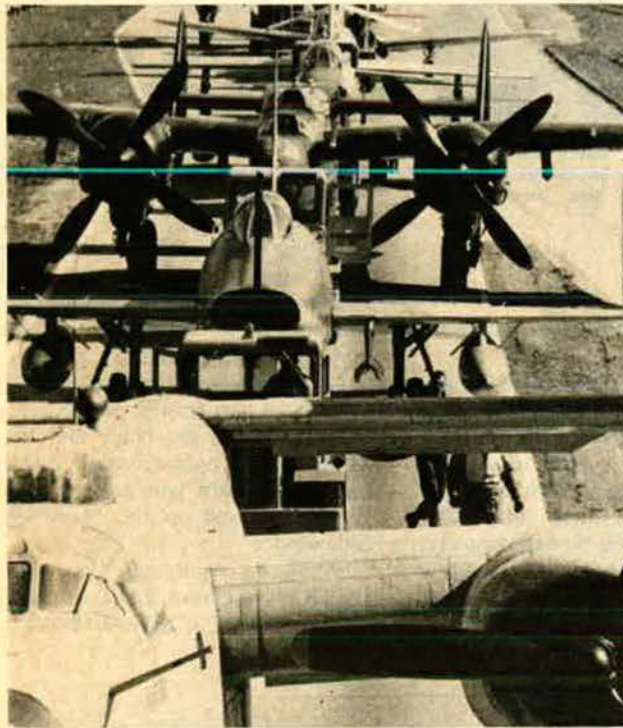
Through March, aircrews of the 53d Weather Reconnaissance Squadron, Ramey AFB, P.R., will fly daily overwater missions from US bases in the southeast to observe weather conditions. The 53d, part of the MAC's Air Weather Service, has been doing this job over the last twenty-six years.

The information gathered on flights over the Atlantic-Caribbean-Gulf region, plus data from other governmental agencies, is important to the National Weather Service in determining what storms will hit where along the Atlantic coast from northern Florida to Maine.

Accurate forecasts have been in-  
(Continued on page 20)

## THE AIR FORCE MUSEUM—ON THE ROAD TO A NEW HOME

*A truly gargantuan task confronted the folks of the Air Force Museum, Wright-Patterson AFB, Ohio, when they began moving into a new home at Wright Field. Imagine the planning involved in trundling a 100-ton XB-70 (left) along several miles of highway—and over the Mad River bridge to boot! Among the thirty-odd aircraft making the journey are depicted here such old favorites as the B-17 (immediately below), a B-29 Superfortress (bottom left), and the unique twin-bodied F-82 Mustang (bottom right). The Museum's new quarters are scheduled to open to the public sometime this year. The Air Force Museum, regarded as the world's oldest and largest military aviation museum, has been the subject of a \$6 million fund-raising campaign. It has been drawing more than 600,000 visitors annually.*





Reflecting the complexity of USAF's C-5 transport is just this one control panel onboard. Switches, gauges, and dials monitor such subsystems as fuel and oil, hydraulics, pneumatics, and electrical circuits in the huge craft.

strumental in saving untold lives and property in years past.



Details remain sketchy concerning the recent nighttime collision in the eastern Mediterranean between a Soviet destroyer of the *Kotlin* class and Britain's aircraft carrier *Ark Royal*.

The *Ark Royal* was reported slightly damaged on her port bow, while the Russian vessel was badly scraped

along her port side and had extensive superstructure damage.

Britain, which had intended to decommission the *Ark Royal* as part of its austerity program, only recently decided to keep the carrier in service. *Ark Royal* is equipped with new F-4 Phantoms, the operation of which might have stimulated Soviet curiosity.

Soviet fleet units habitually shadow NATO naval operations at very close hand, and apparently this time the

result was disaster. Two Russian sailors were lost.

Although this is the first reported instance of a British ship in collision with a Soviet vessel, the event is reminiscent of several years ago when Soviet and US ships had two successive collisions in the Sea of Japan.

In a related event, the US Defense Department has decided, in light of the strain put on US forces during the recent crisis in Jordan, to keep US naval strength at fifteen attack carriers. It had planned to cut the carrier force to twelve.



The Navy picked Philco-Ford Corp.'s Aeronutronic Division and the Western Division of McDonnell Douglas Corp.'s Astronautics Co. to design the air-to-air Agile missile.

Philco-Ford will develop the missile's guidance system while McDonnell Douglas builds the missile itself.

The Navy cautioned that this did not necessarily imply that the two companies would eventually be awarded production contracts for Agile, but suggested that this was a strong possibility.

It has been estimated that development costs of Agile could hit \$150 million, and, if the missile progresses as planned, production contracts could total \$1 billion.

In any event, operations Agile are far in the future, the Navy said. In the interim, the Navy and the Air Force, whose own air-to-air AIM-82A missile program was canceled recently, will depend on the Navy's Super Sidewinder.

Work on Agile will take place at the Navy's China Lake Naval Ordnance Station, Calif.—END

Seen aboard Sweden's Saab AJ37 Viggen all-weather attack aircraft is the Saab RB05A air-to-surface missile. The missile, guided by the pilot via a radio-command link, is for use against ground and sea targets. It currently is going into quantity production under terms of a Swedish Air Force contract awarded the Saab-Scania Aerospace Group.





## Fathoming the Future

*Strategy for Tomorrow*, by Hanson W. Baldwin. Harper & Row, New York, 1970. 335 pages with appendices and index. \$12.50.

Hanson W. Baldwin, who needs no introduction, has filled a gaping void. For the past several years, book stalls have been tottering under the prolific output of the critics of the Pentagon and of defense industry. By this time, there are shelves full of attacks on the military forces, airpower, seapower, landpower, airplane builders, missile designers, and space technologists.

This reviewer's wife, who buys thousands of books each year for her patrons in a public library, has asked many times why it is so difficult to find the other side of the story in today's hardbacked output. The lack of balance probably will continue, but Mr. Baldwin's *Strategy for Tomorrow* should find a hungry and appreciative audience. His book is a compendium of common-sense answers to most of the questions kicking around about our defense stature.

Unlike so many of the books assailing our security programs, this one is no idle tract. The retired military editor of the *New York Times*, who is a Naval Academy graduate, has about forty-five years of background and experience in his field. His book is a survey of our defense needs, factual and complete. Mr. Baldwin has scorn for the "wishful thinkers" who think the illness of war can be cured or that, if we limit our arms, our potential enemies will follow suit. That, he says, is poppycock. But, with that scorn, he has an equal appreciation of the diplomatic, economic, and technological problems that each national administration must wrestle with as the world grows smaller, more complex, and more volatile.

He has an opinion about the war in Vietnam—the real failures were in command and control at top levels in Washington—where we have suffered many unnecessary casualties and where "American pilots paid with their lives for mistaken attempts to control all details from Washington or Hawaii." Overcontrol contributed to increased bloodshed. It has been a badly managed war. So far as air-

power is concerned, in Mr. Baldwin's view, "it has been wrongly blamed for failures that were not its doing, and has not won recognition for its real accomplishments."

Looking to tomorrow, he predicts we will have many worlds, not the One World of the "wishful thinkers." He fears our President, whoever he may be, must spend billions to compensate for years of defense neglect. The alternative is to accept Soviet superiority "in some major elements of military power." He accepts the fact that, "if the nation's immense problems on the home front are not eased, there is little point in drawing up blueprints for defense against foreign foes." The answer, of course, is that we must do both.

There are substantial chapters reviewing the defense problems that have developed or can develop in Europe, the Mediterranean and Middle East, the Indian Ocean area, Asia, and the Pacific. All the geography is covered, with countless pages of scenario portraying the potential threat and cataloging the defense problems of free people all over the world.

Yes, there is a final chapter on strategy for tomorrow. It is time, Mr. Baldwin says, to tot up the balance sheet and find out how we can protect ourselves at an acceptable cost. Having already pointed out that Russia does not want to see a real settlement in the Middle East or Vietnam, the author emphasizes that our first lines of defense are far from America. "Technology," he says, "has not eliminated geography, but it has effectively nullified isolationism as a pragmatic security policy."

Deterrence is the answer to the threat. Sufficiency, in case anyone asks, "must mean a clear-cut and visible US qualitative and quantitative superiority." The A No. 1 priority, Mr. Baldwin says, must go to aerospace strategy. This is most evident in the field of strategic weapons. Because sea-based missiles are becoming more important, increased emphasis must be given to what he calls "oceanic strategy."

Mr. Baldwin, with his Navy background, cannot be accused of parochialism on this matter—he says seapower, airpower, and technological superiority are the keystones—because "military force in the modern age is indivisible." While he argues for more

seapower, he couples this with a requirement for airpower and missile power from land bases as important factors in the control of the seas. For example, if we continue to lose land bases around the Mediterranean, the Sixth Fleet will face "nullification." He also emphasizes a requirement for increased tactical air capability.

Mr. Baldwin views disarmament efforts as "a hopeful development in the epic of man." But, he says, it also can be a snare and a delusion. His advice is to keep our powder dry.

—Reviewed by Claude Witze.

Mr. Witze is Senior Editor of this magazine.

## Sic Transit Gloria Mundi

*The Day the Red Baron Died*, by Dale M. Titler. Walker Publishing Co., Inc., New York, 1970. 329 pages with appendices and index. \$7.95.

*Who Killed the Red Baron?*, by P. J. Carisella and James W. Ryan. Fawcett Publications, Inc., Greenwich, Conn., 1969. 288 pages, soft-cover. \$.95.

In all the annals of aerial warfare, no other figure has captured the imagination of the world and achieved the same legendary status as Manfred von Richthofen, Germany's famed Red Baron of World War I. A whole generation was raised on the stories of his exploits as leader of the crack team of combat pilots known as the Flying Circus. Some were true, some were fabricated, but all were successful in stirring the spirit of adventure in the postwar crop of American youth, and raising their eyes to the skies. These two books will appeal primarily to that generation, but are "must" reading for all aviation buffs.

There was nothing fabricated about the Red Baron's record. He was credited with eighty aerial victories. Only three other World War I pilots came close: Maj. Edward "Mick" Mannock and Col. Billy Bishop of Great Britain, with seventy-three and seventy-two victories, respectively; and Capt. René Fonck of France, with seventy-five. By contrast, Capt. Eddie Rickenbacker, America's leading ace, had only twenty-six.

The Red Baron's boldly painted red  
(Continued on following page)

Fokker triplane crashed during a dog-fight on April 21, 1918, one day after he had shot down his eightieth victim and two days before he was due to go on extended leave for a well-earned rest. He was twenty-five years old, and his death triggered a controversy that has persisted for a half century. Who actually killed him? How was he shot down?

The authors of these two books have examined the evidence in depth, and both have arrived at the same conclusion. But they do much more than that. They have succeeded in recapturing the essence of the times, in recreating the flavor of World War I, when an enemy could be saluted and respected for his courtesy and gallantry. They have brought back to life the incredible bravery of airmen in the dawn of the air age, in their first full-scale baptism of fire, as they pitted their skills not only against each other, but against their own frail aircraft as well.

Both books reflect the most painstaking research into the circumstances surrounding the Red Baron's death, with meticulous attention to every detail and every scrap of evidence. Official reports, correspondence with almost every person still living who was even remotely in a position to observe or to know what happened, and verbatim interviews with participants, all add an air of irrefutable authenticity. There are discrepancies between the two books, but they are minor—the result of faulty memories rather than faulty research. On the major points, both books are in full agreement. So now, over fifty years of speculation has finally been laid to rest.

Oh yes, who killed the Red Baron? He was shot down by Australian machine gunners while overflying their position in pursuit of a British Camel. As Dale Titler puts it, an "experienced—and tired—fighter pilot [Richthofen] violated his own tactical concept [overflying enemy ground fire], and paid the price."

Carisella and Ryan have unearthed a more profound quote. Capt. Roy Brown, the Canadian pilot who was generally credited with shooting down the Red Baron, had no patience with the continuing controversy. He wrote a note for publication in the November 1930 issue of *Reveille Magazine*, a Canadian publication:

"As far as I am concerned . . . the war being over, the job being done, there is nothing to be gained by arguing back and forth as to who did this and who did that. The main point

is that, from the standpoint of the troops in the war, we gained our objectives."

—Reviewed by Harry Zubkoff.  
Mr. Zubkoff is Deputy Chief, Research and Analysis Division, Office, Secretary of the Air Force.

### Recce Pilot Revelations

*Unarmed and Unafraid*, by Glenn B. Infield. Macmillan, New York, 1970. 308 pages with index. \$7.95.

Here is a book that combines the elements of a spy novel; a combat narrative, a science-fiction story, and a carefully researched history. All of it is skillfully woven together by the author, a former Air Force major and combat pilot. It's a hard book to put down.

Everyone knows that aerial reconnaissance has been part of the military scene since ballooning days, and that now reconnaissance is conducted from space. But no one—aside from the recce people, who aren't noted for talking shop in public—knows much about this most arcane of all operational fields. So far as we are aware, *Unarmed and Unafraid* tells more about the equipment (especially interesting is the author's discussion of the U-2 and SR-71), techniques, and fruits of reconnaissance than has ever before been set down between unclassified covers.

Mr. Infield says, for example, that, in late 1967, Communist China equipped two submarines as nuclear-missile launchers. Immediately, our government knew that the subs were at Dairen, and that each had three launching tubes able to handle missiles with a 380-mile range. That, and other operations of U-2, SR-71, RB-47, and satellite reconnaissance which he describes, fall in the category of strategic recce.

The book also deals at length with tactical reconnaissance of World War II, Korea, and Vietnam. The author recounts in dramatic detail some of the most daring missions flown in each of these wars—not all of them round trips for the pilots who penetrated enemy defenses unarmed and frequently alone. Oftener than most of us realize, success on the battlefield or in the confrontations that have taken place in recent years—the Cuban missile crisis, for example—has hung on the effectiveness of US reconnaissance.

The chapter on "Reconnaissance of

Tomorrow" gets into some pretty Buck Rogers stuff on the potential applications of lasers and spacecraft to recce, all of it supported by experts who should know. The author points out that, in an era of hypersonic speeds and of R&D/production cycles that often span several years, continuous reconnaissance is an essential safeguard against both tactical and technological surprise.

There are several pages of photographs that sketch the growth of aerial reconnaissance from a relatively crude craft to its present almost unbelievable sophistication.

An exciting and thought-provoking book.

—Reviewed by John L. Frisbee.  
Mr. Frisbee is Senior Editor, Plans and Policy of this magazine.

### Action-Reaction Revisited

*The Nuclear Years: The Arms Race and Arms Control, 1945–1970*, by Chalmers M. Roberts. Praeger, New York, 1970. 159 pages. \$6.95.

Chalmers Roberts, longtime reporter on military and international affairs for the *Washington Post*, has written a concise and pointed account of the nuclear arms race and the efforts to control it. Both the arms race and control and disarmament efforts, he suggests, can now be seen to have gone through three main phases preparatory to a fourth phase just now getting under way: (1) 1945–52, the era of the Baruch Plan, the growing American nuclear monopoly, and the birth of a Soviet nuclear effort; (2) 1953–60, the era of assessment by the post-Stalin leadership and the Eisenhower-Dulles Administration, during which both nations "plunged forward with their respective nuclear developments"; (3) 1961–67, the era of limited agreements, that closed with the Soviet Union's headlong effort to attain at least nuclear parity with the United States; and (4) 1968–70, the era now opening with the two superpowers warily circling each other and finally agreeing to try negotiating some means of control over their most critical weapon systems.

The author's main theme centers on what Secretary McNamara once called "the action-reaction phenomenon which fuels the arms race." For example, Roberts concludes midway through the book that "it appears, in retrospect, that the Soviet Union had reacted to the big American missile



lead by beginning an ABM defense and that the United States, in turn, had reacted to the Soviet ABM defense by developing MRVs and later MIRVs." This approach, to be sure, sees the history of arms control as a distressing series of lost opportunities, one following upon another and each at least in part regretted in time by one side or the other. At one point (p. 87) he cites President Johnson, in April 1967, as having admitted that we now know "how many missiles the enemy has. And, it turns out, our guesses [presumably in 1960 and 1961] were way off. We were doing things we didn't need to do. We were building things we didn't need to build. We were harboring fears we didn't need to harbor."

Thoughtful and sobering throughout, Roberts' account is more restrained than that of Herbert York (*Race to Oblivion: A Participant's View of the Arms Race*, Simon and Schuster, 1970, \$6.95), but no less effective for those who wish to re-explore the past quarter century.

—Reviewed by Maj. David MacIsaac. Major MacIsaac is an Associate Professor of History at the Air Force Academy.

## Tortoise and Hare?

*Soviet Rocketry: Past, Present, and Future*, by Michael Stoiko. Holt, Rinehart, and Winston, Inc., New York, 1970. 272 pages. \$7.95.

Mr. Stoiko, a rocket engineer with over twenty years of experience on such projects as Hermes, Viking, Titan, and Gemini has, in his latest book *Soviet Rocketry: Past, Present, and Future*, written a detailed and highly readable account of Soviet rocket and space accomplishments that should be of value to the layman as well as the space buff. The book's major strength lies in Chapters Two through Fourteen, which give a comprehensive account of past and present Soviet developments through 1969.

The book's major weaknesses are found in Chapter One, which is largely a rehash of historical data on early military and pyrotechnic rocket developments by the Chinese and Europeans in the thirteenth through nineteenth centuries, and in the somewhat limited treatment of probable future Soviet space accomplishments, in Chapter Fifteen.

Considering that the author has established an excellent base for fore-

casting future Soviet developments in the earlier chapters, and has an engineer's knowledge of future US space developments for comparison, it is surprising that a more detailed view of Soviet space and rocket potential was not presented. However, this is a relatively minor fault, in view of the book's overall comprehensive treatment of Soviet rocket and space developments.

Mr. Stoiko describes the early phases of rocket development in pre-Soviet Russia, particularly the pioneering theories and experiments of the "Father of Soviet Space Flight," Konstantin Tsiolkovsky. He then discusses the organization of the first Soviet rocket development and test centers; the critical years of experimentation between 1930 and World War II; the wartime hiatus when the requirement to repel the German invaders was paramount; and the early postwar experiences (similar to those in the United States) with the captured German V-2 rockets and the scientists and engineers from Peenemünde, all of which reached an earth-shaking climax on October 4, 1957, with the launch of Sputnik I.

From this critical point in history, Mr. Stoiko then traces the genealogy of the post-Sputnik rocket and space program, including the failures of a number of Soviet lunar and planetary probes. He reveals heretofore unpublished details of the Kosmos, Elekton, and Proton satellites, the Luna (moon) and Zond (planetary) probes, as well as the manned spacecraft Vostok, Voskhod, and Soyuz, including how many were launched, the booster rockets, and the duration of the mission, as well as successes and failures.

In addition, Mr. Stoiko identifies the principal architects and engineers of the Soviet space program, locates and describes their major rocket and space system launch and tracking facilities, examines the potential for US-Soviet as well as other international space cooperation, and makes some rather general predictions of future Soviet space developments, with comparative US-USSR timetables.

In fact, Mr. Stoiko's book—amply illustrated by photos, diagrams, and charts—gives specific and significant indications that the USSR, beginning with Sputnik I (and despite their loss of the moon race to the United States), has built up a diversified industrial, scientific, and engineering capability. Backed by a strong national purpose—to explore near-earth space, the moon's surface, and the

planets of our solar system—this program very well may permit the Soviet tortoise to overtake and move far ahead of the US hare in the mid-to late 1970s.

—Reviewed by Robert G. Smith. Mr. Smith is a systems consultant in both the aerospace and urban-development fields.

## Luftwaffe: The Last Word

*Warplanes of the Third Reich*, by William Green. Doubleday, Garden City, New York, 1970. 672 pages with index. \$25.

It is hard to see how this folio-size book can fail to become the definitive work on German aircraft that preceded, and took part in, World War II. In some half-million words, and with more than 2,000 illustrations, the author describes in great detail every experimental, prototype, and operational warplane developed in Germany between 1933 and 1945. It is not difficult to believe that more than twenty years of research have gone into *Warplanes of the Third Reich*.

Mr. Green has done more than catalog and describe the 130-odd aircraft that were developed during a twelve-year period. His book is also a treatise on the German aircraft industry of those years. It explodes some of the myths that have surrounded Luftwaffe successes and failures. For example, the author could find no evidence that German jet fighters would have been operational six months earlier—with perhaps disastrous effect on the Combined Bomber Offensive—had it not been for meddling on the part of Nazi officials, as is so often claimed.

Much of the blame for Germany's failure to maintain the air superiority it enjoyed at the start of the war is attributed to overconfidence, lack of technical knowledge, and rivalries within the Luftwaffe's leadership. No new major type of aircraft was added to the Nazi air arm during the first four years of the war, but not for lack of competence in the German scientific and engineering community. Jet engines were running on German test stands as early as 1940.

It is not, however, the account of personalities, industrial development, strategic decisions, and the operational careers of German fighting planes from the Spanish War to V-E Day that makes this book unique. It is the unequalled well of information on  
(Continued on following page)

the aircraft themselves. Nowhere else can that be found in such abundance.

**Collector's Item**

*Aircraft in Profile* (Volumes 7 and 8), Martin C. Windrow (ed.). Doubleday, New York, 1970. Vol. 7, 332 pages, Vol. 8, 320 pages. \$14.95 each.

These are the latest volumes of a series published originally in England. Both, like the earlier volumes, are carefully researched, beautifully illustrated with about 1,000 pictures and color plates, and attractively bound in hard covers. Neither volume concentrates on any one period, country, or type of aircraft. The twenty-four aircraft discussed in each volume are described throughout their developmental evolution and operational lives, and for each there is a series of color plates showing national, squadron, commercial, or private owner's markings. Volume 7 covers such varied aircraft as the de Havilland D.H. 10 bomber of the 1920s, the Soviet LaG fighter, France's Morane Saulnier fighter of the 1930s, the Messerschmitt 210/410 series, Bell's P-39 Airacobra, the F4U-7 Corsair, and the Ford Trimotor. Volume 8 includes some little-known planes like the Polish P.Z.L. P-24 fighter, France's LeO 45 bomber that was developed in the '30s and remained with the French Air Force until after

World War II, and Germany's late-World War I Phönix Scout that was still flying with some European air forces in the mid-1930s. Better-known profiles in Volume 8 are the ME 109, de Havilland D.H. 5, JU-52, and the Boeing 707.

**Military Use of Space**

*War and Space*, by Robert Salkeld, with Foreword by Gen. Bernard A. Schriever, USAF (Ret.). Prentice-Hall, Englewood Cliffs, New Jersey, 1970. 200 pages with index. \$6.95.

The author has long been involved with the US space program as an engineer, planner, and manager in the aerospace industry. His book attempts to answer the question: "Is it possible that the space arena may promise sufficient advantages to motivate both deterrent and potentially aggressive powers to extend their strategic capabilities to space, so that perhaps there eventually might result . . . a progressive reduction of earthbound strategic stockpiles, and a lessening of the expected levels of violence in event of a nuclear war?"

Mr. Salkeld believes the answer is "yes." In support of his position, he examines the military, economic, social, and political implications of space and the technical means that are—or will be—available for greatly

expanded space activities. Whether the reader agrees with his conclusion or not, the book will contribute significantly to the well-informed layman's knowledge of space and its potential for both conflict and peaceful uses.

**History of a Profession**

*Men In Arms: A History of Warfare and Its Interrelationships With Western Society* (Second Revised Edition), by Richard A. Preston and Sydney F. Wise. Praeger, New York, 1970. 424 pages. \$10.

For anyone who wants either to refresh or to enlarge his knowledge of military history, the recently revised edition of Preston and Wise is the answer. Their history extends from the Persian Wars to Vietnam, and examines the relationship of military events to the social, economic, and technical environments in which those events took place. This very readable book, widely used as a college text, was based originally on a course taught by Mr. Preston at the Royal Military College of Canada. Mr. Wise is Director of the Historical Section of the Canadian Armed Forces, and Mr. Preston is now at Duke University. The book is adequately illustrated with drawings and, though not heavy on maps, has enough to help the reader keep his bearings.



**NEW BOOKS IN BRIEF**

*The A-1 Skyraider*, by Steve Birdsall. This large-format paperback, with foreword by Air Force Medal of Honor winner Lt. Col. Bernard F. Fisher, tells—and shows—a lot about Air Force and Navy A-1 operations in Southeast Asia. The photography is excellent. Arco Publishing Co., N.Y., 1970. 62 pages. \$2.95.

*Boeing B-17B-H Flying Fortress*, by Richard Ward and Ernest R. McDowell. A sturdy paper-covered volume that includes a brief history of the B-17 and many combat photos. There are eight pages of color plates of the C through G models, showing squadron markings and those of other nations that have used the B-17. Arco Publishing Co., N.Y., 1970. 48 pages. \$2.95.

*Documents on Disarmament, 1969*, US Arms Control and Disarmament Agency. This book contains the basic documents on arms control and disarmament developed during 1969 by agencies of the US; member states of the Eighteen Nation Disarmament Committee; committees, members, and officials of the United Nations; and by other countries independently. Also included is the Ninth Annual Report of the US Arms Control and Disarmament Agency. Superintendent of Documents, US Government Printing Office, Washington, D.C. 20402, 1970. 821 pages with bibliography and index. \$3.50.

*Mosquit! The Wooden Wonder Aircraft of World*

*War II*, by Joe Holliday. During the war years, the author was editor of *The Mosquito*, a magazine published by the de Havilland Co. at its Canadian plant. He tells the story of how the fabulous plywood Mosquito was born, its many records, its production in Canada, and some of its more spectacular combat feats. Doubleday, Garden City, N.Y., 1970. 236 pages with index. \$6.95.

*1970 United States Aircraft, Missiles and Spacecraft*, James J. Haggerty (ed). A well-illustrated publication that includes complete coverage of aerospace events and equipment developments of the year, records established, and awards made up to the date of publication. **General** aviation, commercial, military, and experimental aircraft and helicopters now in production, recently produced, or under development in this country are pictured and described in some detail. The book similarly covers US missiles, drones and target vehicles, launch vehicles, and spacecraft. National Aerospace Education Council, 806 15th St., N.W., Washington, D.C., 1970. 222 pages. \$3.

Four new titles in Ballantine's illustrated histories of World War II are *Kasserine: Baptism of Fire*, by Ward Rutherford; *London's Burning*, by Constantine FitzGibbon; *Patton*, by Charles Whiting; and *Normandy Bridgehead*, by Maj. Gen. H. Essame. Ballantine Books, Inc., N.Y., 1970. 160 pages. \$1 each, paperback.—END

# SAFE DRIVING— THE AIR FORCE WAY

THIS is to tell you about a current and important program of AFA's Aerospace Education Foundation. We have published, in cooperation with Grosset & Dunlap, Inc., a New York publishing firm, an excellent book called THE SAFE DRIVING HANDBOOK.

The book is based on the highly successful safe driving program of the Air Force, which accounts for our interest. It is an unusual example of how research and techniques paid for and developed by the Air Force can be converted into useful material for the civilian population at large. Perhaps the best way to describe the book is to print an excerpt from the Foreword:

"... The Air Force concluded that the principal factors in vehicle accidents, aside from mechanical failure, were operator errors and violations resulting from personal driving attitudes. Education in the basic facts of safe driving and the development of a good attitude were the keys to the Air Force approach...

"We of the Aerospace Education Foundation feel that a public service will be performed by making the substance of the Air Force study program available to the general public...

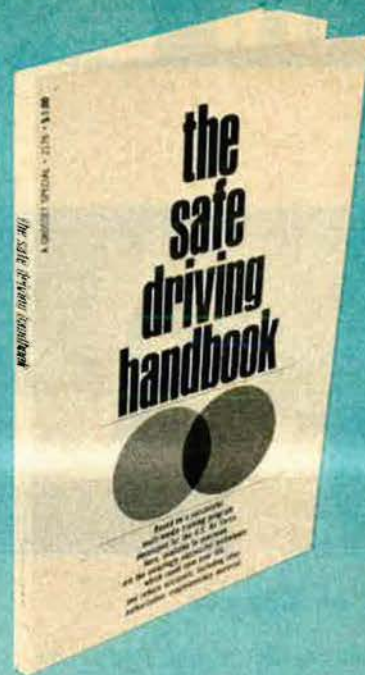
"This handbook is about driving factory model cars on 'ordinary American highways and streets.' The techniques are the latest findings of civilian and Air Force safety engineers studying thousands of cars and thousands of drivers. We believe there are three main reasons why this course material has been so well received by U.S. Air Force Airmen.

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titudes toward life determine your automobile safety habits.

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By Maurice L. Lien

SPECIAL EDITOR FOR MIA/POW AFFAIRS



Organizers of Operation POW in Erie, Pa., were (left to right) Ron Lord, of the American Legion; mailman Tom Bolan; campaign coordinator Miss Linda Burmaster, of AFA; William Snyder, of the Erie Jaycees; and businessman Fred Johnson.

## Angels on Campus

On October 26, Angel Flights on college and university campuses across the nation launched a coordinated petition-signing campaign in support of MIA/POWs. At the end of November, Miss Mary Lynn McCarthy, Angel Flight National Commander, reported receipt of more than 100,000 signatures, with petitions still coming in.

The Angels were supported in this program by the Arnold Air Society. AFA sponsors the Arnold Air Society (AAS), honor society of Air Force ROTC, and provides support for the society-sponsored Angel Flights. National headquarters for Angel Flight this year is at the University of Maryland.

The Arnold Air Society and Angels adopted support for MIA/POWs as a national project at their Conclave last spring. Because of anti-ROTC feeling on many campuses, the Angels took on primary responsibility for sponsoring the drive.

During the summer months Miss McCarthy, and Miss Barbara Arata, National Executive Officer, held several meetings with officials of the National League of Families to map out a campaign and to prepare material to support it. In early October, a unified plan was sent to all AAS and Angel units, suggesting a concentrated drive be held on all campuses October 26-31. Actual dates varied, however, to take advantage of scheduled campus activities, where large crowds would be congregated. Angels at the University of Wyoming, for example, reported collecting more than 10,500 signatures in less than thirty minutes in Laramie, a city of about 17,000 people, by circulating peti-

tions throughout the football stadium during a homecoming game.

Miss Arata, from the University of Maryland, served as Campaign Chairman for the Angels, while Cadet John S. Gunter, of the University of Florida, at Gainesville, was AAS Project Chairman.

Extensive publicity was obtained in college newspapers across the US, and in many cases the drive expanded far beyond the campus. Washburn University of Topeka, Kan., extended its drive to a major manufacturing company in the city, with the help of union stewards. Butler University secured endorsement for its campaign from Indiana Governor Edward Whitcomb and from several US congressmen.

Purdue University, at Lafayette, Ind., headed the list of schools, with 12,300 signatures. Miss Pam Catron, Angel POW Coordinator, reported that, in addition to excellent publicity and community support, they ar-

ranged for an airplane to tow a banner promoting their campaign, through the cooperation of a local airport operator. Miss Arlene Adams, Angel Flight Commander at the Illinois Institute of Technology in Chicago, noted in her report that "this petition received more signatures than any other petition on this campus."

In a letter to Miss Fran Keeney, Angel Flight Commander at East Carolina University in Greenville, N.C., endorsing the drive on that campus, University President Leo W. Jenkins wrote, "I hope that your efforts and those of more than 100 colleges and universities across the country will be successful and will ultimately contribute to an improved condition for American prisoners of war."

Brig. Gen. Daniel "Chappie" James, Jr., USAF, Deputy Assistant Secretary of Defense for Public Affairs, expressed his appreciation in a letter addressed to all Angel Flight members, and stated, "The much-needed program you have started on the nation's college campuses . . . is reaching a vital segment of the academic community. Gaining the support of young Americans is a necessary ingredient and a required action if the national goals on the POW-MIA issue are to be reached. Your project should go far in achieving that support."

## Community Project

On a Sunday in late October, five



University of Wyoming Angels Jan Hillstead (left) and Susan Wiwi count some of the 10,500 signatures obtained by their flight in a petition-signing drive. Looking on is Thomas A. Megeath, Arnold Air Society Commander at the University, whose unit assisted in the campaign.

people interested in doing something to help the MIA/POWs met in the home of Tom Bolan in Erie, Pa. By the following Friday they had: twenty billboards for publicity purposes, donated by the Cardinal Outdoor Advertising Company; a commitment for posters for the billboards from Diamond National Printing; a proclamation, signed by Erie's Mayor Louis J. Tullio, urging all citizens to write to Hanoi; and a campaign kickoff rally arranged for November 4.

At the meeting, in addition to Tom Bolan, were Miss Linda Burmaster, representing the Erie AFA Chapter; Ron C. Lord, from the American Legion; William T. Snyder, a member of the Erie Jaycees; and Fred W. Johnson, a local businessman. From this nucleus has grown an organization involving almost every element of the community.

Bolan, a veteran of sixteen years as a mail carrier, had been trying for some months to call attention to the plight of POWs through the Erie Branch of the National Association of Letter Carriers. He had received support, including materials, from Mr. Snyder, of the Hammermill Paper Co., and from others, but without an organization to marshal the resources of the entire city he was not seeing the progress he wanted. On October 10, two Air Force POW wives spoke at the Pennsylvania State AFA Convention Banquet, held in Erie, and from that date on things started moving.

Miss Burmaster was one of those at the banquet. She volunteered to represent the Erie AFA Chapter in helping to get a campaign going. At the organizing meeting she was appointed secretary-treasurer for the committee, and put in charge of raising funds and getting donations of materials. The following week she was designated campaign coordinator and played a major role by calling on local businessmen to seek their support, meeting with the mayor and his staff, visiting with local news media to brief them on the problem and to ask their help in publicity, and by scheduling MIA/POW families to speak whenever possible.

Of her efforts, Miss Burmaster said, "I had never done anything like this before, and it has been a wonderful experience. I was hesitant at first to walk into a businessman's office and ask him for help, but I soon learned that once they found out what the problem was, and what we were trying to do, they were very willing to assist in any way they could. And, as more local groups learned about what we were doing, they called us to see how they could help."

Speakers at the campaign kickoff



**Lt. Gen. George B. Simler, Commander of Air Training Command, recently designated one week as "POW/MIA in ATC." Looking on as General Simler signed a proclamation were Mrs. Glenn Wilson, whose USAF husband is a POW, and Maj. Fred Thompson, a former POW released by Hanoi.**

rally included two Air Force MIA/POW wives from Pittsburgh, and Col. Philip G. Cochran (USAFR). Colonel Cochran gained fame in North Africa during World War II as Commander of the 58th Fighter Squadron and later as head of Air Commando operations deep behind Japanese lines in Burma in early 1944.

Publicity generated by the rally, by interviews with MIA/POW families on radio and TV, and by articles in local newspapers quickly aroused the interest of other groups in the Erie area. The list of campaign workers soon expanded to include the Boy Scouts, who made door-to-door distribution of materials, and later returned to pick up letters; the Iron Workers Union, which has taken over the fund drive; the Fraternal Order of Police, who are assisting in raising funds; the Elks; Kiwanis; the Marine Corps Mothers; and many others, including a representative from City Hall. Publicity for the group, now called Operation POW, is handled by the Chamber of Commerce. The Security-Peoples Bank in Erie handles all funds and bookkeeping.

Within a month of their initial meeting, Operation POW had distributed thousands of pamphlets and bumper stickers, and collected more than 35,000 letters and signatures. By late November, they had displays in department-store windows, and were organizing letter-writing campaigns in schools. Surrounding counties, wanting to join in the program, have been provided materials and help in launching similar campaigns.

Of the future, Miss Burmaster says, "We know it will be hard to keep up a full-scale campaign for a long time, but we're going to try by working through the many organizations now on our committee. We're going to keep up the publicity in Erie until we know that our men are receiving hu-

mane treatment and their wives and parents know whether their husbands and sons are alive or dead. . . ."

## Progress Report

Measurable progress has been made on at least two fronts in the MIA/POW campaign since it was kicked off in these pages with Lou Stockstill's article, "The Forgotten Americans of the Vietnam War," in the October 1969 issue of this magazine. The number of men permitted to write has more than tripled, as has the number of letters reported to have been received by families.

According to DoD, families had received a total of 620 letters from 103 prisoners in a four and one-half year period ending in January 1969. By December 1969, the total number of letters received had climbed to 940, from 294 writers. The great majority of the 320 additional letters were written in November and December, shortly after AIR FORCE Magazine published "The Forgotten Americans." More importantly, there were 191 new writers in 1969, many not previously known to be prisoners.

Totals at this writing are more than 3,100 letters received by families, from 332 writers. Some 2,160 letters were received by families in 1970, as opposed to 940 letters in the previous five and one-half years. First-time writers increased by thirty-eight.

There has been progress—but not enough. According to DoD figures, as of November 21, 1970, there were 460 men believed to be held prisoner in Southeast Asia. More than half of these—235—are Air Force men. An additional 1,098 were listed as MIA. Again, more than half—551—are USAF personnel. Until these men are accounted for, and until the Communists comply with the Geneva Convention, our job is not done.—END

**Drug abuse in the military—including the Air Force—is reaching alarming proportions. Because of the enormous complexity of the problem, preachments and threats have failed to stem the tide. Here is a special report on drug abuse in the armed forces, with emphasis on the Air Force's search for new ways of . . .**

# Meeting the

**By William Leavitt**

SENIOR EDITOR/SCIENCE AND EDUCATION

**D**RUG abuse—a phenomenon once confined to the night world of musicians and the hopelessness of urban ghettos—is now an American youth epidemic. It affects all strata of society, including the military. Across the land, and overseas, where young Americans in uniform are operating, pill-popping, acid-dropping, pot-smoking, and, worst of all, the use of heroin have reached alarming proportions.

The drug problem is societal. As part of society, the military is affected. Military officials have freely testified before congressional committees on the widespread use of drugs, particularly in Vietnam, where locally grown and very strong marijuana is easily available, and where, according to some reports, imported heroin is so pure that users can sniff it instead of injecting it with a needle. The military establishment is seriously concerned about the problem and is openly searching for new ways to stem the tide of drug use by young service personnel. The Veterans Administration recognizes the problem and is preparing to open a network of narcotics-addiction treatment centers at VA hospitals around the country.

At present, there are two questions about drug abuse that no one has the answers to. The first is exactly how many people in uniform are using drugs, and the second is how to put an end to this social blight. To the military, these questions are even more crucial than they are for the civilian community. Combat effectiveness is at stake, as well as the security of whole units of ground and sea and air personnel, let alone expensive and complex equipment.

Unnerving stories of drug use by military personnel have been published. Not long ago, television viewers

saw news film of US ground troops in Vietnam openly smoking marijuana in a group session. From official statements, from news reports, from accounts by service personnel here and abroad, it is clear that the military has inherited a problem of disturbing proportions from the larger, civilian society, which is, after all, the source of the country's military forces.

The Army, by virtue of its large deployment in Vietnam, where pot, opium, and heroin are easily obtained at low cost, seems to have the greatest problem. But the other services, and this includes the Air Force, are affected to the degree that commanders and the Pentagon are disturbed by the potential threat posed to the overall effectiveness of the armed forces. One Air Force officer recently confided to this writer his alarm at discovering through conversation with a young blue-suiter that the airman had worked on jet-engine maintenance after using marijuana and had given no thought to the effects such behavior might have had on the safety of the crew.

There have been hints, never confirmed, that air operations in Vietnam may have been affected in some cases by the use of drugs. And at a November 1970 open hearing of a House Armed Services subcommittee, Air Force representatives were asked about reports that drug use by military personnel might have had something to do with a defecting Cuban MIG aircraft getting through the radar en route to a landing at Homestead AFB, Fla., in 1969. The Air Force witnesses responded that an investigation had revealed no drug-based culpability on the part of any Air Force personnel. But that the question should be raised at all is disturbing in itself.

# Drug Challenge

The Air Force Academy, according to statements before the same House hearing in November, has had, over the years, twenty-two resignations as a result of drug-abuse investigations. Of these twenty-two cadet resignations at the Air Force Academy since 1955, eight occurred in 1970. Marijuana, mescaline, and LSD were among the drugs involved at the Academy.

At Castle AFB, Calif., in 1969, a SAC lieutenant—working in logistics—was apprehended offering marijuana for sale. A search of his apartment, which he shared with other Air Force personnel, unearthed supplies of barbiturates and amphetamines.

## Top of the Iceberg

The stories that get into the public prints represent only the top of the iceberg. So, probably, do the total figures released by the Air Force on drug-abuse cases (see box) that have been officially handled. This is true for the simple reason that the Air Force, and the other services, can only report those cases where suspicion or apprehension has led to investigation. Beyond that, neither the Air Force nor the other services, nor, for that matter, the civilian authorities, are in any position to produce definitive figures on drug abuse in their jurisdictions. What is known is that the use of drugs of all kinds has for the past several years been dramatically on the upswing.

Most of the known drug cases in the military involve the use of marijuana. Pot is, in its way, the most controversial of the drugs, with various observers calling for different legal policies toward its use. Marijuana is not a physically addicting drug but is a hal-

lucinogenic substance. Depending on its strength and the frame of mind of the user when he takes it, marijuana may or may not be particularly dangerous, at least in the short term.

As to long-term effects, there is simply not enough research data to warrant conclusions. Experts have not come up with the kind of data that definitively shows marijuana to be body- or brain-damaging, although there are reported cases of psychotic reactions.

*(Continued on following page)*

## DEPARTMENT OF THE AIR FORCE AIR FORCE INVESTIGATIONS BY TYPE

(Number Closed Cases)

	Marijuana	Hard Narcotics	Dangerous Drugs	Total	Rate/1000
CY 1967	1,198	90	294	1,582	1.76
CY 1968	2,516	167	657	3,340	3.72
CY 1969	3,114	257	1,135	4,506	5.09
TOTAL	6,828	514	2,086	9,428	
CY 1970 (6 mos)	1,877	160	778	2,815	3.37

USAF figures on drug-abuse cases which have been investigated during the past few years represent in all probability only the top of the iceberg. And, as can be seen from this official USAF chart, the number of known drug-abuse investigations has grown at an alarming rate in recent years.

The research problem is compounded by the illegality of the substance. There is no way of studying the long-term effects in large populations of a banned substance. This is in contrast to the research efforts on tobacco and alcohol. Beyond that, there is the nagging problem of how many marijuana experimenters are drawn toward the stronger hashish or LSD or amphetamines, or, worse still, the addicting drugs, by initial use of pot.

Many people today are saying that, in the absence of conclusive proof of harmful effects from marijuana, and in the face of the fact that millions of young Americans and a not inconsiderable number of older people treat antimarijuana laws with the same contempt as earlier generations viewed the legal prohibition of alcohol, marijuana should be legalized and its quality controlled. Others argue just as forcefully that since the full research story is not known, it would be stupid to open the legal floodgates to an even more widespread use of the substance.

In any case, the military is caught in the middle. At minimum, it must follow the laws of the civilian society. But, beyond that, the military has to cope with the special problem of the *immediate* effects of marijuana on the man doing a military job, whether he's flying or fixing an airplane, out on infantry combat patrol, or steering a ship at sea.

Whether or not marijuana proves out as a brain- or liver- or other kind of body-damager as a consequence of long-time heavy usage is not the question the military commander has to cope with on a day-to-day basis. He is faced, rather, with the same kind of problem he would encounter if one of his men was drunk on duty, a problem the military has had, along with the rest of society, for many years. And because marijuana and the rest of the drug-kick substances are illegal, he has to cope, too, with the existence of a kind of drug underworld in his unit, an underworld that is intolerable in and completely inconsistent with a properly functioning military organization.

## Why Drugs?

Why the drug epidemic? There is no single answer. Social critics offer scores of possible reasons. They range from youthful disillusionment with adults to the terrors of loneliness in a demanding and competitive mass society. One thing is sure: We live in a drug culture and are bombarded daily with commercial pressures in the media to avail ourselves of this or that patent medicine to feel better, look better, sleep better, or stay awake better. A few weeks ago, on a late-night, church-sponsored television exploration of the national drug problem, it was noted that in this country some 40,000,000,000 amphetamine pills are produced by legitimate pharmaceutical companies each year. From that supply, an enormous number of pills flows into illicit channels.

There is even increasing and disturbing evidence that certain drugs are being used on a large scale in some public-school systems to quiet down so-called hyperactive children, a practice that is coming under attack by many physicians. Beyond the problem of the availability of stimulants and tranquilizers of various kinds, there is the cultism of people like one-time

Harvard instructor and now fugitive Dr. Timothy Leary, who for years has been proclaiming the "right" of people to "expand their minds," through the use of hallucinogenic drugs. LSD was Leary's particular preference. While this powerful substance is still being experimented with in the drug world, there is some hope that scientific evidence of ill effects on human chromosomes and the "bad trips" and "flashes"—recurrences of hallucinations that have plagued some LSD users—may have begun to stem the LSD tide.

Whatever the drug, the military is faced with the need to develop effective countering programs. Until relatively recently, following the lead of the civilian community, the military had simply viewed drug abuse as an offense to be punished. At the same time, and



also along the lines of the civilian community, the military attempted, through fairly conventional "educational programs," to acquaint incoming recruits with the medical, psychological, and legal dangers of drug use.

Contrary to the charges of some legislators on Capitol Hill, the military has been quite cognizant of the problem for some time. As drug use has mounted, the services have tried—with pamphlets, posters, films, and lectures—to indoctrinate their people against drug use. They have also tried—and it is no easy task—to screen out identifiable hard-drug addicts. But clearly, and for most of the same reasons that similar techniques have not worked very well in the civilian



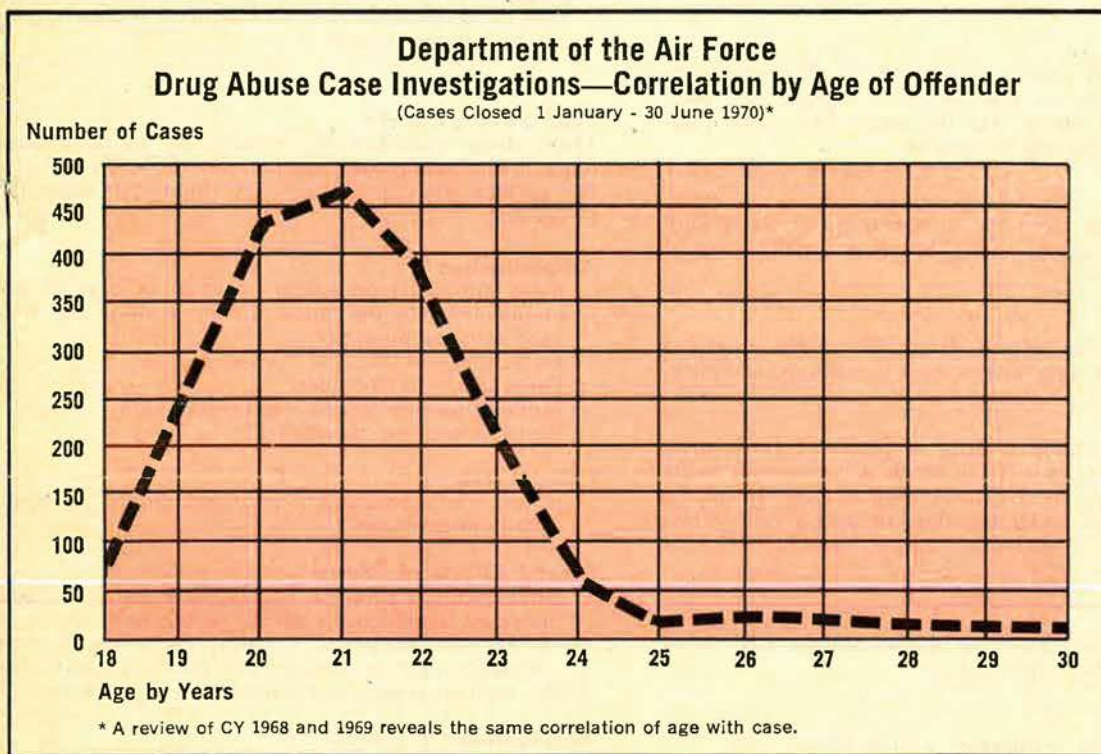
community, the education effort in the military has not been particularly successful.

Drug use is so tied up with an individual's personal problems, with the pressure of his peers, with the youth subculture that is a world unto itself, and with the ubiquity of drugs as a way out of pain or boredom, that preachments or threats are not enough to keep people from using drugs. This hard fact has become clear to many of the people in the Pentagon charged with fighting the drug plague.

As Maj. Gen. John B. Kidd, Air Force Director of Personnel Planning, told House Armed Services committee members last November, the Air Force recognizes that the kind of mass instruction and indoctrination that has hitherto been used is simply inadequate. General Kidd only weeks ago was designated to serve as the central focus of antidrug programs within the Air Force. He is already working with a task

position of drug cases, the document adds new definitions of drug involvement. It differentiates between "experimenters," "users," "addicts," and "casual suppliers." It directs the services to consider referring drug abusers for medical evaluation *before* taking disciplinary action. It updates the policy on marijuana by stating that, while marijuana can be dangerous and even cause psychotic reactions if it is taken in sufficient strength, "all the results of marijuana use on the human body, mind, personality, and genetic system are not yet known."

The directive also spells out a tough and specific policy on LSD users. That policy says that "in view of the LSD recurrence phenomenon, and the documented unpredictable conduct of an individual under the influence of LSD, any military person or civilian employee having taken LSD will be scrutinized carefully and special determination made as to what, if



As this Air Force chart, used in an official presentation to the House Armed Services Committee, shows, the drug-abuse syndrome is primarily youth-centered. Most drug offenders in the Air Force are in the twenty-one-year-old category. Drug experimentation and abuse seems to build up toward a peak among twenty-one-year olds. Then it starts dropping off as a direct function of age over twenty-one.

force to develop new approaches, about which more later.

### New DoD Policy

The perceived need in the Pentagon for new approaches to the drug problem has already resulted in the issuance of a new overall Defense Department directive, known as 1300.11, that sets new policies as to the disposition of military drug offenders. It is an enlightened document. It represents DoD implementation of recommendations by DoD's Special Task Group, which has been gathering data for months on the military drug problem with a view to updating DoD policies. The Air Force is following the new DoD policy and guidelines.

Directive 1300.11 does several important things. To give flexibility to military commanders in their dis-

any, duty he may be trusted to perform, with particular attention to any duty where the security of the nation or the safety of personnel or equipment is a prime factor."

The new DoD directive also expands the responsibilities of the DoD Drug Abuse Control Committee, assigning responsibility to the Assistant Secretary of Defense for Manpower and Reserve Affairs or his designee for coordinating military programs to implement the directive. Each service is to supply two

*The article continues on page 34. On the next two pages, published as a special service to AF/SD readers, is a primer for parents, providing basic data on drugs and their effects, and including a lexicon of "street language" having to do with drug abuse. We believe you'll find it worth clipping and saving as a reference.*

# PRIMER ON DRUGS

The following primer on drugs, published originally in the Boston *Globe* under the title "Parents . . . We think you should know as much about drugs as the average pusher," is reprinted with permission of the Boston *Globe*.

The material was prepared as a public service for the *Globe* in consultation with David C. Lewis, M.D. Dr. Lewis is the author of *The Drug Experience: Data for Decision-Making*, a course for schools and community groups, published by CSCS, Inc., Boston.

**Sometime soon you're going to have to talk to your teenagers about drugs. The sooner the better. We hope this page gives you something to start talking about. Because we want you to get to your kids. Before someone else does.**

## THE OPIATES

When most people refer to "narcotics," this group of drugs is what they are talking about. Opiates are used medically as pain killers. On the street they cause pain for the user and society in general.

### Opium

a white powder from the unripe seeds of the poppy plant. Opium can be eaten, but it is usually smoked in an opium pipe.

### Morphine

is extracted from opium. It is one of the strongest medically used pain killers, and is strongly addictive.

### Heroin

this strongly addictive drug is prepared from morphine. Outlawed even from medical use, heroin is the most commonly used drug among addicts. It can be sniffed, injected under the skin, or into a vein. Street slang for heroin includes "scag," "smack," "H," or "junk."

### "On the Nod"

or nodding. The state produced by opiates. Like being suspended on the edge of sleep.

### Mainline

or "to shoot up"—injecting a drug into a vein.

### "A Hit"

street slang for an injection of drugs.

### Works

the apparatus for injecting a drug. May include a needle, and a bottle cap or spoon for dissolving the powdered drug.

### A Fix

one injection of opiates, usually heroin.

### Junk

heroin, so named because it is never pure as sold on the street.

### Junkie

an opiate addict.

### Skin Popping

to inject a drug under the skin.

### A Bag

packet of drugs, or a single dose of an opiate. Amount of the drug in the bag is denoted by price, a nickel bag (\$5), a dime bag (\$10).

### "Cold Turkey"

describes the withdrawal that occurs after repeated opiate use. The addict can become irritable, fidgety, perspiration increases, there is a lack of appetite. The main problem in discontinuing opiate use is not *getting* off the drug, it's *staying* off.

### Track

scars on the skin left from the repeated injection of opiates.

### Overdose

cause of over 200 teen-age deaths in New York City [in 1969]. Death is caused because the part of the brain that controls breathing becomes paralyzed.

### Addiction

physical dependence on a drug, so that when the drug is taken repeatedly, and stopped suddenly, physical withdrawal occurs.

## THE STIMULANTS

These drugs stimulate the system, or make a person more lively. While they are not physically addictive like the opiates, they produce a psychological dependence or craving.

### Amphetamines

these stimulants are taken in tablet or capsule form or injected into the blood stream. Among the widely used amphetamines are:

Dexedrine—or "dex" or "dexies."

Benzedrine—or "bennies."

Methedrine—or "speed" or "crystal meth."

Biphphetamine—or "footballs."

### Speed Freak

person who repeatedly takes amphetamines or "speed" usually intravenously.

### Mental Effects of "Speed"

amphetamines produce a decreased sense of fatigue, increased confidence, talkativeness, restlessness, and an increased feeling of alertness. As dosage increases, amphetamines can produce irritability, distrust of people, hallucinations, and amphetamine psychosis.

### Amphetamine Psychosis

a serious mental illness caused by overdoses or continued use of amphetamines. The person loses contact with reality, is convinced that others are out to harm him. The most frightening part—this psychosis sometimes continues long after person has stopped taking the drug.

### Rush

the brief heightened state of exhilaration at the beginning of a high.

### Crashing

withdrawal from amphetamines, the swift descent from an amphetamine high to severe lows of depression.

### Cocaine

another kind of stimulant, derived from cocoa leaves. It is sniffed as a white powder, or liquefied and injected into a vein. It produces a fast and powerful feeling of elation. Cocaine does not produce physical dependence (addiction), but does produce a strong psychological craving.

**Coke**

street slang for cocaine.

**PSYCHEDELICS**

The medical classification of all mind-altering substances. "Psychedelics" change a person's perception of his surroundings.

**Hallucinogens**

Those psychedelics which cause hallucinations.

**LSD**

probably the most powerful psychedelic. Reactions to LSD are extremely unpredictable. Distortions in time and space. Brighter colors. Vivid sounds. Feelings of strangeness. A sense of beauty in common objects. Sometimes fear and panic. Sometimes even psychosis.

**Flashback**

a user can be thrown back into the LSD experience months after the original use of the drug. Other possible risks of LSD, which are being thoroughly researched, include brain damage and chromosome breakage.

**Acid**

a slang term for LSD. A frequent LSD user is an "acid head."

**Drop**

to take any drug orally. LSD is usually dissolved in water, and may be placed on a sugar cube. The term is to "drop acid."

**DMT**

a powerful psychedelic prepared in the laboratory as a powder or liquid. It is usually injected into the vein or smoked along with marijuana or in cigarettes.

**Psilocybin**

this psychedelic comes from a mushroom. It is less potent than LSD and takes a larger dose to get the effect.

**Peyote**

from the peyote cactus, causes pronounced visual effects. It is used in a religious ritual by some Southwestern US and Mexican Indians and its use in these rituals is legal.

**Mescaline**

"mesc" is the common name for this drug which also comes from the peyote cactus. Stronger than peyote itself, mescaline also causes vivid visual impressions.

**DOM**

called STP by users. The effects of STP can last for two or three days.

**Marijuana**

the crushed and chopped leaves and flowers from the hemp plant. Sometimes smoked in cigarette form. Sometimes smoked in pipes. Reactions can be: a giddy feeling like drunkenness; changes in perception and mood; feelings of well-being or fear; and possibly hallucinations. Slang terms for marijuana are "grass" or "pot."

**Joint**

a marijuana cigarette.

**Roach**

the butt end of a joint.

**Stoned**

describes the intoxicating effect of marijuana, or really any drug, or alcohol.

**Hashish**

called "hash." Also prepared from the flowering tops of the hemp plant. Hashish is smoked in a pipe or taken orally, and is more powerful than marijuana.

**THC**

tetra hydro cannabiniol. Purified extract of the resin of the hemp plant. Hashish is smoked in a pipe or is thought to be the substance in marijuana and hashish that causes the mind-altering effects of these substances.

**Trip**

a name for the reaction that is caused by a psychedelic drug. A bummer is an unpleasant or frightening trip.

**Head**

someone who uses drugs frequently.

**THE DEPRESSANTS**

The category of drugs that depresses the functions of the brain.

**"Downs"**

street slang for depressants.

**Alcohol**

ethyl alcohol, a depressant because it slows the functions of the brain that control thinking and coordination. In high doses it produces drowsiness and sleep. Alcohol is an addictive drug, since after prolonged or continued use it can cause physical dependence (alcoholism), and when discontinued, causes withdrawal symptoms at least as serious as the other addictive drugs.

**Barbiturates**

these drugs are in the group called sedatives—medicines to make you sleepy. Barbiturates are taken in capsule or tablet form. They cause physical dependence (addiction), and after repeated use, physical withdrawal does occur when these drugs are discontinued. Among the common commercial names for barbiturates are: Seconal or "red devils"; Nembutal or "yellow jackets"; Amutal or "blue heavens" or "blue devils"; Luminal or "purple hearts"; Tuinal or "rainbows" or "double trouble."

**Barbiturate Overdose**

more people in the United States die as a result of an overdose of barbiturates (usually suicide) than of any other single substance.

**Intoxication**

sedative or tranquilizer intoxication is similar in its symptoms to alcohol intoxication. Driving while intoxicated can be extremely dangerous, and is thought to cause at least 25,000 fatalities a year.

**Tranquilizers**

drugs that calm tension and anxiety. These drugs do not cause sleep except in high doses. Tranquilizers are taken in capsule or tablet form. Some common commercial names for tranquilizers are: Equanil, Miltown, Librium, and Valium.

**INHALANTS**

Among substances which are inhaled and produce a high are: glue, gasoline, lighter fluid, and refrigerants. Continued inhaling has been reported to cause severe anemia, liver damage, brain damage, and death.

representatives to the central DoD committee. Directive 1300.11 directs the services to develop effective programs to identify drug users and to screen out drug addicts. It also makes mandatory a large-scale drug-abuse education program for military and civilian personnel and dependents, and it extends such programs to Guard and Reserve forces. It encourages the services to develop drug-rehabilitation programs, and it *authorizes* the use of amnesty programs under which—if experimenters or users turn themselves in—their cases may be handled in a nonpunitive way.

### New USAF Policies

Against this updated DoD policy background, the Air Force is gearing up to meet the burgeoning drug challenge in several new and, it is hoped, more effective ways. For operational safety, for example, the Air Force Human Reliability Program now has been



extended to *ground automatically* pilots or crew members at the moment any investigation of possible drug abuse, including the use of marijuana, begins. If it turns out upon investigation that there is evidence of such abuse, the man is to be grounded for a year, during which time he is to be observed and evaluated. The Air Force, of course, retains its legal right to apply discipline if the case warrants it.

There are other Air Force policies in development or being explored. There will be an effort to ensure consistency in drug-abuse statistics in the light of the different classes of drug abuse established in the DoD policy paper. These range from the one-time or short-term experimenter to the addict and pusher. This will be particularly important in terms of more sophisticated questions to be asked of enlistees. Up to now, the form for prospective enlistees has simply asked if the person habitually uses drugs. New questioning procedures could lead to specific revisions of enlist-

ment standards in terms of the kind and degree of drug-abuse experience in civilian life by prospective enlistees. Much deeper preservice record analysis techniques are to be devised, as well as better control procedures for drug-users' records. Also, steps are being taken to set up Drug Abuse Control Councils at each Air Force base and in each command.

One of the most significant sections of DoD's 1300.11 document is the encouragement of amnesty policies. Amnesty is being left up to the individual services. The Army has already undertaken, on a unit basis, in Vietnam an amnesty program under which drug experimenters and even addicts—if they turn themselves in—can get professional help. It is too early to say how effective the program is. The Navy is presently studying amnesty and is already offering assistance to people adjudged sincere in their desire to stop using drugs, although LSD use is presently grounds for discharge from the Navy. The Marine policy is to treat each drug-abuse case on its own merits. The Marines take a particularly hard line on LSD or use of addictive drugs.

The Air Force will probably adopt amnesty in principle, with safeguards for everyone concerned. By this is meant that, while the Air Force expects to honor the traditional immunity of the doctor-patient confidential relationship, the service will retain its legal rights to take administrative action, where it seems warranted for the good of the Air Force. Throughout, the drug user, serving under military law, will retain his legal rights. Obviously, the question of amnesty is complex. If a drug abuser goes to a military physician, he can benefit from the confidentiality of the doctor-patient relationship. If he goes directly to his commander, the matter becomes the immediate responsibility of the commander who has to make the judgment as to what course to take.

If amnesty is adopted across the board in the Air Force, undoubtedly the medics, legal people, and commanders will have to work in very close concert to make sure that amnesty leads, in the majority of cases, to ending drug abuse by those who turn themselves in and receive counsel and treatment.

This leads to the questions of drug rehabilitation, drug counseling and, in the case of addicts, specific medical treatment. These questions are being analyzed by the Air Force. As to treatment for addicts per se, according to Air Force statements, a man on heroin can be put through the traditional withdrawal treatment, which is to wean him off heroin over a period of several days by using progressively smaller doses of morphine. But aside from the fact that such withdrawals are generally only temporary, neither the Air Force nor any of the other services is equipped, nor is it their function, to operate large-scale regular addiction-treatment centers. This is true whether drug addiction is viewed as a legal offense or an illness.

At present, at Fort Bragg, N.C., the Army is experimenting with an addict-treatment program that involves short-term transfer from heroin to methadone—a synthetic narcotic—for a few days, a procedure followed by twelve weeks of rehabilitation in which patients earn points for motivation. The Army program at Bragg also includes what is called "adverse conditioning," in which the patient is allowed to give

himself injections twice a week, but with additives that nauseate him after his initial "high."

The Air Force has no such programs. While it is watching what the Army does at Bragg, the Air Force will probably concentrate instead on improved techniques of drug education and prevention. These will include much smaller drug-education classes. The smaller classes will create a more intimate and realistic framework for exchange of information and ideas. They should help overcome the obvious shortcomings of the mass-lecture approaches in which "instant experts," instructors who are themselves inexperienced with drugs and who have received only a few hours of instruction and a syllabus to work from, do a quick run through on the evils of drugs.

The ineffectiveness of such classes in coping with such a complex social problem as drugs was underscored in the article on USAF's 3320th Retraining Group, which appeared in November '70 AF/SD. The Air Force is also exploring the idea of using, as discussion leaders, people "who've been there," people in or out of uniform who have had experience with drugs. For example, the young men at the 3320th Retraining Group, whose effort to develop a realistic drug-information and discussion program at the Group was described on these pages, have already "rapped" with visiting Air Force Academy cadets.

Other such programs, using the services of other drug-experienced Air Force personnel, may be developed. Approaches of all kinds that focus on the small, "peer-oriented" group that can sit and "rap" on drugs and why people use them, against a background of reliable and nonhysterical medical data, can be expected to materialize as the Air Force gears to meet the drug-abuse challenge.

One specific step the Air Force intends to take in

1971 is to establish, on a test basis, a central rehabilitation program for airmen who have *not* been convicted by court-martial but who are in administrative trouble for offenses including drug abuse. This new program will operate along the lines of the 3320th Retraining Group at Lowry AFB, which presently serves only *convicted* personnel. The 3320th itself is going to be expanded, consolidating at its site all prisoners in the US except those convicted of quite serious crimes. Air Force drug offenders, whether convicted by court-martial or not, will thus have two places where they can receive special therapeutic-community treatment of the sort described in the November '70 AF/SD article on the 3320th Retraining Group.

At the same time, the Air Force will continue to expand its cooperation with surrounding civilian communities in the fight against drugs. The voluntary efforts of Air Force people, doctors, and others who have spoken on the drug problem to audiences near their bases will be encouraged.

The drug problem is multifaceted, to say the least. Whatever the reasons for the alarming rise in drug use, it is clear that only a *collection* of approaches, some of them far beyond the normal scope and style of the military, will be needed to begin finding a cure for the drug epidemic.

Amnesty, counseling, treatment, credible and candid discussions, humane rehabilitation, and the use of truly drug-experienced people as instructors or discussion leaders—all these and more are being studied by the Air Force, along with tighter safeguards where the individual's drug problem must give precedence to the safety of others. The Air Force has never faced a greater challenge. It is preparing to meet this one with reason, relevance, and realism.—END



Night-flying FACs of the 22d Tactical Air Support Squadron ceaselessly patrol the dark skies over Vietnam's Delta country. The enemy can find no place to hide as our airmen . . .

# Roll Back the Curtain of the Night

By Capt. Bud Crouch, USAF

**T**HE Mekong River is quiet, almost eerie, as it winds its smooth way through the night. The moon's reflections on the water make it seem as if some giant has discarded hundreds of silver ribbons across the land. Through the night, the buzzing drone of a small plane can be heard. Evening air comes in the plane's open window, and the US Air Force pilot finally finds some relief from the day's heat.

The pilot, 1st Lt. Gary L. Pates of St. Paul, Minn., guides his small O-2 Super Skymaster down the Song

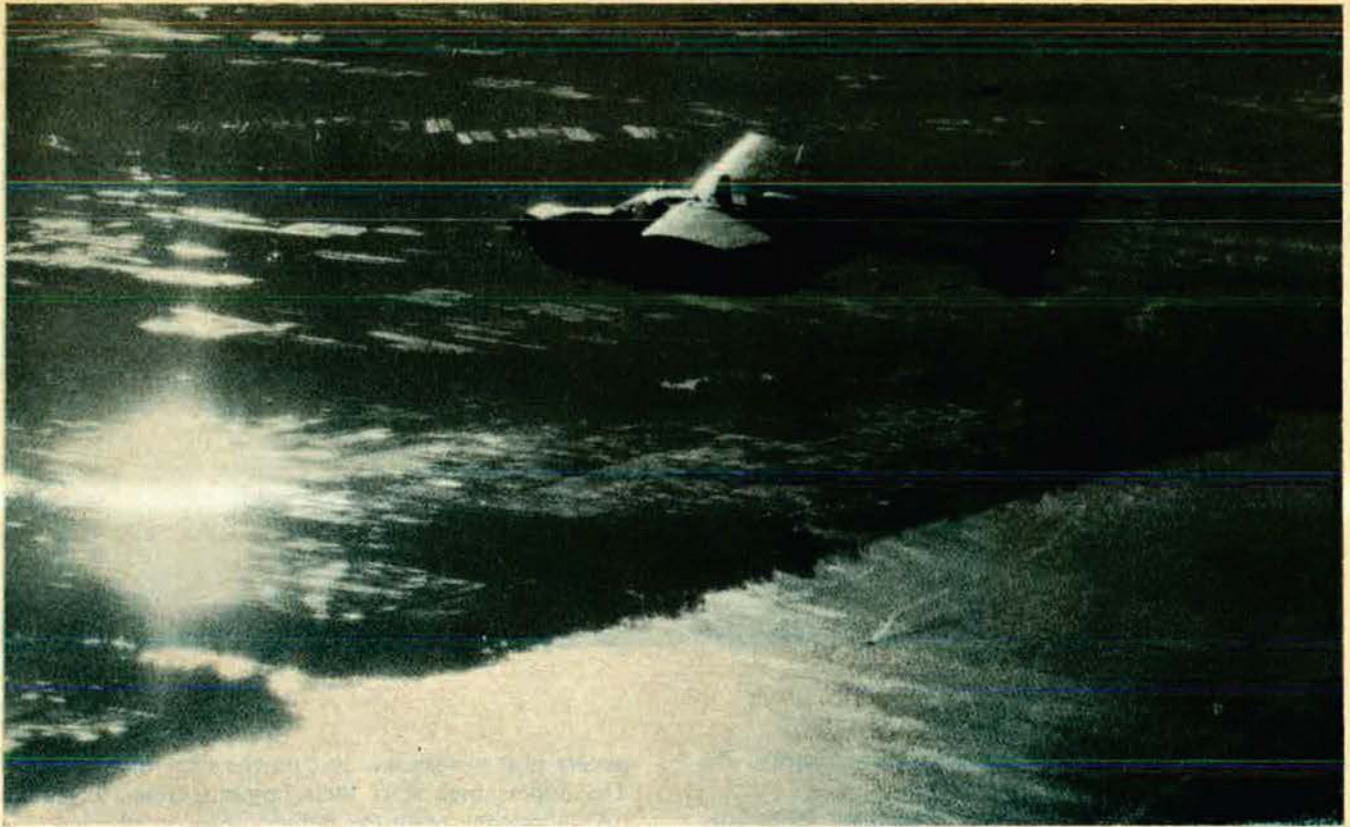
Co Chien River (part of the Mekong). The bright line of water makes a good navigation aid. The lieutenant is a forward air controller (FAC) assigned to the 22d Tactical Air Support Squadron, based at Bien Hoa AB. He is part of the squadron's detachment at Binh Thuy AB, in the Mekong Delta.

Lieutenant Pates and his fellow FACs have the distinction of flying the only night FAC missions in Military Region 4. They are one of the few night FAC outfits in all of Vietnam.



1st Lt. Ernest B. Anderson, Jr., of St. Petersburg, Fla., a night forward air controller (FAC) of the 22d Tactical

Air Support Squadron, checks his O-2 Super Skymaster at Binh Thuy AB in preparation for a night mission.



Moonlight reflects from the Mekong River as an O-2 heads out on a night FAC mission over the Delta. The FAC's

job is to find enemy positions below, and to direct the friendly jet fighters' attack on their shadowy targets.

Their night missions have done much to deny the enemy the use of his years-old supply routes in the Delta—the rivers and waterways. The constant, round-the-clock pressure applied by the FACs has made nocturnal movement in this area a true nightmare for the enemy.

Sitting in the right seat along with Lieutenant Pates is Maj. Charles C. Hansult of Tampa, Fla., the detachment commander at Binh Thuy AB. Major Hansult is also a FAC, but tonight he is flying in a new position created especially for night FACs—the forward air navigator (FAN).

The FAN was created on the premise that at night four eyes are better than two. The FAN helps to search for the enemy, and assists the FAC in getting clearance for an air strike. "It's a real job to find your way around at night. Having someone handle the navigation sure helps," Lieutenant Pates explained. When the strike aircraft arrive, the FAC takes control and directs the attack. FACs take turns flying in the FAN position.

With the aid of a starlight scope, Major Hansult begins checking out some suspicious-looking lights along the banks of a tributary canal. In the green-lighted world of the scope, the amplified light exposes flickering campfires.

Coordinates are carefully checked on the charts. This area has long been known as an enemy base camp area. The O-2 continues to drift down over the river. If the enemy has seen the airplane, he must be led to believe that it hasn't seen him. The campfires continue to twinkle brightly, and he doesn't suspect the O-2.

Now it is time for the FAC and FAN to go to work. They must pinpoint the enemy's location, check to see if there are Allied troops in the area, establish their own position, and finally request an air strike. The request follows a dual route for clearance—one military and one through the Vietnamese province chief. Approval takes time, and this is the worst period for the FAC . . . the waiting. The O-2 circles about ten miles away from the target.

Above the nightly radio chatter, clearance suddenly arrives. The target and its limits are carefully plotted. The plane turns back toward the target. Lights are still there. This time the FAC deliberately flies over the target. Suddenly lights wink out one by one—a sure indication they belong to the enemy.

"The air strike really begins when the FAC and the fighters rendezvous," comments Major Hansult, "and at night this may take a little time." A ground flare is dropped across the canal from the target. In its synthetic light the target looks still and dead—hardly full of enemy soldiers.

"FAC, this is the Bien Hoa flight checking in." Two F-100 Supersabres have arrived. Ignoring the enemy guns, the FAC turns on his bright strobe lights to mark his location for the fighters.

"Can you see my lights?"

"Negative!" comes the fighters' reply. Lieutenant Pates turns to a new heading; this time the F-100s spot his light.

The FAC immediately directs the fighters to circle the target. Then he tells them where to drop their  
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A starlight scope helps the FAC and his navigator locate targets in the darkness. Then the FAC, here Capt. Brent O. Diefenbach of Wheeling, W. Va., draws a bead on the target through his sight, and sends a smoke rocket on its way to mark the enemy's position for the waiting fighters.



high-powered flares. The flares will drift across the enemy camp, backlighting the target.

In the harsh light of the flares Lieutenant Pates goes to work. The O-2 dives toward the target and pulls up abruptly; a smoke rocket is on its way toward the area where the first campfire was sighted. It is well placed. "Fighter Lead, make your first drop twenty-five

meters past my smoke, just on the edge of the canal." The Supersabres start their bombing runs. From the FAC's vantage point the fighters seem to be very close to the ground. Suddenly, their exploding ordnance lights up the area.

They continue to make bomb runs with the FAC providing corrections. Then, on the flight leader's third pass, a string of white flashes arch skyward behind him—ground fire! Quickly, Lieutenant Pates marks the enemy gun position. It goes up in a ball of fire on the next pass. So the strike continues until all the fighters' ordnance is expended.

"One of the difficulties of working at night is that it's very hard to get a battle-damage assessment (BDA) for the fighters," explained Major Hansult. "It's a simple problem of visibility. On this particular strike, we could see several fortifications burning, and it was obvious that we had hit the gun firing at us. But we couldn't give a further BDA."

As the O-2 leaves the target area, the fires and flares go out. Things are almost as they were one long hour ago. Crickets come out, and the cool night air feels good again. This type of mission is repeated night after night. However, these night-flying US FACs will be out of business before long. A new program is planned to train the Republic of Vietnam Air Force (VNAF) FACs for night missions. The VNAF FACs are now flying only day missions in the Delta.

"With a good training program, they will be able to take over our mission," Major Hansult commented. "We plan to start the program with the VNAF FAC acting as a FAN. Then we will work him into the left seat as the FAC."

When this VNAF improvement and modernization program is completed, the US FACs will be gone. However, the night will be just as hazardous for the enemy; the sky will still be filled with the drone of the small O-2. What the US FACs have started, the Vietnamese FACs will finish.—END



Home after another successful mission, SSgt. Lorin A. Jenkins of Midvale, Utah, checks an O-2, which soon will be airborne again, probing for targets during the night.



# In Procurement, The New Look Looks Old

**By Claude Witze**

SENIOR EDITOR, AIR FORCE MAGAZINE

**In the acquisition of weapon systems, a complicated procedure that consumes a small but vulnerable share of the federal budget, both industry and the customer struggle in a jungle of rules and regulations. These rules and regulations are revised to some extent with each change in political administration, yet the critics always find something to criticize. The situation is not peculiar to the Defense Department, but infests the entire government, with the Pentagon working hard to bring about improvements.**

**T**HE Pentagon administration of Defense Secretary Melvin R. Laird has been on the job long enough—two years this month—to learn that it can't look ahead without looking back. There is no area in which this is more true than in what is formally known as the Weapon System Acquisition Process or, more simply, procurement.

In these two years brickbats have been coming in fast and hard. The hail will continue this year in the Ninety-second Congress, with some legislators, such as Wisconsin's Senator William Proxmire, already warmed up for the attack. Mr. Proxmire says he has a mandate from his constituents to capitalize on this issue, and he will be joined by many others.

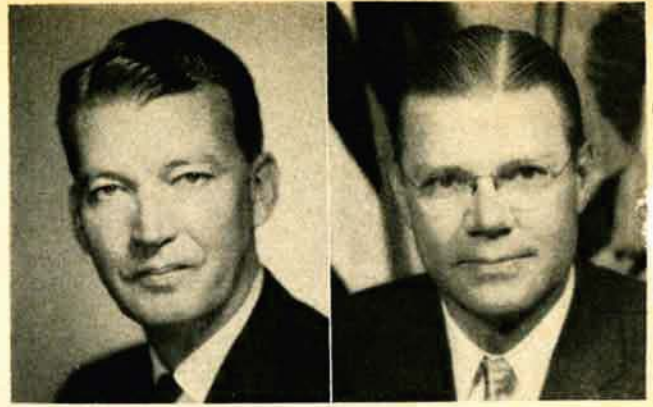
There is considerable irony in the fact that much of what David Packard, Mr. Laird's deputy, has called the procurement "mess" grew out of reactions to congressional criticism. It is not many months ago that a record number of amendments was offered to the Fiscal 1971 Defense Appropriations Bill in the Senate. Some of them came from Mr. Proxmire himself. He did not succeed in his fix-it-quick efforts, but such outbursts are mainly responsible for the fact that our government procurement regulations today are an impossible conglomeration of patched-up laws and directives. Aside from lawyers, who make a good deal of their living out of this regulatory jungle, almost nobody pays any attention to the basic situation. The adversary atmosphere is built into the system.

It is the Armed Services Procurement Regulations that govern the conduct of the Defense Department in this field. In round figures, the Pentagon will spend about \$20 billion on procurement this fiscal year. But the federal government total will be something in excess

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In the area of systems acquisition, Secretary of Defense Melvin R. Laird (left), has delegated full authority to his deputy, David Packard (right). It is Mr. Packard who signs and issues procurement directives for this regime, many of them sounding like memories of directives long past.



It was Bernard A. Schriever (left), then a new Air Force brigadier general, who first managed to expedite decision-making when he took charge of the USAF missile program in 1955. There were steps backward when Robert S. McNamara (right) made the important decisions himself.

of \$55 billion. Of this, the Defense Department's share draws the spotlight, and brickbats tossed in that direction pay maximum dividends in political headlines.

### Mr. Packard Is the Boss

There are few men on Capitol Hill who comprehend the overall picture. Among those who do are Congressman Chet Holifield of California, long-time chairman of the Military Operations Subcommittee of the House Government Operations Committee, and Senator Henry M. Jackson of Washington, who chairs the Subcommittee on National Security and International Operations of the Senate Committee on Government Operations. After a struggle, Mr. Holifield and Mr. Jackson obtained approval of their proposal for a Commission on Government Procurement. The law was enacted in late 1969, but it was at least a year before the Commission staff got organized to study the policies, rules, regulations, procedures, and practices of all the departments that buy things with taxpayer dollars.



There are two men on Capitol Hill, Rep. Chet Holifield (left), and Senator Henry M. Jackson, who are convinced all government procurement is in need of vast improvement.

Let there be no doubt about it, Deputy Defense Secretary Packard is the majordomo of Pentagon procurement policy in this administration. A highly competent businessman, he is outspoken and has not hesitated to scold industry audiences. He is equally rough with the military brass, charging that too many of them "want to get in on the act," even when they can make no contribution to the effort.

At the same time, it is impossible to escape the conclusion that Mr. Packard, in these short two years, has rediscovered a great many things known for years by military procurement experts. In a now-famous memorandum of last May 28, entitled "Policy Guidance on Major Weapon Systems Acquisition," the Deputy Secretary told the department chiefs there is a simple guideline for tackling the "entire management problem." It is: "Put more capable people into program management, give them the responsibility and the authority and keep them there long enough to get the job done right."

### Many People Say No

The pioneer effort in this direction was taken, as veteran observers know, in 1955 by the US Air Force. Following a pattern laid down by the Gillette Committee, it formed the Western Development Division of the old Air Research and Development Command (now AFSC). Later WDD became the Ballistic Missile Division and, more recently, the Space and Missile Systems Organization. From WDD to BMD to SAMSO, the procedures drifted away from what Mr. Packard wants—capable people with authority to get the job done—to an incoherent maze of administration with a lot of people at the top and along the way who can, and do, say no. When Gen. Bernard A. Schriever organized the original WDD, it was described as a Weapon System Project Office created to fit the ballistic missile management problem. The General's goal was to expedite decision-making. In retrospect, it is interesting that fifteen years ago he knew there was too much red tape and that his new command had to dodge it. And it was Senator Jackson who supported him, arguing that technology had outstripped management and that

the key to survival lay in the management of that technology. It was later that the Navy picked up the idea and Vice Adm. W. F. Raborn, Jr., was given extraordinary powers to expedite his management of the Polaris missile system. Then the Army reorganized, as recently as 1962, creating the Army Materiel Command. The intent was to decentralize responsibility. Project managers were given direct supervision of new projects.

The one staff on Capitol Hill that has kept track of these maneuvers for a great many years is the one that serves Mr. Holifield's subcommittee. If we go back to the advent of Robert S. McNamara as Secretary of Defense, we find that the Military Operations Subcommittee, already deep in the subject, kept a sharp eye on the McNamara new look. There were long hearings in 1962, for example, following release of the famous Bell Report. David Bell, then Director of the Bureau of the Budget, had offered advice on government contracting for research and development. Administration spokesmen were called to testify on what they were doing to implement the Bell recommendations.

The 1962 hearings are now outdated and, for the most part, forgotten. But it must be recalled that Thomas D. Morris, Assistant Secretary of Defense for Installations and Logistics in the McNamara family, testified on July 26, 1962, that the Pentagon had been given orders to use the "best management ideas and techniques known to industry and the military departments." There was to be new emphasis, Mr. Morris told the Holifield Subcommittee, on three efforts. Incentive and fixed-price contracts would be favored over cost-plus-fixed-fee (CPFF). The PERT (Program Evaluation and Review Technique) approach would be used to control development programs. There would be "more effective use of project management offices to focus responsibility and authority for the supervision of the highest priority weapons programs."

### The Emphasis Shifts

Presumably all these things were done, in the McNamara fashion, yet Mr. Packard found a "mess." Herbert Roback, staff administrator for the Holifield Subcommittee and one of the best-informed observers on the Hill, said in a speech early last year that "after a near-decade of McNamara reforms, the situation in weapon system acquisition seems to be worse than ever before. Judging by reports in the press, congressional commentary, and academic analysis, cost overruns abound, schedule slippages are common, and performance deficiencies are aggravated."

What is the Laird-Packard response to this failure?

The answer is reminiscent of Mr. Morris' appearance in 1962. Areas of emphasis are being redefined.

Mr. Packard says that experience proves a fixed-price contract for the development of a new system simply won't work. This concept had been incorporated in the McNamara administration Total Package Procurement (TPP) effort that was used on the Lockheed C-5A program. The sad result still provides steam for Mr. Proxmire and other critics of all defense spending. To replace it, and go some distance back to the pre-McNamara days, Mr. Packard now calls for develop-

ment contracts on a cost-plus-incentive-fee basis (CPIF). These must "provide for trade-off procedures throughout the development" and be followed by fixed-price production contracts, drawn up after it is possible to determine the cost of production.

Putting new stress on the quality of the people placed in charge, Mr. Packard wants program managers given more recognition and rewarded as generously as are combat heroes. He wants them to have full responsibility and authority. They must stay in the job long enough to do it right. In the production phase, the services are admonished to set milestones, points at which they and the contractor can demonstrate that a practical engineering design has been achieved.

The evident paradox, the "mess" that was left after nine years of McNamara management, has been best explained by Mr. Roback. He says it is a *seeming* paradox. There was progress in the McNamara regime, and his concepts will have lasting effect. It can be argued, Mr. Roback believes, that McNamara concepts were frequently misapplied, which can be blamed on people. Also, the times have changed. In 1961 concurrency was popular, and it got that way largely because the Air Force had used the concept in the tense years when the race for ICBMs and space vehicles got under way. Concurrency was successful, but it is expensive and not always necessary. Mr. Roback, at the admitted risk of oversimplification, gives a definition: "Milestones mean that one step follows another, concurrency that several steps are taken simultaneously. Concurrency buys time for quicker performance, milestones sell time for better performance."

### The Politics of Overkill

The most recent Holifield Subcommittee hearings were held in late September for the specific study of procurement policy changes. A report, based on those hearings, is slated for release, probably by the time this review gets into print. As a rule, the subcommittee's hearings and reports do not make major newspaper headlines, like those staged by some other committees that specialize in creating controversy and capitalizing on the gripes of industry or bureaucratic malcontents.

Chairman Holifield has characterized some of these critics as practitioners of the "politics of overkill." They mix a few old problems with some new ones, he says, and blow up the results into gargantuan size. They hold investigations and offer bits and pieces of legislation, like the amendments to the last appropriation bill, regardless of their expertise on the subject. "There are members of Congress," he says, "who are trying to outdo each other in beating the military on the head or kicking them lower down, because that seems the popular thing to do and the competition for publicity is so strong. Publicity is a demanding mistress. She makes some elected officials forget their sense of responsibility, not to mention their manners."

At the start of his September hearings, Mr. Holifield said he wanted to know what the Laird-Packard team is doing to defense procurement policy. But he added his own observation to the effect that he did not expect to hear much that is really new. He said that "fly before you buy" now is being bandied around as if it were a

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new discovery, but he knows it dates back at least to the 1940s, if not to the Wright brothers themselves. In procurement, he opined, there is not much new under the sun. If the old ways are better, he seemed to suggest, by all means go back to them. If cost-plus contracting is to return, with the government resuming the burden of risk, then the key question is to determine the reward for the contractor and the degree of surveillance that should be retained by the government.

At one point, while Army witnesses were on the stand, they were asked what kind of policy guidance they have from the present administration. The reply, provided by Dr. J. Donald Fox, Assistant Secretary of the Army for Installations and Logistics, was an admittedly incomplete list of policy correspondence, dating back to May 6, 1969. There were fourteen directives and memorandums cited.

When the hearings are available, early this year, they will be in a book of more than 200 pages. The cast of witnesses is a Who's Who of top procurement officials in the Defense Department and each branch of the armed services.

### Let the Air Force Buy It

A key witness, aside from Mr. Packard, was Vice Adm. Vincent P. de Poix, USN, who is Deputy Director of Defense Research and Engineering for Administration, Evaluation and Management. As a strong right hand to Dr. John Foster, the Admiral presented a new chart delineating the responsibility and authority of the Office of the Secretary of Defense and the military services. The changes are clearly dictated by Mr. Packard's insistence that OSD get out of the management business, where it got so deeply mired during the McNamara administration, and that the services get back into it. If the Air Force is buying a system, the new code says, let the Air Force buy it and take basic responsibility.

On the de Poix chart, OSD accepts primary respon-

Admiral de Poix uses this chart to demonstrate that the Army, Navy, and Air Force Secretariats make their own decisions at five critical points in the history of a weapon system. The Defense Secretary takes precedence at only three points. The Office of the Assistant Secretary for Systems Analysis, bottom line, like that of the Comptroller, now retains only secondary and monitoring responsibilities.



Vice Adm. Vincent P. de Poix, USN, and Barry Shillito, both key men on the Laird-Packard team, are responsible today for enforcement of revised regulations on procurement.

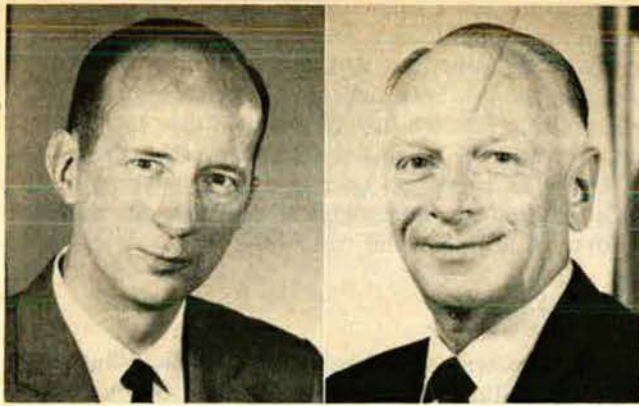
sibility at only three out of eight major decision-making points. The other five are retained by the Army, Navy, or Air Force, as the case may be. The practical effect of this is that Mr. Laird's organization will merely monitor programs between decision points and be responsible only for key decisions. The service is responsible for executing the program. Within OSD, the principal responsibilities rest upon Dr. Foster's shop until the project moves into production, when the Assistant Secretary for Installations and Logistics takes over. The Comptroller has secondary and monitoring responsibility all through the program. The Office of the Assistant Secretary of Defense for Systems Analysis only monitors the project in its conceptual phase and thereafter has limited secondary responsibility. This is the office that exercised much power in the McNamara administration and was heavily criticized by the uniformed services, whose veterans felt strongly that the civilian systems analysis experts lacked essential military experience.

RESPONSIBILITIES IN ACQUISITION OF MAJOR WEAPON SYSTEMS								
RESPONSIBILITIES OF THE DEFENSE SECRETARY AND THE SERVICES								
	Conceptual Phase	Program Decision	Validation Phase	Ratification Decision	Full-scale Development	Production Decision	Production	Deployment
Secretary of Defense	D	A	D	A	D	A	D	D
The Services	A		A		A		A	A

RESPONSIBILITIES WITHIN THE OFFICE OF THE SECRETARY OF DEFENSE								
Secretary of Defense		A		A		A		
Dir., Defense Research and Engineering	B	B	B	B	B	C	B	
Ass't Sec'y, Installations and Logistics		C		C		B	B	B
Ass't Sec'y, Comptroller	D	C	D	C	D	C	D	D
Ass't Sec'y, Systems Analysis	D	C		C		C		

A—Primary Responsibility B—Principal Responsibility in OSD C—Secondary Responsibility in OSD D—Monitoring Responsibility



Dr. Gardiner L. Tucker (left) is Assistant Secretary of Defense for Systems Analysis, and Robert C. Moot (right) is Pentagon Comptroller. Their roles have been revised.

Basic to the functioning of the OSD under the new definitions is the Defense Systems Acquisition Review Council (DSARC). DSARC has been defined by Barry Shillito, ASD for Installations and Logistics, as a body "composed of the Director, Defense Research & Engineering, Assistant Secretaries of Defense for Installations & Logistics, Comptroller and Systems Analysis, [that] oversees the complete procurement process from concept formulation through the development process and to and through production. We must recommend courses of action to the Deputy Secretary of Defense at each of these key decision points."

On the stand, Admiral de Poix said his charts are a response to Mr. Packard's complaint that there has been overlap and confusion in the OSD. He felt, the Admiral said, that Systems Analysis was getting into DDR&E's business and that the latter was getting into the business of the ASD (I&L).

Didn't the Deputy Secretary want to make clear that the Whiz Kids are not determining hardware?, the Admiral was asked.

"Yes, it might have been that," was the response. "However, other offices were also getting into other people's business, where they didn't fully belong."

A few moments later, the witness expanded on this thought, with particular reference to DDR&E. From now on, that office will have to pay prime attention to the job in its charter, which does not include day-to-day supervision of the conduct of a program. Said the Admiral:

"In some cases it almost became a matter of pride for them to identify a problem before the service had picked it up and then immediately to embark upon the solution of that problem to help the service. This tended to make the services feel that they were not given a full opportunity to handle their own problems, and may have generated some ill feeling, criticism, and contests."

### A Data Bank Will Help

In other testimony, by Robert C. Moot, the Comptroller, it came out that the Systems Analysis office will have new key responsibilities in maintaining a data bank that will help improve the cost-estimating effort.

Mr. Moot's office will collect the data about cost associated with components and assemblies. It is hoped this material, computerized by the Assistant Secretary of Defense for Systems Analysis, will help estimate the cost of things that have not yet been built.

One of the Packard decrees that has created wide comment was his observation in the May 28 memorandum that "the cost of developing and acquiring new weapon systems is more dependent upon making practical trade offs between the stated operating requirements and engineering design than upon any other factor."

That is a sweeping observation, and the boss said it "must be the key consideration at every step in development from the conceptual stage until the new weapon goes into the force."

In the past, there has been a complaint that any proposal for a simplification, the elimination of some feature or subsystem, always is referred back to the man who put in the requirement in the first place. Naturally, he turns the suggested deletion down; it was his idea in the first place. Since Mr. Packard's arrival, he has found systems that had too much in them—USAF's C-5A and the Army's tank, the MBT-70, are examples—and he has ordered eliminations.

As Admiral de Poix explains it, there has been a tendency to say that a requirement is "hard" when this is not necessarily so. Maybe the cost of making the airplane do Mach 3 instead of 2.8 is high. The new proposition, the Admiral said, "is to look at the cost of bringing that airplane up to Mach 3 from the 2.8 that it probably could do without an extraordinary effort, and reevaluate the importance of having that airplane do Mach 3 instead of Mach 2.8 or 2.9, because it might be possible to get part way there by a lesser effort. This is a trade off."

### Can DSARC Do the Job?

The trade-off studies, as well as those on cost-effectiveness, are examples of the kind of actions sometimes required by the Defense Systems Acquisition Review Council. When Mr. Moot was on the stand, Mr. Roback bored in heavily on how DSARC conducts its business and how well equipped it is to make these decisions. The inquisitor said DSARC is supposed to exert controls and keep the government from getting into tough positions, where it cannot back out. He questioned whether the mechanism is equal to the task. "After all," he said, "you are three or four people here who have to pass on all kinds of highly technical matters. Presumably you do not institute your own task forces, panels, and subcommittees to investigate each and every one of these things. So how much better than a perfunctory review is it?"

Mr. Moot said the Development Concept Paper makes it clear what must be checked. His own office, DDR&E, and other sources, make information available. The chairmanship of the Council moves from Dr. Foster to Mr. Shillito, depending on the stage of the program. The project manager, a man Mr. Packard wants to invest with more power and responsibility, comes to the meeting when his project is on the docket.

*(Continued on following page)*

He brings answers to prepared questions and replies to more of them from the floor. The Service Secretariats also attend for program reviews.

Mr. Moot was reminded that, in the past, a project sometimes was moved ahead without having satisfied prerequisites of the earlier stage. His response was that, in those days, the Comptroller did not really have funding control. He had to accept the judgment of the technical people, who promised to catch up. There was no evaluation of the seriousness of the difficulty. Now Mr. Moot can refuse to pay the bills if he is not satisfied. If this results in a dispute, it goes to Secretary Packard. "It is his system. Presumably the system works right and he is the man who is going to have to be satisfied before we can move forward." Moving forward means that Mr. Moot releases the money.

### How Do You Kill a Project?

It was while the Navy was testifying that there surfaced a common congressional observation that it is hard to kill a weapon project once it is under way and development is authorized. It came as something of a surprise to the subcommittee when Robert A. Frosch, Assistant Secretary of the Navy for R&D, discounted the problem.

"It seems to me," he said, "that it is not necessary for either the Navy or the Congress to feel bound to complete the development or to procure everything which has been developed.

"I think one of our difficulties has tended to be that we wanted to develop only as many things as we were going to put into production. I think it would be more sensible to have more developments early, in the early stages of development, to have some of them die as one gets to firmer development, and to have more things developed than we actually procure.

"I do not think that the initiation of a development should be regarded as a perpetual authorization to put that system into existence."

"How are you going to deal with a project manager who is in a position of having to defend a project and he becomes an advocate of the project?" Mr. Roback asked.

"Well, I deal with him by recognizing that he is the advocate," Mr. Frosch replied.

Mr. Roback came back with the observation that the project manager can be more of an advocate than the contractor, who "lobbies his congressman."

Replied the witness:

"Of course, a project manager wants to continue his project. Anyone who is managing an individual job gets identified with it and wants to carry it on. I think that is one of the jobs of the management above the project manager, to make decisions which sometimes abolish projects. I have abolished projects, and others have."

This entire exchange, and more, illustrates one of Mr. Packard's greatest responsibilities. Mr. McNamara abolished some projects—the B-70, Dyna-Soar, and Skybolt, to name three of the most controversial—and there remain hundreds of experts who question his judgment on some or all of the decisions. On the other hand, the approach of Dr. Frosch is not dissimilar from that of the Russians, who develop new missiles

and airplanes on a regular cycle. Only selected ones are put into production. The great advantage to the Soviets, both suppliers and users, is that they stay abreast of the art, keep their design teams together and busy, and regulate the flow of required new production work. It results in a balance not available in this country, where all curves go up and down, including those which record our technological advance as well as industry employment and capability.

### It Is Easy to Err

USAF was represented before the Holifield Subcommittee by Philip N. Whittaker, Assistant Secretary for Installations and Logistics; Grant Hansen, his counterpart in the R&D area; and Aaron Racusin, Deputy Assistant Secretary for Procurement.

Basically, Mr. Whittaker has three systems he can talk about. They are the B-1 advanced manned bomber, the Airborne Warning and Control System (AWACS), and the F-15 air-superiority fighter. The witness sounded a little apologetic at the outset, but the figures he put in the record are essential and were not offered by the Army or Navy. The Air Force, Mr. Whittaker reported, takes 2,300,000 procurement actions each year. It obligates more than \$10 billion. About ninety percent of these procurements are for less than \$10,000. Altogether, this ninety percent of procurements represents only seven percent of the dollars spent. This means most of the business is big business, but the peril of error provides "a rather fertile hunting ground for some of our would-be critics." If USAF made an error only once in every 1,000 procurement transactions, "we still would have 2,300 potential horror stories each year."

Mr. Whittaker, under the stress of cross-examination, never got a chance to discuss a really new USAF group, probably best described as his own DSARC. The Assistant Secretary now serves as chairman of the Air Force Systems Procurement Council (AFSPC). He said, in a prepared statement, that it includes the Assistant Secretaries for R&D and Financial Management, the General Counsel, the Deputy Chiefs of Staff for R&D and for Systems and Logistics, and the Vice Commanders of the USAF Systems Command and the Logistics Command.

It is a goal of AFSPC, he said, to make sure USAF does what Mr. Packard demands. Also, to fight cost growth, technical deficiencies, and "contractual entanglements." If these things were not being done under the McNamara administration, it lends credence to USAF's critics. There was no explanation offered about the origin of AFSPC, except that it was set up by USAF Secretary Dr. Robert Seamans.

The Assistant Secretary also told the subcommittee that he does not agree with his colleagues who feel there has not been any basic change in procurement policy under Mr. Packard's leadership. "I do not want to misquote them," Mr. Whittaker said, "but I do have the feeling there has been a dramatic change in the atmosphere and in the attitudes, and that translates into actuality. The fact that there have been shortened lines of command and communication on these programs does permit the program manager to come in and say, 'We want to relax the specifications in a cer-

tain area' and want to get a quick decision to do this."

He said that the B-1, AWACS, and F-15 programs already have been "scrubbed down" and the requirements reduced. He added that it is a "different kind of ball game than existed a short time ago."

### How Trade Offs Work

Mr. Hansen, appearing as a backup to Mr. Whittaker, spoke up several times with good effect. He pointed out, for example, that USAF has three opportunities to trade specifications and requirements against costs. On the A-X, this was done in the concept-formulation period, at kickoff time. In the AWACS program, pressure was brought on the contractor inputs and adjustments made, with significant reductions in the requirement. The third opportunity, the "scrubbing down" mentioned by Mr. Whittaker, can come after the program is under contract and USAF can work with the contractor to bring about changes that will reduce cost.

The Assistant Secretary for R&D said that a few years ago the program managers accepted requirements as gospel. Now they know Mr. Packard, and USAF, have given them responsibility and they must have alternate solutions when cost or technical problems arise. A solution might be to take more time or put in more money. The operations people would be consulted and asked about a relaxation of the requirement. Alternatives would be presented to the AFSC commander, then to the Chief of Staff and the USAF Secretary. The final decision would, in this case, be made by the Chief and the Secretary.

At another point, Mr. Whittaker indicated that pushing the state of the art and maintenance of the concurrency concept are responsible for most USAF management problems in the recent past. He rated the personnel problem as secondary. Again, Mr. Hansen spoke up, pointing out that procurement officers have a long shelf of directives to follow. In the past, there was pressure to follow them; now there is a shift to the use of common sense. He added:

"I think that the access of the program directors to the Secretary of the Air Force and the Chief of Staff of the Air Force is very greatly improved. I am told that in the early period of the F-111 program, for instance, there were program management meetings held in the Pentagon to which the program director was not even invited. It was held above his level."

### They Must Know, at the Top

Later, Mr. Hansen spoke of the "factor of fidelity of information transmitted." He explained:

"If the program director communicates directly, face to face, with the Chief of Staff of the Air Force and the Secretary, there can be no loss of content or fidelity of his statements. If he said something to someone and this gets channeled through, and some program element monitor in the Air Staff is the man who talks to the Chief of Staff of the Air Force and the Secretary, it is possible that the true information content of that communication has been distorted or lost."

There are few project managers, in the Air Force or the Army or Navy, who would dispute that analysis.

Getting the word up where it belongs has been a frustration for many years past. General Schriever licked the problem fifteen years ago, but it did not stay licked.

Veteran USAF staff experts, who understand perfectly how the McNamara-Robert Charles Total Package Procurement idea came into being, are sympathetic with what it tried to do. It was an effort to overcome a disability, but it lacked the flexibility needed for a new system, with its unknowns and unknown unknowns. Most of these men doubt that Mr. McNamara would be buying the F-15 or AWACS the way he bought the C-5A transport, if he still ran the Pentagon. The problems were coming to the surface as the last Secretary departed, and had to be faced.

### Who's in Charge Here?

When Gen. J. P. McConnell retired as USAF Chief of Staff, he told one congressional committee that when something went wrong in the procurement area, he never knew who was to blame. In an operational situation, he could fire a man who goofed. In procurement, it became impossible to find the man.

This came up while Mr. Whittaker was on the stand and led him to admit that USAF has started to question the structure of the Systems Command itself. Should the divisions—such as the Aeronautical Systems Division at Dayton—be shut down? Should the project officers report directly to command headquarters at Andrews AFB, near Washington? Should the systems program office have its own plant representative working on the contractor's premises?

Mr. Hansen added that the bulk of responsibility already has been taken away from the Air Staff and shifted to AFSC, thereby eliminating one of the layers that disturb Mr. Packard.

The Armed Services Procurement Regulations (ASPR) continue to undergo change. Total Package Procurement already has been eliminated. The subcommittee was told there will be "not a great many" ASPR revisions that will have serious effect on major weapon procurement. The part on contract selection will be revised, to reflect the new determination to favor CPIF for development and fixed-price deals for production.

A few months ago, Mr. Holifield made a speech in which he pleaded for fewer extreme criticisms and extreme justifications in the procurement area.

"The military are not monsters and the country is not going to hell in an armored hack," he said. "Considering the enormity of its problems, the military establishment is, on the whole, well regulated and well run."

He did not tie this to any political administration.

But he did accuse the military of passing the buck. When waste and mismanagement are lamented, he said, the standard reply is, "It was my predecessor who did it all," or, as the Navy man would say, "It didn't happen on my watch."

This response, Mr. Holifield believes, "creates a very compelling obligation to show that under a new administration things can be done better."

If the new administration has to look back fifteen years for better ideas, that's the name of the game.—  
END

## An AIR FORCE Magazine Photo Feature

In October, top-ranking air defense teams from nine ADC, ANG, and RCAF units met at Tyndall AFB, Fla., to compete in several categories of air defense operations. New champions were crowned at the close of the week-long interceptor weapons meet. . . .

# WILLIAM TELL '70

**W**illiam Tell is back! After a five-year intermission, imposed by commitments in Southeast Asia, the Air Force interceptor weapons meet was held at Tyndall AFB, Fla., during the last week of October. Nine teams of four aircraft each pitted their skills

against simulated "invader" aircraft, the Ryan Firebee drone, which can fly 600 miles an hour at 50,000 feet. Air defense aircraft intercepted high-flying drones, low-level tow targets, and electronic countermeasures aircraft in a test of North American Air Defense Com-



A team of airmen lifts an AIM-4 missile from its container as they compete in the weapons-loading competition.



ADC judges watch as another team makes ready an air-to-air missile for a high-altitude intercept mission.





An F-106 of the 84th FIS, Hamilton AFB, Calif., taxis out for an intercept firing mission. Top defense teams of ADC, the Air National Guard, and the RCAF participated.

mand's ability to defend the continent from bomber attack.

The nine competing US and Canadian units were selected through a year-long series of intercept and weapons-loading competitions. Participating F-106 units were: 318th Fighter Interceptor Squadron (FIS), McChord AFB, Wash.; 71st FIS, Malmstrom AFB,

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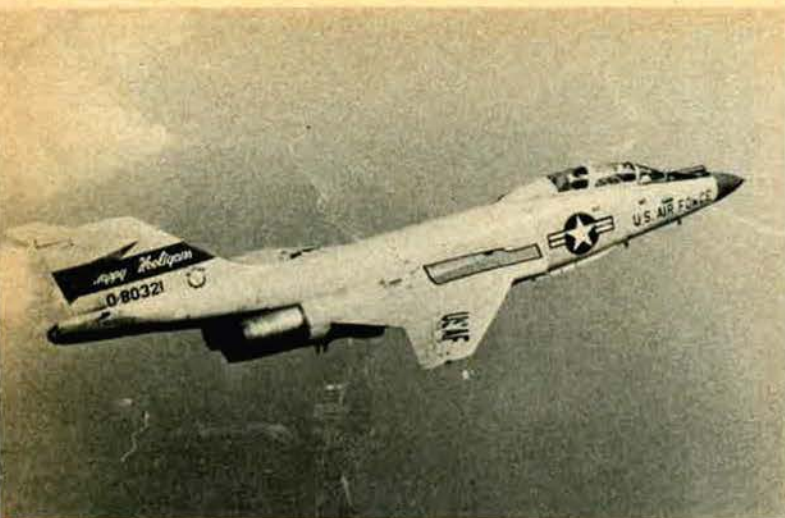
Capt. Doug Stewart and Pete Dunda of RCAF's 409 All-Weather Squadron check their CF-101 before taking off for Tyndall AFB, Fla., to compete in William Tell '70.



An F-101 of North Dakota ANG's 119th FG heads for the firing range. The 119th captured the F-101 competition.



Interceptors of the Minnesota ANG's 148th Fighter Group, winners of the F-102 competition, hold perfect formation.



An F-101 locks on its target, a Ryan Firebee drone, high above the Tyndall AFB overwater firing range.



Nine units competed this year: three equipped with F-102s (rear), three with F-101s (center), three with F-106s.

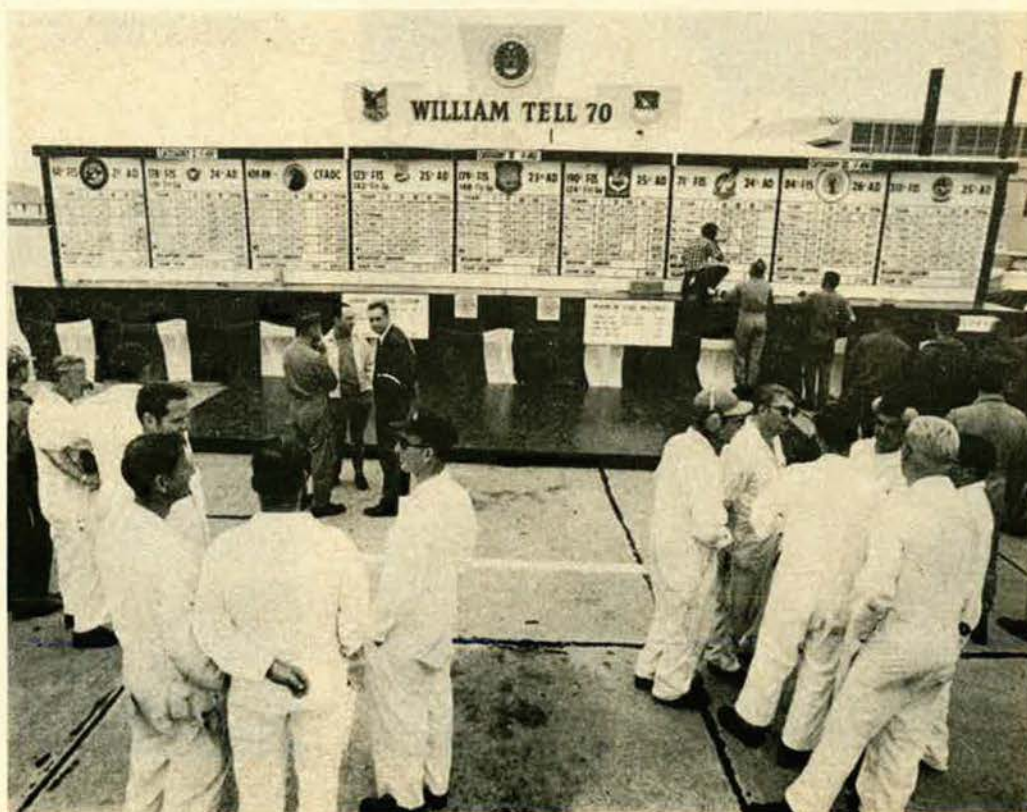
Mont.; and 84th FIS, Hamilton AFB, Calif. F-101 units were: 60th FIS, Otis AFB, Mass.; 119th FG, North Dakota ANG; and the RCAF's 409 All-Weather Squadron, Comox, British Columbia. Air National Guard F-102 units in the competition were: 124th FG, Idaho ANG; 148th FG, Minnesota ANG; and 142d FG, Oregon ANG.

Champions in the aircraft category were the 71st FIS (F-106); the 119th FG, North Dakota ANG (F-101); and the 148th FG, Minnesota ANG (F-102). Winners in the weapons-loading competition were the 84th FIS (F-106); the 124th FG, Idaho ANG (F-102); and the Canadian 409 AWS (F-101). In the

weapons-controller competition, honors went to Capt. Thomas W. Knepper and Ronald L. Ayres of the 84th FIS (F-106); Capt. R. G. Barcus and D. H. McCosh of the 148th FG (F-102); and Capt. Joseph W. Lewis and Laszlo J. Bakonyi of the 60th FIS (F-101).

Trophies were presented by Lt. Gen. Thomas K. McGehee, Commander of Aerospace Defense Command. William Tell was, in General McGehee's words, "the most realistic testing environment possible for North America's air defense against potential enemy bombers." One thing is certain: The competence of those who man our thinning air defenses is unmatched by the interceptor teams of any other nation.—END

Participants and spectators check the William Tell '70 scoreboard. In the competition, air defense aircraft intercepted high-flying drones, low-flying towed targets, and ECM aircraft. The meet, hosted by the Air Force Aerospace Defense Command, was held from October 26-31, after a five-year intermission.



As computer technologies progress toward machines of ever greater capabilities and capacities, while becoming more rugged and smaller, the Air Force, correspondingly, is intensifying its reliance on these third-generation systems. But beyond the significant improvements attained by the computer systems that are currently entering the Air Force inventory, new technologies are taking shape whose potential for the military user are enormous, and which presage . . .

# The Coming Age of the Talking Computers

By Edgar Ulsamer

ASSOCIATE EDITOR, AIR FORCE MAGAZINE

**T**HE Air Force, according to its Chief of Staff, Gen. John D. Ryan, is entering the "information age." He might well have said "the computer age," since it is characterized by effective tie-ins between man and advanced, third-generation computers as well as by links among the computers themselves.

Reliance by the Air Force—and the Department of Defense—on computers is already high. But it is only a beginning. Several major programs are currently in progress that take computers out of the back room and bring them into the mainstream of military management, command and control, logistics, and other fields, by linking them through modern communications. The generic name for this marriage of computers and communications is "tele-processing."

Computers are expensive, not only in terms of purchase price or leasing costs and upkeep, but also in regard to programming and data storage. It is axiomatic that the more complex and capable the computer, the higher its hardware and software costs. In order to be cost-effective, computer systems—whether "dedicated" to a specialized function or mission, or used for general purposes by a number of different units—must be able to work with other systems with a minimum of reprogramming, reformatting, and duplication of stored information.

### The ARPA Network

The most difficult but also the most desirable form of cooperation among computers involves the creation of networks of dissimilar machines that can draw on each other's peculiar "talents and knowledge," despite

differences in "language," memory format, and basic hardware. As long ago as 1964 the Advanced Research Projects Agency (ARPA) of the Department of Defense sponsored research that demonstrated that different makes of computers, employing different structures and formats, could be made to "converse" among themselves. The basic obstacle to the creation of such networks, it was learned, was the absence of adequate communications systems. But by 1967 government and industry scientists began to evolve the basic outline for a network of computers which, while normally incompatible with each other, could be made "interactive" and could be linked by high-speed, wide-band land lines without significant restraints on the distances covered or the number of machines involved.

Such a system, now known as the ARPA Network, was conceived by that agency's Director of Information Processing Techniques, Dr. Lawrence G. Roberts, and designed by Bolt Beranek and Newman, Inc., of Cambridge, Mass., under an ARPA contract in 1969. Its initial and basic function is to link the one-of-a-kind, high-speed computer systems of twenty-one computer research centers into an interactive network. Eventually, similar nets may involve hundreds of computers.

The results already are dramatic. Some of the world's most powerful computers are combining their resources to achieve unprecedented computation and data-base capabilities. Toward the end of 1971, the world's most advanced and powerful computer, the ARPA-sponsored, parallel-quadrant ILLIAC IV of the University of Illinois, will join the network. ILLIAC IV eventually may use up to four computing elements—

*(Continued on following page)*



The world's most advanced computer, the University of Illinois' ILLIAC, will soon be linked into the ARPA net. ILLIAC, for which the Air Force's Rome Air Development Center acts as contract manager, recently became operational during demonstrations at the Great Valley Laboratories of the Burroughs Corporation. It uses array processing techniques.

each consisting of sixty-four individually "arrayed" computers—concurrently, to increase computation speeds for such specialized, time-urgent tasks as nuclear-effect simulation and differentiation among various ICBM reentry vehicles and decoys. Each computer system (eleven are linked so far) has high-speed access to the programs and information of all the others in the net. Dr. Eberhardt Rechtin, the Acting Principal Deputy Director of Defense Research and Engineering and head of ARPA, told this reporter that creation of this network represents "one of the most promising and significant technological achievements now in sight."

In a practical, military sense, he explained, the network provides "dispersed computation and data-bank capabilities which reduce basic vulnerability. At the same time, this technology eliminates the need to maintain data bases by each user. If one computer system on the net has acquired a special software capability involving particularly difficult problems, then this special talent is available instantly to all the other users without having to mail software tapes back and forth." Because the individual computers can ask each other questions at high speed, and because they know each other's expertise, he said, the effect of the net is comparable to convening a "conference of experts where you pose particular questions that are answered immediately by the specialist who can solve the problem." Concomitantly, the ARPA Network user receives a short, precise answer rather than a complex set of data on the basis of which he has to compute the problem from A to Z, as was the case heretofore," he said. Dr. Roberts went on to point out that the computers on the net "converse at about 500 times the speed of teletype machines."

The concept and rationale underlying the ARPA Network are not based on any particular hardware breakthrough but rather employ an ingenious interface between the various main computer systems on the net, called "host computers"; the minicomputers that act as interface message processors (IMPs) by routing, timing, error-checking, and acknowledging data transmissions between the main machines; and transmission lines capable of carrying digital information extremely rapidly and in a flexible way.

The most difficult obstacle faced originally by the ARPA Network designers involved finding a communication service that could interconnect the various network nodes (the points where individual computers

### How the Multilingual IMP Ties It All Together

At the core of the ARPA Network are its interface message processors (IMP), small general-purpose computers of the Honeywell DDP-516 type, which cost about \$100,000 each and which perform a series of vital functions. The IMP receives a message from its host machine (for the time being there is one IMP for each host computer, but this ratio could be increased to four hosts per IMP), including special address information, for forwarding to the destination host.

In order to be compatible with the network standards, the IMP breaks the message into packets of a maximal length of 1,000 bits and ships each packet separately into the network after it attaches an identifying "header" to each message segment. Each IMP, within the path of a given communication performs what is called a store and forward function, *i.e.*, it keeps individual messages stored in its memory until the adjacent IMP has confirmed their error-free receipt. The receiving IMP reassembles the individual packets (if a given message consists of more than one), and passes the complete communication to the destination computer in the latter's "language."

In a sense, this arrangement insulates the individual

host computers from network problems and, conversely, protects the net from the problems of the host. The IMP acts somewhat in the order of an interpreter for people speaking different languages. Each packet, along with relevant address information and special cyclic error check bits, is routed from IMP to IMP toward its destination. If an error is detected by an IMP—the mathematically calculated, undetected mean error rate of the entire net is less than one per year of operation—it automatically and instantly requests retransmission of the message before it acknowledges and passes on the communication to the next IMP. This process is repeated until the message is delivered to the destination host. If the originating IMP does not receive an acknowledgment from the destination within 0.1 second, it retransmits the message, usually over a different route.

This arrangement avoids overloading individual en-route IMPs in terms of their data-storage capacity and makes it possible to bypass IMPs that are processing other messages at the time. Because of the high reliability of this multiple-path technique, the ARPA Network requires no message logging, a time-consuming but necessary procedure used for less reliable systems.

and their associated equipment join the system) in a technically and economically acceptable fashion. Conventional telegraph and telephone lines were found incapable of meeting the peculiar requirements of digital data transmission because of a high error rate and/or a number of other reasons. It has been observed on some time that computers "talk" to each other in bursts" of data, requiring communication links with a capacity of several thousand (kilo) bits per second. (A bit is a unit of digital data.) By way of comparison, human talking to a computer averages about eighteen bits per second.

Because of this high burst rate, the ARPA Network uses "time-shared" wide-band lines, capable initially of transmitting fifty kilobits a second. Under certain conditions this rate can be increased to 230 kilobits. The lines are such that each node on the network can reach every other node by several separate routes.

Interface message processors (IMPs), Honeywell DDP-516 minicomputers, are at the nub of the ARPA Network. Acting as the interpreters for host computers, employing different formats, the IMPs permit rapid, interactive "conversation" by machines that are otherwise incompatible.



The net differs from existing systems, such as AUTODIN, the currently operational digital network of the Department of Defense, by not providing established paths between the various pairs of nodes, or IMPs, but by an intricate method of "distributed message switching," meaning that each communication carries an address. On the basis of this address, individual communications are guided to their destination from node to node, each of which contains an interface message processor. Each IMP located en route between the IMP that originates a given message and the one which receives it first stores the communication, and then forwards it.

The actual routing is determined by each IMP on the basis of complex yet rapid computations that establish which path gives the shortest estimated transit time, allowing for such variable factors as traffic congestions and other delaying elements. Individual IMPs constantly inform all their immediate neighbors of delays or line failures within their purview, thereby enabling the network to provide rapid, open paths at all times. This arrangement, according to Dr. Roberts, guarantees that any computer on the net can address a message to any other computer and be certain that it will be delivered correctly and promptly, with transit times for 1,000-bit messages not to exceed 0.2 second."

A 10,000-bit message, he said, requires about 0.3 second, and communications in the million-bit range are transmitted at a rate of about eighty kilobits per second by using two paths between the source and the destination concurrently.

The basic nature of the ARPA Network is such that messages between computers are generally brief since there is no exchange of complete data blocks but generally only question-and-answer exchanges. Dr. Roberts explained that the computer which states a problem is "not interested in how the answering computer gets the solution. All it wants is the answer, and that is usually relatively short." Two other communications systems were considered by the planners of the ARPA Network—dial-up service between two nodes, and fully interconnected leased lines between all points on the net. Both systems proved economically and technically unacceptable. It was also found that the ARPA distributive message switching technique permits securing the system in case of military applications more readily and more efficiently than any other existing system, including AUTODIN. According to Dr. Roberts, the degree of security between individual nodes can be varied to meet different protection standards.

Present plans call for the first phase of the ARPA Network to be completed by the end of 1971, when twenty-one computer centers will be linked to the network. Included among them will be the Air Force's Rome Air Development Center. Two basic functions are assigned to this network, according to Dr. Roberts. First is the resource sharing of the nation's major scientific research computers, an achievement termed the first "computer civilization" as opposed to "independent villages." Second is the tying in of all weather-forecasting functions by the military services and the government's Weather Bureau, as well as other specialized fields requiring massive computation capabilities. A variation of the IMP, called the TIP (terminal interface processor) can be added to each node to permit up to sixty-four individual users and their teletype printers to join the network.

As yet undefined is how the new technology may fit into defense requirements, although the eventual creation of a separate net for DoD purposes, and possibly another for the intelligence community, appear likely, in the view of Dr. Roberts and other defense officials.

The costs of creating and maintaining the ARPA net to date have been modest, somewhat below \$3 million.

Dr. Roberts pointed out that overall computer operation costs can be reduced a hundredfold from present levels with this new technology. As a result, the interest in the ARPA Network by government and the academic and industry research community has been enormous.

The potential usefulness of the ARPA technology is increasing also because of basic trends toward self-programming computers, whose costs and capabilities can be justified only when they become accessible to a sizable number of users. Such advanced computers, with their so-called "artificial intelligence," can take on a set of tasks without having to be programmed for each individual step. Self-programming computers are

*(Continued on following page)*

expected to be very useful in military applications, in the view of Air Force experts, especially if they can be interlinked into complete networks in the manner of the ARPA technology.

Hq. USAF's Deputy Director of Command, Control and Communications, Brig. Gen. Lee M. Paschall, told AIR FORCE Magazine that if the ARPA Network continues to prove out successfully, "it will find widespread application in the Air Force, especially as a cross link between various systems." He pointed out that at this time it does not seem likely that the Air Force's some 1,200 ground-based computer systems would ever be linked totally. The so-called dedicated machines (those confined to functions in a given task area, such as command/control), he said, must be expected to continue to work separately. But they could gain enormously if they had automatic and immediate access to the Air Force's general-purpose computers with regard to constantly updated information on equipment and personnel.

### Updating WWMCCS

What the ARPA net seeks to achieve by a pioneering and as yet not fully proved technology, the Worldwide Military Command and Control System (WWMCCS) of the Joint Chiefs of Staff is in the process of attaining by a less spectacular method—standardization of computers and most programming formats. At the moment, the triservice global command and control system consists of about 100 individual computers of twelve different types, which use twenty different computer languages. Some of the data-processing equipment predates the formation of WWMCCS following the Cuban missile crisis, which demonstrated the need for a DoD-wide command and control capability. This total does not include an additional number of different computers used by the intelligence community with which the WWMCCS must "cooperate" directly or indirectly, according to General Paschall.

Late in 1969 Deputy Secretary of Defense David Packard approved a Computer Update Program for WWMCCS as well as for a related portion of the Intelligence Data Handling System (IDHS). The approval followed a three-year study of the feasibility and desirability of standardized computer systems in four basic workload categories—general staff support computers of medium and large sizes; a force control computer; and a so-called scientific computer category. The program manager of the Update Program is the J-3 Section of the Joint Chiefs of Staff, with the Air Force acting as procurement agent for the Department of Defense as well as being responsible for all associated training and logistic support functions.

As a result, the Air Force issued requests for proposals (RFPs) on October 1, 1970, to seventeen companies for the procurement of a minimum of fifteen new standardized computing systems for WWMCCS, with an option for twenty additional computers during FY 1972 and 1973. The ultimate number of systems to be obtained is not known at this time, General Paschall said, but could be as high as 100 systems.

Deadline for receipt of industry proposals is February 1, 1971. Source selection is to be completed and

the actual contract to be awarded by June 1971. The Air Force Systems Command's Electronic Systems Division at L. G. Hanscom Field, Mass., is responsible for the selection of the automatic data-processing hardware and associated software.

In keeping with current government practices to head off cost escalations, the Air Force included a specific maximal target price for the purchase of the first fifteen computers, which consist of five force control units as well as three large and five medium-size general staff support systems. If this maximum cost, which was set at \$46.2 million total, is exceeded by all respondents, the Department of Defense may elect to cancel the procurement, limit the number of computers, reduce operating specifications, or provide additional funds. In order to keep costs down, at least for the near future, the government has accepted the third-generation medium or large IBM/360 computers, twenty-eight of which are currently under lease and used by WWMCCS and IDHS, as a so-called "second standard" of the Computer Update Program.

Depending on future workload growth of the individual installations, the government may continue to lease all or some of the IBM/360s, purchase them, or replace them with the new standardized family of computers. No timetable exists as yet for phasing out the IBM equipment if the latter alternative is selected, General Paschall said. A Joint Technical Support Activity within the Defense Communications Agency has been set up to furnish the common software formats for the yet-to-be-selected primary equipment as well as for the IBM/360 computers.

The reason why special-purpose, or "dedicated," systems such as WWMCCS can be standardized in terms of hardware and major software portions is that many of their data-processing functions are similar. Uniformity, under such conditions, does not impair technological growth, as would be the case in larger and more varied general-purpose networks.

When completed, General Paschall said, the updated WWMCCS system will result in substantial cost reductions with regard to the system's software, maintenance, spare parts, training, and interchangeability of personnel. At the same time, the National Command Authority, and the Joint Chiefs of Staff in particular, will reap substantial operational gains. For the first time in history, they will have rapid access to up-to-date information pertaining to all military services for contingency planning, according to General Paschall. The actual extent of the gain "will depend on how successful all the participating elements will be in coupling these machines so that common data from all three services is available rapidly and easily to the National Command Authority for the planning and execution of multiservice military operations," General Paschall said.

"For example," he said, "for the time being it would be difficult for the Joint Chiefs to rapidly develop contingency plans involving joint operations in areas" not previously programmed for such actions. This results from the inability to collect, coordinate, and combine quickly the information from the various services because of different formats and different computers.

"Today all this varying information has to be manipulated in the literal sense of the word, after it has been collected. But once a common WWMCCS data base

exists, and all key computers in the system devote a portion of their capacity to this type of information, the response time on the part of the National Command Authority" with regard to operational planning and execution will be drastically reduced, he predicted. As General Ryan recently indicated, the increased capacity of the Worldwide Military Command Control System will be a far cry from the command and control exercised at Bunker Hill when our troops received the order: "Don't fire until you see the whites of their eyes."

### Seek Data II Program

The peculiar nature of the air war in Southeast Asia imposes unusually exacting requirements on the Air Force. Strike aircraft have to be scheduled on a split-second basis, and support aircraft such as tankers, ECM aircraft, and fighters have to match these high levels of operational precision. The same exacting standards apply to the coordination of fighters, FAC aircraft, airborne command and control aircraft, B-52 operations, reconnaissance, and airlift operations.

To cope with this staggering command/control task, an innovative computer system called Seek Data II was created, which, according to General Ryan, has enabled the Seventh Air Force to cut the time needed to prepare mission orders from "three days to less than one," and to reduce the time required to transmit these orders "from ten hours to fifteen minutes." (See AIR FORCE Magazine, February 1970, "How USAF Is Putting Computers to Work.")

Seek Data II, an elaborate, automated command/control system conceived and implemented by the Air Force in concert with Control Data Corporation (CDC), is built around a commercial general-purpose computer, the IBM 360/50. The system assists the Commander of the Seventh Air Force in the conduct of air operations by performing three major system operations.

The first and primary job performed by Seek Data II, which attained operational status early in 1970, involves combat reporting. This entails the automatic collection of information from the various strike units, assembling this information in a systematic manner, and generation of reports to CINCPAC and the National Military Command Center. In this connection, the computer stores, for use in conjunction with its second function, complete, up-to-date information concerning weapon status, aircraft status, crew status, and target reports.

The second and equally vital task performed by Seek Data II involves the automatic issuance of the so-called frag orders, the fragmentary instructions to the individual wings pertaining to particular missions to be flown on a given day.

General Paschall termed these orders "enormously complex and voluminous, not only because they involve a precise interface among the strike forces, the electronic warfare aircraft, the tankers, air rescue, and others, but also because of the peculiar restrictive rules of engagement, which eliminate the World War II concept of targets of opportunity." The frag orders, therefore, must include not only all primary but also all alternate targets as specified by the Command's oper-



The Seventh Air Force's Seek Data II command and control system employs a standard, commercial computer, the IBM 360/50, as shown here. The Air Force uses commercially developed, general-purpose systems when possible to cut costs.

ations officer. Before the advent of Seek Data II, frag orders had to be prepared two or three days in advance, and consequently were based on strike, weapon, aircraft, and crew status reports that were two or three days old. Further, "these orders covered everybody, so that the operations officer at each wing had to read through reams of paper to find the isolated, interspersed portions pertaining to him," General Paschall explained.

By contrast, "Seek Data II enables the Command to plan tomorrow's mission today and to transmit only frag orders that are directly relevant to particular wings in ten or fifteen minutes. According to the reports received by Hq. USAF, all the users of the system are extremely happy with its performance," he said. The "frag" portion of the Seek Data II system was placed into operation in two stages during the summer of 1970, with the "out-country" segment launched first, and the "in-country" phase second.

The third function performed by the system, General Paschall said, entered operational status late in 1970 and involves tactical airlift operations in Southeast Asia. Known as ALMS (Airlift Management System), it is similar in scope and nature to the frag operation but deals with cargo routing, priorities, weights and balances, and similar factors, to prepare automatically all required operational instructions.

Initially, the prototype Seek Data II system was located in Hawaii, with the idea that system design and software development could be achieved without interfering with the operational mission. The Air Force learned very quickly, however, that "a combat installation has to be located at the scene, and the operation, therefore, was transferred to Tan Son Nhut," near Saigon, according to General Paschall.

Two factors account for the fact that Seek Data II uses a general-purpose, commercial computer. One, General Paschall said, stems from the urgency of the program, which did not permit the development of the specialized military computer. The other, he said, is the general DoD policy against spending R&D funds on general-purpose computers that are available from industry on an "off-the-shelf basis." "The nice thing about large digital computers is that they don't care  
(Continued on following page)

whether they work on civilian accounting problems or compute frag orders," General Paschall said. He pointed out, however, that as more and more lessons are being learned from Seek Data II with regard to automating tactical air command and control, creation of mobile systems could become desirable.

Facilitating development of such a system is the emergence of new computer technologies, especially with regard to large-scale integration of circuits and miniaturization of "memories," which result in machines that are more rugged, much smaller, and require less power and air-conditioning, he said. It appears possible, therefore, that such miniaturized general-purpose computers could be adapted by special packaging for use on vans or aboard aircraft within a few years, by providing them with a self-contained environment. The military "hardening" of such systems, he said, appears possible through special packaging except for the problem created by the electromagnetic pulse experienced in a nuclear environment, "which might prove difficult to solve."

A number of Air Force programs are currently in progress to increase the "radiation-hardening" of computers in terms of transient radiation caused by nearby bursts, and permanent protection against neutron exposure, which would be experienced by satellite-based computers. Also included are efforts to interdict the "radiation of intelligence" by military computers.

### Automating "Looking Glass"

One of the most challenging tasks faced by the Air Force in the field of command/control automation is known as the Post Attack Command Control System Airborne Data Automation (PACCS ADA), currently undergoing test-bed evaluation aboard an EC-135C "Looking Glass" aircraft of SAC's 55th Strategic Reconnaissance Wing. Managed jointly by SAC and the Electronics System Division of the Air Force Systems Command, the program employs an RCA computer system consisting of a tape deck, a 100-million-bit memory drum storage, and display panels and keyboards for each member of the battle staff. The system was developed, integrated, and ground-tested by the Burlington, Mass., facility of the Radio Corporation of America. The system employs a "simplified input and output program that can be learned by the

average person in thirty minutes," according to General Paschall.

Even though test evaluation of the program is still incomplete at this writing, Air Force experts rate the program as highly successful. The airborne battle staff, which would take over the function of the SAC Underground Command Post if the latter is destroyed, "no longer works out of a briefcase but has substantial data available that is updated up to the moment the aircraft takes off. The response time to vital questions has been cut from about fifteen minutes to seconds, thereby enhancing the decision-making capability enormously.

"In addition, we are also working on the creation of a data link for PACCS ADA that will make it possible to update the on-board computer data base in flight from ground-based computers without involving human operators," according to an Air Force electronics expert. The data link is expected to be installed by mid-1971, also on a test-bed basis. According to General Paschall, data linkage of "Looking Glass" to a parallel high-speed processor of the ILLIAC IV type might prove desirable on a long-term basis if such ground-based machines can be equipped to survive in a nuclear environment.

### The Advanced Logistics System

One of the largest logistics computer systems for use by the Air Force, the Advanced Logistics System (ALS) is currently being developed. A total of eighty-nine second-generation computers of various sizes and capabilities will be replaced by seven powerful systems that will be located at Hq. Air Force Logistics Command, and individual Air Materiel Areas. The original RFPs for the ALS computers were released to fifty industrial organizations in October 1969 but have since been amended. Source selection is expected by summer or fall of 1971.

The present AFLC system, which is marked by costly redundancies, inaccessible information, and computer saturation, will be replaced by third-generation computers of tremendous storage capacity. This huge capacity will allow storage of all the necessary logistical and management support data as well as system control programs on a command-wide basis. Concurrently, AFLC's some 420 separate data sys-

A total of 126 Burroughs 3500 computers are scheduled for installation at air bases around the world, as part of the current equipment-modernization phase of USAF's Base Automation Program. About eighty-five computers are installed at this time and serve such diverse uses as maintenance, supply, civil engineering, accounting and finance, and military and civilian personnel.







The benefits of the Base Automation Program already have proved dramatic, reducing, for instance, the time required to obtain from the field the data required for a personnel management decision from three weeks to little more than an hour, according to a report by USAF's Gen. John D. Ryan.



About 160 third-generation Univac 1050 computers will provide the Air Force with an automated base supply system and result in a highly reliable working relationship between the various bases, on the one hand, and the Air Force Logistics Command and various DoD agencies, on the other.

tems will be replaced by a single ALS Unified Data Bank to which all users will have immediate access through the new large computers.

In a radical departure from other older systems, the Advanced Logistics System will perform, on a nearly real-time basis, a series of different functions simultaneously rather than on a sequential basis. Under present tentative schedules, the first ALS computer will be installed at Wright-Patterson AFB on a test basis within a few months after source selection. Within a year thereafter, a pilot computer will be placed in operation at one of the Air Materiel Areas, and by 1975 the entire system is expected to be in operation.

The benefits of the ALS system, according to Maj. Gen. Donald W. Graham, Assistant Chief of Staff for Systems and Logistics, Hq. USAF, included "more effective, even more responsive support to operational units than exists today; [greater] economy or better utilization of Air Force resources; and improved internal operations and management controls through increased access to, and utilization of, decision-making logistics information."

### The Base Automation System

About eight years ago, the Air Force embarked on a program to automate and standardize data processing and management for a number of different users on 147 bases around the world. Currently in an equipment-modernization phase, this program will involve 126 Burroughs 3500 computers (about eighty-five are installed at this time), which serve maintenance, supply, civil engineering, accounting and finance, and military and civilian personnel. An additional 160 third-generation Univac 1050 computers will perform base supply tasks and establish a highly efficient working relationship among the various bases, and AFLC and agencies of the Department of Defense.

Operating in conjunction with streamlined communications and airlift, the automated supply system, according to General Ryan, has enabled the Air Force

to cut the dollar value of items in storage at the base level almost in half, compared to 1964 totals. In addition, manpower requirements were reduced by 6,700, while inventories were cut by 1,400,000 line items. The benefits of the base automation system are equally dramatic, with "the old manual system [requiring] three weeks to obtain from the field the essential data for a personnel management decision. We can now obtain that information in a little more than an hour," General Ryan reported recently.

A similar computer-based streamlining is also in progress for a local digital message exchange (LDMX), the first of which will be installed at Hq. USAF by the Air Force Communications Service, which will also operate the system, using either leased or government-owned small computers. According to General Paschall, about thirty individual Air Force bases generate a level of message traffic that would make installation of LDMX systems cost-effective. This system automatically routes messages from the writer to the addressee by employing special message content-indication techniques.

While the relationship between the Air Force and the computer is clearly growing by leaps and bounds, the ultimate goal, which would trigger further new waves of "computerization" in all sectors of the Air Force mission, is probably at least ten years away. This is the computer that man can talk to directly by voice command without need of programmers, who discourage computer usage by the decision-maker. Dr. Roberts of ARPA ventured this sanguine prognostication to AIR FORCE Magazine: "The speech-input problem can be overcome within the next decade, if we are willing to push hard enough."

The possibly ominous question, then, is this: With severe cutbacks in US funding in the field of self-organizing computer technology, the stepping-stone to the talking computer, coupled with the known intensive Soviet efforts in advanced computer technology, will another kind of Sputnik catch us off base once again?—END

*"I remember basic training . . ."*

Shades of Miami Beach . . . Atlantic City . . . Sampson AFB . . . and now Lackland. There have been lots of changes since the old days—or have there? Here's an account of one WAF's experience during those six hectic weeks.

In these lines—and between them—she says some things about duty, service, and values that all of us need to recall. Maybe it's really not so different at basic, where . . .

## 5:00 a.m. Is 'Oh-Five Hundred'

By A1C Judy A. Honcik, USAF

**I**T ALL started with one of those innocent little career circulars that you get during your senior year in high school. You know, the ones that say, "See the World and Make a Million," or whatever. The one that caught my eye said, "See the World. Join the Women's Air Force." To tell the truth, I never thought for a moment that anything would come of it.

But I did talk with my parents about the Air Force. They seemed to think that it was a pretty good idea. The next thing I knew, there I was taking the admittance tests—and I passed them. Meanwhile, I had graduated from high school and was enjoying my new-found freedom. But by then I had decided that since I was this far along the Air Force road, I might as well go through with it. Besides, it really wasn't that bad an idea. I didn't want to go to college just yet, and I definitely didn't want to get married. This way, I could have a job, get around and see the country, and get a start on some more schooling.

So on July 18, 1969, I raised my hand and "solemnly swore"—for four years. The next step was basic training—six weeks of fun and games at Lackland AFB, San Antonio, Tex. We got to San Antonio about midnight and were herded to the waiting room, where, an hour later, a bus from the base picked us up and took us to our new home. We were briefed, fed, briefed, and sent to our dorms. But no—first we had to weigh in. At 2:00 in the morning? Oh well, we asked for it. We finally made it to the dorm, were assigned rooms, and then informed that we would be up at 5:00 o'clock, or as we soon learned to put it, "oh-five hundred." "Does that mean a.m. or p.m.?" was the whispered response.

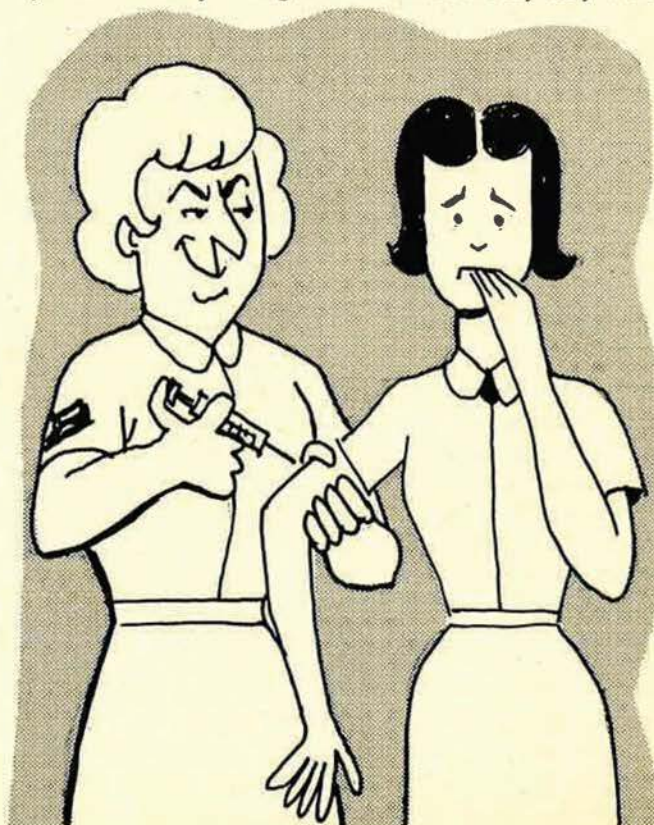
The next day, Saturday, we were introduced to our T.I. (Training Instructor), Sergeant May. What a delightful woman she was, this new mother of ours. "You will remember that at all times the first word out of your mouth will be 'Ma'am.'" Yes Ma'am! We were then given our first try at marching. What a sight! Few of us had ever had any experience with marching, and even if we had, the Air Force has its own way of doing things.

We were marched to lunch, and then marched to

Clothing Issue. Oh joy, we get our uniforms today. What a mess! Imagine if you will, forty girls being fitted for and issued shoes, hats, sweaters, pants, coats, skirts, jackets, blouses, and the like, all at once.

Sunday we got a half day of freedom. That was when everyone decided that they were homesick and wanted to call their mothers. Me included. But alas, no phone privileges just yet. What kind of place was this anyway?

The first week was a hubbub of activity, getting oriented to military life. We were told how to fold our clothes, and each separate piece was assigned a spot. Believe you me—it had better be there. We also had a system of what you might call demerits. Only they were





In basic, Judy Honcik discovered that the Air Force isn't "just something to do." It's a chance to serve our country. She found that teamwork and esprit come from a shared sense of purpose, and from trust in each other.

called 341s. Actually it was a form that was filled out by our T.I. when we pulled a "no-no." My own first experience with 341s was one day on the way to chow. We had just finished PT, had showered, and were relishing the thought of sitting down to some of that yummy Air Force show. Well, I had pretty short hair and had neglected to wear a shower cap. Much was my surprise when Sergeant May yanked off my cap and asked for a 341. "We do not go to chow with wet hair." How she could know that my hair was damp from the shower and not from the heat, I'll never understand.

Of course, you can't join the Air Force without getting your share, and then some, of shots. Every Monday we would fall out and march the three miles to the dispensary for this real fun thing. Before we took off on our first visit, we were informed that we would not faint on government time. If we wanted to faint, we would wait until we were dismissed for the day and then we could faint all we wanted. There were a few girls, who, try as they might, just couldn't wait that long.

Every dorm had a television. But watching TV was a privilege that had to be earned. There were two flights in each dorm, and we shared one dayroom. Usually if one flight hadn't earned TV privileges, the other had, so everyone stayed pretty happy. I'll never, as long as I live, forget the first time we were allowed to turn on the set. It was the second night we were there, and we hadn't had a chance to earn the privilege. But it was on that night that man first walked on the moon and

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*Airman First Class Judy A. Honcik was born at Norfolk, Neb., what seems to us a terribly short time ago. The oldest of seven children, she joined the Air Force in July 1969. After she and the Air Force Military Training Center had completed their adjustment to each other, Airman Honcik was assigned to 14th Aerospace Force Headquarters, Ent AFB, Colo., as an administrative specialist. We don't believe that the men of that headquarters spend all their time looking at satellites and space junk. Not any more, at least.*

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since Air Force men were up there and we were on our way to becoming Air Force, they let us watch. That has got to be the most moving thing I have ever seen: eighty girls gathered around one set watching history being made. I know I, and I'm sure everyone else, felt a kinship with that man up there, taking a new step for mankind. I think that was the moment I first began to realize just what I had done in joining the Air Force. It was no longer "just something to do." I will never walk on the moon or fly in a satellite, but I could feel that I was trying to do something for my country, too. And by George, I was going to make it through the next six weeks if it was the last thing I ever did.

After a couple of weeks, things settled down into something of a routine. Up at 5:00, go to breakfast, back to the dorm and do your detail, PT, drill, classes, lunch, classes, supper, and dismissal. Right before we were dismissed, we got our mail. We didn't have mailboxes or the like in basic. Our T.I.s would get a bag bundle of mail and read the names off. With forty girls



from all over the country and with all kinds of names, you have a problem. Sergeant May finally mastered all the names but one, and that girl was simply "Airman" for the next six weeks. She got her mail, too.

Once we were dismissed, the fun began. From about 1730 (I'd learned to tell time the military way by then) until 2100, was pretty much our own, and we used it to advantage. We were free to write letters, read, watch TV, or just sit around and do nothing. Nights were also a time to get washing, ironing, and shoe-shining done. The washing machines and ironing boards were down in the basement, and it was some-

*(Continued on following page)*

what cooler down there, so often the whole gang would congregate in the one room.

Shortly before 2100, we had a prayer time. Now this wasn't part of the daily schedule. Nobody made us do it, and if someone didn't want to join in, that was her choice. But nearly everyone did. We weren't allowed to have candles or anything like that because of the fire hazard. So we used a single flashlight. All the lights were turned out and then one girl would go in the middle of the room with a flashlight turned upward. The rest of us would join hands around her and recite the Lord's Prayer. I think that short time each day did more for the teamwork of our flight than anything else.

And then at 2100 it was bedtime—or supposed to be anyway. It usually took us quite a while to quiet down, and we often visited our friends in the other rooms. One girl was over visiting a friend on the other side of the dorm one night, when we were honored by an official visitor. The girl ended up spending the next four hours sitting in a closet, hoping no one would notice her empty bed. Then, on another occasion, shortly after lights out, I had gone to the dayroom for a drink of water and, on returning to my room, saw this white figure looming in the door. I let out with a yell, and then, recognizing the "ghost," fell on the floor laughing. The dormguard, on hearing the commotion, came running, whereupon my "ghost" leaped up to the top bunk. To this day, I can't figure out how she did it, because she didn't even touch the bottom bunk.

As the weeks progressed, we grew better and better acquainted with our fellow flight members, and friendships were established. One rough thing about the Air Force is that you're always getting moved around.



About the time you have really made some good friends, you—or they—get transferred. But most of the time, these friendships don't end there, and you'll probably still be sending birthday cards to each other when you're ninety years old.

About the fourth week of basic, we had what is called our "Mini-Whites" inspection. "Major-Whites" followed in the sixth week. During these periods, especially during the latter, nerves are tight and everyone is yelling at everyone else. But it's also during inspection time that the true spirit of your flight comes out. If you have learned to work together in spite of differences, if you have learned to have pride in yourself and the uniform you wear, well . . . it shows when these big inspections come around. You want everyone else to think that your flight is the best ever, and you put forth every effort to make sure they do think so.

Finally came the day we had been awaiting for six long weeks—the first time we made an appearance with a real stripe sewed on our uniforms. Never have stripes been more lovingly sewed on. After the first one, it's different. Sure, a promotion is nice and the money that comes with it looks mighty good, but that first stripe is the toughest to get and is worn with the most pride. We had made it, proved ourselves worthy of wearing an Air Force uniform! It had been a long, hard road, but it had been worth it.

And now another episode of Air Force life lay ahead of us. We had all gotten our orders and had grieved with those who would not be with us and celebrated with those who were going to the same station we were. I think, if we had had our way, the whole group would have stayed together for the next four years.

We had named ourselves the "Flight of Pride," and we meant it. We would each go our own way, but those first six weeks of Air Force life lay embedded in our minds—both the good and the bad—and this tie would always remind us that none of us could ever have done it alone. The friends we had made, the times we had shared, and the knowledge that the worst was behind us made basic training at Lackland AFB a memory worth keeping.—END



Airman Honeik "doing something for my country" as an administrative specialist at Hq. 14th Aerospace Force.

In a community shower you can't always tell the fighter jock, the bomber pilot, or the transport driver from the doctor, lawyer, or chaplain. But underneath the fly-guys' hides is a commonality of attitudes and disciplines. Add them up, and . . .

## All Together, They Spell EXPERT

By Perry Bruce Griffith

ILLUSTRATIONS BY THE AUTHOR

THE trouble with most of you aviation writers is that you can't turn out a piece unless every paragraph is stuffed full of time-expired clichés," a friend said to me recently.

"If you don't do that," he continued, "you seem compelled to glut your pages with rafts of charts and graphs that no one but a Ph.D. in nuclear physics can understand." Pretty strong stuff—that.

While I don't subscribe 100 percent to premise No. 1, I must go along with No. 1. And that's one reason I pick up almost any book on aviation with a sense of trepidation. My subconscious says, "Watch out!" or shortly I'll be cascaded with reams of chicken fat guaranteed to generate the inside sweats and cause all those small hairs on the back of my neck to stand on end.

It's time we stopped describing all aviators as "tall, lean, hungry-looking men of vision—their flinty eyes narrowed to piercing slits from long hours of gazing over far horizons, men who cruise the skies as did intrepid mariners of yore."

Or "cool, capable, granite-jawed, ruggedly handsome, crinkly eyed towers of strength, instilling a confidence in their charges, born of uncounted ordeals by fire and long hours of lonely vigil."

See what I mean? Almost makes you gag, doesn't it?

What nonsense. Externally, flyers, in sui generis, look no more alike than do doctors, stockbrokers, bartenders, or cab drivers. Viscerally and mentally—this is important and it's the truth—a similitude does exist. But first, let's kill this cliché business once and for all.

One international top-ranking ace, for example, has no more chin than Linus in the funny papers. But when he aims his cigar at a subordinate, as if it were a 20-mm cannon, you'd think he was back pressing the machine-gun button in a fighter plane.

Gen. Bruce Holloway, SAC's Commander in Chief, and a World War II ace himself, presents the image of a benign, pleasant-faced college professor. But don't let the appearance fool you.

And Johnny Alison, a Northrop VP, is hardly tall enough to see over a high chair. He looks just like

what he is now—a capable, big-time executive. But John was a tiger in China, a Flying Tiger, and he demolished something like twelve Japanese birds.

Another of America's all-time-great pilots could pass himself off as a Mafia muscle man.

And so it goes. No one is stereotyped: there is hardly a man in the whole gaggle who fits the classic description that writers like to foist off on their defenseless readers.

In fact, the only man I've ever known who was a walking model of "curly blonde hair, ice-blue eyes—tiny wrinkles at the corners from constant sweeps of the sky—aquiline nose, set mouth, cleft chin" (hear dem clichés pour out, boy!) and was also the archetype, cloud-busting pilot is, without doubt, one of history's greatest air leaders.

A figure who led with flair and style, he was even a better commander than you'd hope from his looks, which still are classic. By the Luftwaffe's admission, he was the most feared and respected fighter leader in Europe during World War II. With a gambler's sixth sense, a pro-football quarterback's timing, and dachshund courage, he would sit up there on top and maneuver a couple of hundred fighters, escorting the bombers, the way Marshal Ney deployed his cavalry some 150 years ago.

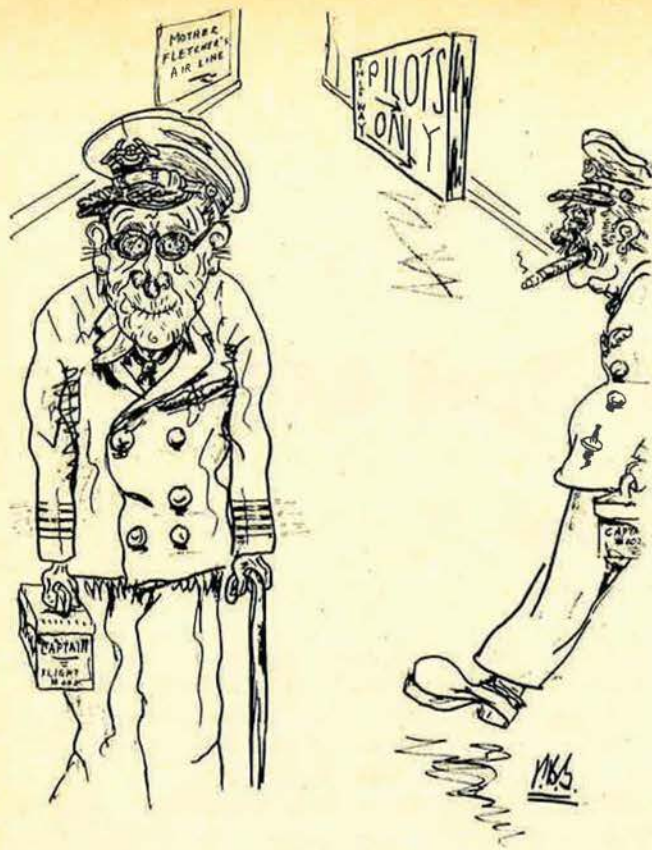
And, man, if you want clichés, just reread that last paragraph.

One time when his outfit was equipped with P-47 Jugs and he was pulling wires to get the group refitted  
(Continued on following page)

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Since his retirement from the Air Force in 1965, as a major general, Perry Griffith has written for various national magazines. His article for this magazine on USAF's flight safety program appeared in the May '68 issue, followed in the August '68 issue by his salute to the late Hugh "Boom" Trenchard of the RAF. General Griffith makes his home in Redlands, Calif., and is Assistant to the President of Analog Technology Corp., Pasadena, Calif.

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“. . . tall, lean, hungry-looking men of vision.”

with higher-performing P-51s, a two-star general asked him, “Colonel, there must be something good about the Jug—what is it?”

“Well,” he said, “I guess its ability to dive. One thing for certain, the bastard sure as hell can’t climb!”

We run-of-the-mill aviators aren’t all so glamorous as my friend described before, and we certainly don’t fit into a set mold. For example, join a group in a community shower—off in some outback USAF base in Vietnam. You can’t pick out the chaplain, or the flight surgeon, the personnel officer, or the pilot, or his navigator.

On the other hand, I’ll take you through bars from Anchorage to Charleston to Karachi to Singapore, where you’ll see dozens of guys lined up at the brass rail, fighting the mirror, and all will be “well-tanned, eyes with far-off gaze, jut-jawed, set-mouthed.” But probably less than two percent have ever flown an airplane. You’re really looking at a bunch of drunks.

Three senior airline pilots I’ve known for years look in civilian clothes like a real estate agent, a small field FBO, and a citrus grower. That’s precisely what they are most of the time. With long-haul flights so reduced nowadays, these guys moonlight most of the time and pile up bread all over the place with secondary jobs.

So, out with flashy, adjectivized, meaningless clichés. There isn’t any such thing as a type-cast flyer—the movies, TV, novels, and aviation writers to the contrary. In appearance, that is.

But there does exist a thread of commonality that has been part of the chemistry of successful aviators for a half century. Having spent my mature life in

the profession, I’ve reflected on this phenomenon plenty of times, and I would assume that many of the truisms I’ve observed, and that follow, are also identifiable with preeminence in other fields, too. But we’re talking flying here, not unrelated activities.

The first thing I learned, some thirty years ago, was that anyone who thinks he can fly an airplane professionally, or as a hobby, yet doesn’t wish to improve himself, and doesn’t love to fly had better move out of the left seat and let someone in who does. For if he is at all afraid of flying or has a distaste for it, he’s courting trouble. He forces himself to get airborne only infrequently and usually ends up boring a hole in a watermelon patch or a mountainside.

A second persuasion I hold is that it’s the pilot who doesn’t fly much and secretly dislikes it who, around the bar or in a group of hangar-flyers, is the one with the biggest bazoo—so full of colorful experiences his tales sound like a sunburst mixture of Slin Lindbergh, Jimmy Doolittle, Doug Bader, and Bo Hoover.

Most successful pilots are perfectionists. They keep abreast of rules and regulations and any URs and NOTAMs on the particular aircraft they fly, too. Very importantly, any time one of them takes off, he counts it as a day lost if, on landing, he hasn’t learned something new and profitable. Flights by these types aren’t simply to bore holes in the sky. To them every hour aloft counts, productively.

Also, your good man in the cockpit can interpret weather data about as well as the forecaster can. That comes from a long process of osmosis. The perfectionist, as a layman in the meteorological field, has studied all he can get his hands on, and he’s not scared to ask questions either, for fear some wise guy might laugh at him. Weather is dead serious business, and no expert ever wagers his dime when the cards are stacked against him.

Weather, too, is an unrelenting killer. Only half-wits do such things as charge around through known freezing conditions in a single-engine, nonfuel-injection-carburetted, general-aviation aircraft—particularly in mountainous country.

In civil aviation you don’t have one of the military pilot’s worries, exemplified in a remark made by Gus Grissom, the late astronaut. A reporter asked Gus if he ever felt ill at ease while flying through space. “Yes,” Gus said, “frankly, I do, when I look around at all those parts in the capsule, then reflect on the fact that everything there was fabricated by some company that submitted the lowest bid.”

Any pilot with several thousand flying hours has had to face up to some catastrophic episode—or many, in fact—that he hadn’t practiced for. The scenario associated with such an experience goes somewhat like this: First, an overwhelming blanket of confused resignation engulfs you. Near panic sets in and almost takes over. The heart races and adrenaline surges everywhere through your framework. Your ears and face burn, and all seems lost. Perhaps you pray, perhaps not. Anyhow, you have to act fast.

And right then and there is the point where the boys and men diverge. Those who don’t have the moxie simply go under. But to the well-trained, confident, and responsible, this period of testing is over

in a period of seconds (though it seems hours) at the most.

The real pro then sets about to sort things out in logical sequence. His reasoning proceeds as deliberately as it would were he working a story problem in third-grade arithmetic: If Farmer Jones owns twenty-three hens and each hen lays two and a half eggs a day, how many days, etc.?

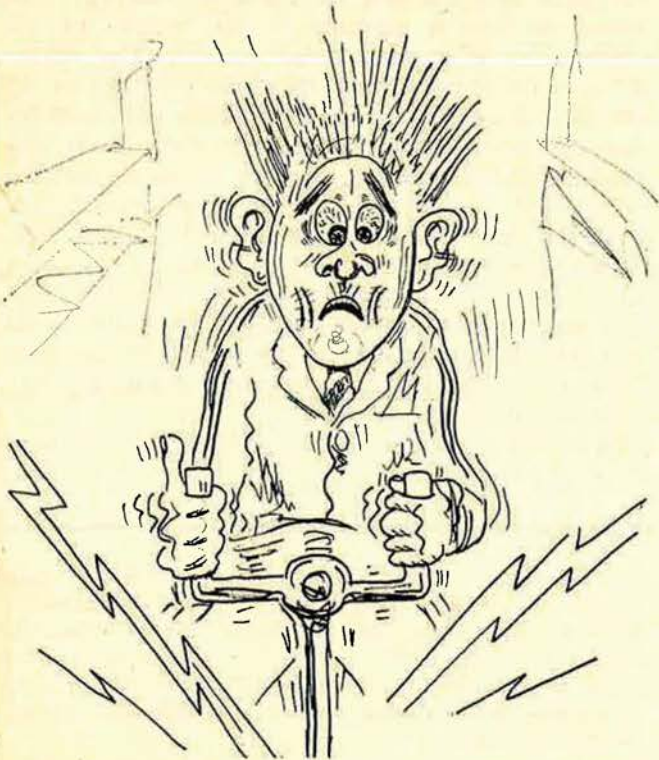
Really, it's that straightforward. The alternative is, as a rule, disaster. That's not to say that this kind of heroic act by your expert pilot doesn't leave him weak and sometimes confused when it's all over. After all, he's human. But the guy knows how to perform under the gun, and he does it. He never gives up.

Another universal characteristic of all exemplary pilots seems to be thoughtfulness, or unselfishness. In wartime, an old hand watches over a man on his first mission like a mother hen. Not until the novice can go it alone does he get out from under his leader's gimlet eye, either.

But contrast this with a couple of bad scenes. Recently a friend told me some lightplane guy had said to him that the most fun he got out of flying was working himself into a position near a large airport's approach path and forcing a 707 or a DC-8 to make a go-around, then claiming lost radio contact. He should have his wings clipped and be grounded forever.

Then think about this. There's the considerate airline pilot who uses his radar and also asks for ground-control vectors to get around severe thunderbumpers. Not everyone can take moderate turbulence like the guy who's been flying for years. And back in the rear even old heads sometimes can turn a bit green when they never would at all if they were up front in the left seat, where the action is, and where they know what's going on.

But there was once an airline pilot he's dead



"The heart races and adrenalin surges everywhere."

now—who said to me that he always drove his beast right straight through anything, like the Master of the Hounds in the Duke of Beaufort's Hunt. So when things got completely impossible—rivets popping, longerons bending out of shape, dishes flying all over the passengers, and stewardesses either weightless against the ceiling like an astronaut in space or spread-cagled on the deck—and when the copilot was about ready to shoot himself (or his captain) with the Very pistol, the pilot would take the cigar from his mouth and snarl, "This oughtta fix all those feather-merchants back there behind the bulkhead but good, right?"

A small number of this guy's old friends, apparently products of the same hard-nosed school, are still herding these monsters around in like manner for the airlines. We've all encountered them, and a pox on the lot, because this stuff is avoidable. Anyone who's ever flown high-performance aircraft knows it, too.

If you fly by yourself, whether you're a farmer at ninety mph, or a fighter pilot at 45,000 feet, you're going to get lonely at some time or another. On occasion this loneliness makes you hear strange noises and even do funny things. But never mind, it happens to us all, and is somewhat like the experiences a man has when diving deeply or exploring the far reaches of a cave. The Greeks had a word for it—sirens. And so do the Germans—the Lorelei.

A pro just never lets it get to him. He busies himself with something diversionary, like slow-rolling his bird a couple of times, or he tunes in some gut-bucket music on the horn, and the first thing you know he has overcome his malaise.

Another point. Recently I went to a banquet for World War I pilots—real old-timers in their seventies and eighties. Practically none of them wore glasses, and all were in astonishingly good health. Again—the sheep from the goats, the men from the boys. They knew the value of moderation in everything.

I have found, finally, that good pilots are good listeners, absorbing everything shoved out. They are cautious, too, and given to making conservative airborne decisions. But if the time comes when forthright acts of boldness are necessary to cope with a serious emergency, you'll see an orchestration of swift expertise that moves so fast it's nothing but a blur. This knowledgeable airplane jock isn't about to buy the farm through either stupidity or timidity.

And so, if you put them all together they spell EXPERT. Perhaps some of us are lacking in a few or most of these traits. But the real pros, whom you admire and trust in the wheel house, have them 100 percent.

Call it moxie, call it élan or—as we say these days—soul. You can't see what goes to make up moxie, élan, or soul the way you can see a man's face. But these attributes are there nonetheless, inside. They're not identified by a bunch of nerve-grating, overdescriptive clichés, either. But in a clutch, if a pilot's got them, they all fall into place at the right time and in orderly fashion.

If, on the other hand, he doesn't have them, then, when the crunch is on, he's got something else on his hands—one hell of a problem. And odd-ball adjectives dreamed up by sensational, sentimental, and tear-jerking journalists won't help him one whit.—END

A recently retired Air Force officer tells of the ingredients that make retired life stimulating and rewarding, in this article, adapted from his book, "The Best From ALMAR Farm" (Transylvania Times Publishing Co., Brevard, N.C.). It's good advice for those contemplating retirement at any age—young or not-so-young . . .

# Retire, Regroup, Resume

By Cal Carpenter

**I**T WILL soon be five years since I took the big step and retired at forty-five years of age. Of course, I didn't really retire. I just changed work, but it was a most drastic change—from scientific-technical officer in the Air Force to "gentleman farmer"; from going to an office five days a week, doing a job directed by government policy, to doing what I want, when I want to do it, seven days a week. On those occasions when I have time to think about it, it kind of scares me that I so lightly bowed out of the rat race at an age when most people are drawing second wind for another twenty years of work. And, of course, I sometimes wonder if I did the right thing.

When I left active duty, as Staff Meteorologist at the Air Force Cambridge Research Laboratories and the Electronic Systems Division at Hanscom Field, Mass., I could not help but have misgivings as to whether I'd be able to adjust to the new life I planned. As has most everyone over forty, I had heard about retired people who lost the mainspring of their lives when they stopped going to the office, and just curled up and died. Retirement, it was said, for a person used to an active, interesting work life was tantamount to a death sentence. And I had led a full and active life in the service, beginning with the Army Air Corps where I'd served as a pilot in World War II. I had held responsible, demanding jobs where I was boss.

In the latter years, as a meteorologist, I had worked in research and development, on the frontier of scientific weaponry. I had known the stimulus of mental activity perhaps better than most. Understandably, then, I was apprehensive as to whether the rustic retired life I had planned would provide sufficient interest and intellectual exercise to keep me from "climbing the walls."

I find now that I need not have worried. I am happier than I've ever been. I've lost twenty-five pounds and am browned and fit. Jobs that a few years ago taxed my strength now are easy. Food tastes better,

and I eat anything and everything I want. And, I might say in passing, although I'm writing now primarily of myself, that the same is true for my wife. We are mentally content and physically fit. Without conscious effort, we have made what we'd been led to believe is a very difficult adjustment.

Sometimes on a spring evening, I go out on the porch with my after-dinner cigar and think about it. After Haole, my German shepherd, has been convinced I'm not there for a romp, I look out over my little fish lake toward the blue ridges of North Carolina's Great Smoky Mountains. The sun is low, and the green of my nearby acres and the Hoopers' land across the river is deepened by the twilight into an emerald no artist ever dared to mix. The darker green of the trees on the knoll to the west and on the smooth rolling ridge to the east blends imperceptibly into the pasture grass, the separate trees hardly distinguishable and casting no shadows, creating a curiously depthless picture like a painting without perspective.

Closer, and still visible, are the leafy maples, dogwoods, poplars, and a tall locust across the driveway. Closer still, around the house, are the blooming poppies and day lilies and the fresh green-leafed forsythia and lilac bushes—these latter surrounded by the green velvet of the lawn. And even in more detail they, too, have an unreal, painted look.

It is still and peaceful, the only sounds the hush

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*Col. Clarence A. "Cal" Carpenter, a World War II pilot served as Staff Meteorologist at the Air Force Cambridge Research Center and the Electronic Systems Division, Hanscom Field, Mass., before his retirement in May 1966. He now lives at Brevard, N.C., where he enjoys a seven-day-a-week second career as gentleman farmer, editor, and writer.*

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of the night birds and the shrill of tree frogs in the woods behind the house and the occasional, irregular foghorn of a bullfrog in the rushes on the edge of the lake.

At times like this it occurs to me that I have found an answer to a problem new to this affluent latter-third of the twentieth century: early retirement. I say new, for I do not think the decision about early retirement was one that has faced many people in years past. Except for the few very rich, a man had to continue working until he was old, or face want. But a great economic change has come about. The trend is toward shorter working careers as well as shorter working days and weeks. A large number of people are now in the same position I was in five years ago: not rolling in wealth, but with a sufficiency—from retirement plans of the military, pensions, endowments, or other means—to live comfortably and do the things they want while still in early middle age. Most do not do it. There is always the urge to

continue working a while longer, to save some more money, to buy something else. This usually results in late retirement, possibly too late for many. For the strain of the modern treadmill takes a toll of health and strength—and perhaps worse, banks the fires of interest and enthusiasm that are so essential to any new endeavor. And then, too, it is certainly less demanding of moral courage to stay in the mentally comfortable, though toilsome rut, than to leave the known road and begin a new trail into the different. But for a happier, fuller life, I am convinced it must be done.

My father once cautioned me, after he had retired at sixty-seven: "Retire as soon as you are able. Don't wait until you're too old to enjoy it." And I understood he was not referring to sitting down and waiting to die as is, it seems, the general idea of retirement. He meant changing pace, not stopping.

Perhaps there should be a new word for this early  
*(Continued on following page)*



Col. Cal Carpenter says: "Each person sets the level of achievement he needs for a satisfying retired life. You'll be surprised to discover how stern a judge you have."

"retirement" I am writing about. Call it "Reassessment," call it "Regrouping," call it "Reemployment." Call it whatever may be appropriate as long as it is understood that it is not *stopping* work; that it is simply work toward another objective, achieving as before. For the whole philosophy of successful retirement is embodied in these three things: work, objective, and achievement. These are the same things that are important in the active part of a career; they are still just as important in retirement.

The greatest beauty of retirement is the freedom of it. You can choose your new objective, you can order, supervise, and (probably largely) do your own work. And you can judge, criticize, and enjoy your own achievement. The objective might be the city boy's dream of the much scoffed at "Little Chicken Ranch," the ex-farm boy's dream of the "Little Business," or the suburbanite's dream of a house and lawn and flower garden with all the time he needs to keep them the way they should be kept.

It is not important what the objective is, though it is my opinion that it had better be a change from that of the active work years; but it is all-important that there be an objective. And here is another beauty of retirement: The objective need not be financial. In fact, it had better not be, for if money is the objective, then a man is merely exchanging one rat race for another in which he is less qualified to earn, and thus increasing the pressures he was trying to avoid.

It, therefore, follows that the kind of work is not important, nor is it important when or how regularly it is done. But it is all-important that there be work. And there will be plenty of work, willingly done, if there is an objective. I recall an adage from the one elementary psychology course I once took. It went something like this: The human is so constituted that there can be no enjoyment of leisure unless it is both preceded by and expected to be followed by work. My own experience proves this to be true.

Again it is my opinion that the retired work should be a change. This does not mean one has to completely abandon all interest in his career work—I still

read my meteorological journals and military papers. As a matter of fact, the retiree will find his career experiences valuable in many ways he'd never expect. Nor does the work have to be toward a single objective. The active career hobby can become an additional, satisfying, part-time job, as in my own case. But it must be a job that will remain a free-will endeavor under the rules I have already listed.

I'd done a lot of writing, both official, as a part of my job, and creative, as a hobby during the active years. About a year after retirement, it occurred to me that someone might be interested in my wife's and my blunderings around on our "Dream Farm." I started writing up the more amusing daily happenings. These, along with some contented reminiscences of boyhood and a little cracker-barrel philosophy, I took to the editor of my local weekly newspaper. I inquired if he'd be interested in publishing them as a column. He asked me to leave the samples.

A few days later, I had a column in the paper. A couple of weeks and I was invited to do some features. I agreed to a part-time, one-day-a-week job, for I'm still the gentleman farmer so far as my objectives are concerned. I later accepted the job of feature editor on the same flexible, part-time arrangement—an arrangement that has been both enjoyable and profitable for the past three years. Last year, the best of the newspaper columns were collected and published as a book, *The Best From ALMAR Farm*. This simply illustrates better the freedom of retirement. You can have numerous interests and objectives, work at many things, but the major rules of working in your own time, toward your own objectives, must be honored.

Now to the third of my requirements for retired happiness: achievement. This means that the objectives must be at least partially attainable and that the work be, in some measure, productive. The achievement may be great or small, but there must be a product. And here is another of the beauties of retirement: You, in effect, write your own efficiency report, be it a victory over gophers in the lawn or writing a best-selling novel; be it building a barn or demonstrating a new principle of science; be it insignificant (to anyone but yourself) or of world-shaking consequence. All achievement that gives you satisfaction is valid, for you are the judge. As a retiree, you judge your own achievements, and you will probably be surprised to discover how stern a judge you have. But this is all for the good, for it will contribute to advanced or changed objectives and these, in turn, to more work and achievement. And, remember, the level of total achievement required for contentment in retirement is set by you.

These are the sums of my thoughts as the darkness falls and lights come on in the valley across the river. It is almost time for bed, for a farmer—even a gentleman farmer—retires early. Tomorrow there is work—I think I'll start the long-put-off job of painting the outbuildings. The objective? Why, to make my farm the prettiest place in the county. Achievement? I shall go to bed mentally content and physically tired tomorrow night, just as tonight; and before I do, I'll sit here and enjoy the sight of the newly painted barn and be glad I "retired" at forty-five.—END



**By Patricia R. Muncy**

ASSISTANT FOR MILITARY RELATIONS

## IRS and Moving Expenses

Military service personnel have been gravely concerned over reports that the Internal Revenue Service, in preparing its regulations under the provisions of the 1969 Tax Reform Act, would consider as taxable gross income those monies reimbursing service personnel for expenditures incurred in moves (PCS, etc.) directed by the government.

The Department of Defense, the Air Force Association, and other service organizations also are up in arms over this prospect. Readers will find the following letter from the Commissioner of Internal Revenue to Secretary of Defense Melvin R. Laird to be of great significance:

Dear Mr. Secretary:

In response to your recent questions with respect to reporting and withholding requirements of the Department of Defense under the Tax Reform Act of 1969 for moving expenses of servicemen from one residence to another, we have reached the following conclusions:

1. There will be a moratorium on withholding and reporting by the military services of moving expense reimbursements of servicemen through December 31, 1971.
2. For at least the 1970 and 1971 taxable years, indi-

vidual servicemen will not be required to account in their own tax returns for any reimbursements of moving expenses in kind, but will be required to report cash reimbursements of moving expenses, subject in general to an offsetting deduction for expenses actually paid. (I might add that in no event is there any requirement for military personnel to report reimbursements of the expense of government ordered travel in cash or in kind where no change of residence is involved, as in the case of transfers to and from combat zones, temporary assignments, etc.)

3. Where moving expenses paid by an individual serviceman exceed his reimbursements for such expenses, such excess amounts may be allowable as a deduction. In order for the serviceman to have the opportunity to take advantage of deductions authorized under the Tax Reform Act of 1969, which were not previously allowed, regulations describing such additional deductions will be issued during the coming calendar year.

In reaching these conclusions, we are mindful of the fact that military moves are mandatory and at the convenience of the government, and allowances of cost of moves are strictly limited. We are advised that there is no provision for reimbursement to servicemen of the type of indirect cost sometimes provided by private industry for which the Tax Reform Act of 1969 imposes dollar limitations on deductibility, with the consequence that military personnel are rarely, if ever, given reimbursements in kind for expenses which, if included in income, would not be deductible.

Again, let me assure you that in our proposed regulations we will make every effort to treat moving expenses in a manner to guarantee fair treatment to all military men and women.

Sincerely yours,

RANDOLPH W. THROWER  
Commissioner of Internal Revenue

## Comments on Resolutions

Following is a partial report on the comments received in response to the Association's resolutions passed by the delegates to the 1970 National Convention:

From the Department of Defense:  
*Resolution No. 2—Adequate Pay*  
(Continued on following page)



Brig. Gen. Campbell Y. Jackson, USAFR, Commander, 514th Military Airlift Wing (Associate), and keynote speaker Dr. Waldo H. Dubberstein, Professor of International Relations, National War College, discuss the Wing's dining-in and seminar held at Charleston AFB, S.C., November 7-8 weekend.



Brig. Gen. Daniel (Chappie) James, Jr., Deputy Assistant Secretary of Defense (Public Affairs), principal speaker at the dining-in, talks with officers prior to the formal program. Officers from three of the Wing's Military Airlift Groups and one Aeromedical Airlift Group attended.

From left, Brig. Gen. James M. Fogle, NORAD; Brig. Gen. James Price, Commander, Air Defense Weapons Center, Tyndall AFB, Fla.; Sen. Barry Goldwater (Maj. Gen., USAFR, Ret.); Lt. Gen. Thomas K. McGehee, ADC Commander; and Maj. Gen. Donavon F. Smith reminisce about WW II flying days during the 1970 William Tell Weapons meet at Tyndall. In background is recently rededicated bust of the late Col. David C. Schilling, WW II ace.



and Allowances for Low-Ranking Servicemen, wherein AFA urged that in all future examinations of the military pay structure due consideration be given to appropriate financial incentives designed to make military service more attractive to and more equitable for married men in the lower three enlisted grades:

"The Air Force and the Department of Defense recognize that significant increases for lower grade personnel, generally those members with less than two years' service, are necessary to ensure that their pay is competitive with that of their civilian counterparts, as well as being vital to the Administration's program to

eliminate the need for draft calls.

"In this respect, legislation, developed by the Defense Department, was introduced on April 28, 1970. If enacted into law, this bill will increase the basic pay of enlisted personnel with less than two years' service by twenty percent, effective January 1, 1971. Further, the President has stated that he will recommend to Congress in the FY '72 budget additional monies for increased pay and other benefits, especially for those serving in their first two years, to aid in the shift in emphasis toward a zero-draft environment."

*Resolution No. 10—Support of the ROTC Program*, in which AFA

strongly reaffirmed its support of the ROTC program in general, and supported the current efforts of the Departments of Defense and the Air Force leading to improved academic relationships with the colleges and universities where ROTC units are located:

"The Air Force ROTC program is one of the major sources of officers of the Air Force. It could play an even greater role in the Air Force officer procurement system during an all-volunteer force environment.

"The AFROTC enrollments are down again this year and it is anticipated that the program will not meet its established production goal in Fiscal Year 1971 or 1972. The support of the program by the Air Force Association is gratifying and appreciated by the Air Force. The Air Force will continue to evaluate the AFROTC program and make changes that are necessary to continue a viable program. However, we will not conduct the program on any campus in a configuration which would downgrade the military as a profession."

*Resolution No. 11—Increased Support for Guard and Reserve Forces*, wherein AFA commended the Secretary of Defense for his recognition of the vital contribution the Guard and Reserve can make to the active forces and, further, for directing the provision of the resources required to man and equip the Guard and Reserve at a level consonant with their increased responsibilities:

"The Air Force has demonstrated its support of this effort. The development of the new approved force structure and the FY '72 budget provide



Capt. Eric C. Michaux, center, explains a legal technicality to SSgt. Jarrett C. Bigbee, Portland, Tenn., left, and MSgt. Hubert B. Ward, Hornersville, Ala., in the legal office at Da Nang Airfield. The Assistant Judge Advocate, from Durham, N.C., is AF's only black lawyer in Vietnam.



In a fund-raising drive for local orphanages, Col. T. A. Payne, Deputy Commander, 38th Artillery Brigade, Col. F. J. Behan, Commander, 6314th Support Wing, and Col. C. L. Van Etten, Vice Commander, 314th Air Division, serve dinner at Osan AB, Korea. AIC Charles White takes plate.

for improved equipment in Air National Guard and Air Force Reserve flying units. Current drill strength authorization has been supported by the Air Staff enabling continued high-level manning and combat readiness for selected units of the Air Reserve Forces in several vital mission areas.

"The new USAF Personnel Plan, particularly Vol. IV, Reserve Forces Structure, is being written in order to provide guidance toward the solution of present and future Air Reserve Forces personnel problems. Action is presently under study to help local Air National Guard or Air Force Reserve units recruit a higher percentage of those skilled personnel leaving the active force."

From the House Veterans' Affairs Committee:

*Resolution No. 3—Educational Benefits for Reservists and Guardsmen*, in which AFA urged the Congress to enact legislation that would provide for any Reservist or Guardsman who was mobilized for the Berlin, Cuban, or *Pueblo* crises and the Vietnam War to include up to six months full-time, initial active-duty training in the determination of his eligibility for educational benefits:

"The matter presented in the resolution is receiving consideration. It should be pointed out, however, that the primary purpose of the Veterans' Training Program is to restore educational opportunities lost by reason of active duty in the armed forces.

"Reservists and members of the National Guard who serve short tours of training at periodic intervals suffer little or no interruption of educational pursuits. This is the basic reason why the current law excludes time spent on active duty for training."

#### Retiree Pay Hike

With the continuing increases in the Consumer Price Index (CPI), military retirees can look for another pay hike, probably in April or May. It is estimated the hike will be 4.5 percent or higher and will cost about \$150 million annually.

If prices continue to rise as they have in recent months, the CPI will climb to three percent above the base index in January or February and thus, according to the present retired pay formula, actuate an automatic military retiree pay increase in April or May.

The forthcoming hike promises to be a welcome progression for the retired military community, as it will raise the combined CPI increases to about fifty percent over the pay scale



Lt. Col. John C. Simons of the Aerospace Medical Research Laboratory, Wright-Patterson AFB, Ohio, received the first annual Alexander C. Williams Award from the Human Factors Society of America for initiating the AC-47 gunship side-firing techniques. At left, Lab commander Col. Clinton Holt.

of June 1, 1958, when retired pay shifted from the recomputation system to cost-of-living increases.

#### New Promotion Criteria

Participation of Air Reservists in Air War College (AWC) and Industrial College of the Armed Forces (ICAF) correspondence programs is still receiving top-level attention. Air Force Secretary Robert C. Seamans, Jr., recently approved the following policy changes to criteria for future promotions to the grade of brigadier general:

- Beginning with the screening board tentatively set for August 1971, each colonel must have enrolled in or have completed AWC or ICAF in order to be eligible for screening consideration.

- Beginning with the board tentatively scheduled for August 1972, eligibility for screening consideration will require that each colonel will have completed either AWC or ICAF.

#### Hardship Release

A recent directive from the Air Force easing the rules for hardship release has been followed by the decision to discontinue the practice of transferring affected officers to the nonactive-duty Reserve. Besides the administrative costs, which officials describe as "considerable," the Air Force contends that "these personnel do not represent a reliable mobilization resource in the event of total mobilization." This, of course, eliminates any possibility of an officer who takes a hardship release ever qualifying for Reserve retirement at age sixty. The change has little effect on enlisted personnel, as those leaving

for hardship reasons normally have not been transferred to the Reserve.

#### Veterans' Benefits

On December 22, 1970, the Veterans Administration started financing mobile homes for veterans and servicemen for the first time. Now available are loans up to \$10,000 for a home alone; up to \$17,500 with the purchase of a lot.

Also under a new law, there is no longer a terminal date for G.I. home loans for any eligible veterans, including those from World War II and the Korean conflict who have never used this benefit. This will allow millions of veterans to use their G.I. loan benefits whenever conditions are favorable to them.

Other new provisions include the elimination of the 0.5 percent funding fee on guaranteed and direct loans to post-Korean veterans, and authorization to make direct loans to veterans eligible for specially adapted housing.

#### SENIOR STAFF CHANGES

**B/G Charles I. Bennett, Jr.**, from C/S, 7th AF, PACAF, Tan Son Nhut Airfield, Vietnam, to Cmdr., 47th Air Div., SAC, Castle AFB, Calif. . . . **B/G Ernest F. John**, from V/C, USAF Security Service, San Antonio, Tex., to DCS/Intelligence, 7th AF, PACAF, Tan Son Nhut Airfield, Vietnam . . . **B/G Otis C. Moore**, from Exec. to C/S, Hq. USAF, to C/S, 7th AF, PACAF, Tan Son Nhut Airfield, Vietnam, replacing B/G Charles I. Bennett, Jr.

**RETIREMENTS:** B/G Buddy R. Daughtrey; B/G Alvan N. Moore (at end of March); B/G Alex W. Talmant.—END

## Twentieth Air Force Get-Together

The mission of the Twentieth Air Force was

"to bring about the surrender of . . . Japan without the loss of a single foot soldier." They did it.

Now, twenty-five years later, a group of Twentieth veterans has returned to the bases from which they flew into history, for a . . .

# Reunion in the Marianas

By Richard M. Keenan

**I**N THE summer of 1969, a few former members of the Twentieth Air Force met at a Stateside spa, and between pool and bar talked over old times and future plans. Somebody suggested, "Next year, for the twenty-fifth anniversary, let's go back to the Marianas where the action was." And that we did!

Actually, it all began more than twenty-six years ago at such B-29 training bases as Davis-Monthan, Ariz.; Great Bend, Smoky Hill, Walker, Salina, and Pratt, Kan.; Kearney, McComb, and Grand Island, Neb.; Clovis, N.M.; and Wendover, Utah. From these bases the new Superfortresses flew to China and India, and later twenty-one B-29 groups assembled in the Mariana Islands at Saipan, Tinian, and Guam—more than 76,000 men—for the greatest air offensive operation of the Pacific war.

This past Labor Day, forty-one former members of the Twentieth, many with wives and some with children, departed Los Angeles on a Pan American 707 for a two-week tour of the Marianas and Hawaii. The group totaled sixty-one people from eighteen states.

Twenty-five years ago it took three days to fly a '29 from Mather Field at Sacramento to the Marianas via John Rodgers Field on Oahu and staging through Kwajalein in the Marshall Islands. Now, after only thirteen hours' flying time from California, we touched down at Guam International at 5:30 a.m. The reception this time was also much improved.

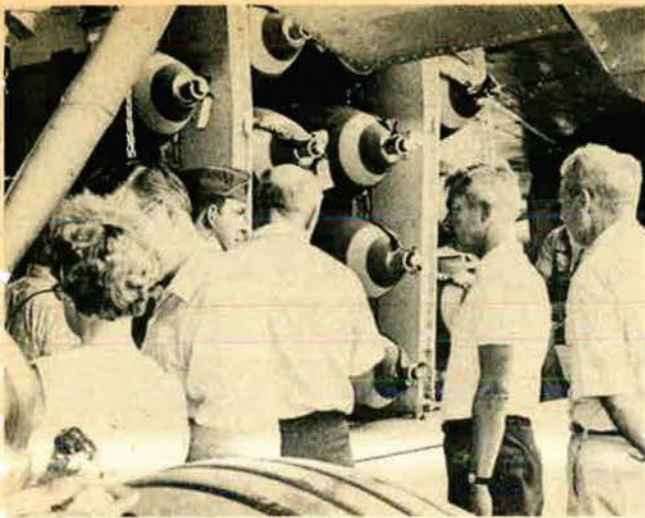
On hand to greet us were the Western Pacific Navy Band, an honor guard, and Lt. Gen. Sam J. Byerley, the Commander of SAC's Eighth Air Force, based at Andersen AFB, Guam, which we used to know as North Field, the World War II home of the 314th Wing. Of the five B-29 bases in the Marianas, this is the only one still in operation. Also on hand to greet us was Brig. Gen. Leo C. Lewis, the Vice Commander of the Eighth, who in 1945 was a B-29 pilot at this very base.

It was "tomorrow" on Guam, for we had crossed the International Date Line. From the balcony of our hotel, located on a cliff high above the capital, Agana, and looking out over the Philippine Sea, we saw "America's day begin" with a spectacular sunrise in the eastern sky. The extremely high cumulus clouds, typical in this vast ocean area, brought back memories of the many flights I had made through, above, and around such clouds a quarter of a century ago on our combat missions to Japan, 1,500 miles to the north. My young daughter, Margaret, aptly named them the "up-and-down clouds."

That day, we toured the beautiful southern shoreline of Guam, visited native villages, and stopped at the bay where Magellan landed on his discovery of these islands in 1521. Later, Governor Carlos G.



Members of the Twentieth Air Force Association are welcomed by Lt. Gen. Sam J. Byerley upon their arrival at Guam International Air Terminal on September 9, 1970.



Families and members of the Twentieth Air Force Association inspect a loaded bomb rack aboard a B-52 operating from Guam against targets in Southeast Asia's war zone.

Camacho was our cordial host at a reception and luncheon in the Government House.

The Twentieth was the largest group to tour the Marianas since World War II, when the tours were of a strikingly different nature. Throughout our entire visit last summer, what impressed us most was not only the natural beauty of these islands, now uncluttered by war, but also the hospitality and genuine friendliness of the people—both the natives and military-civil servants.

On the following days we revisited Andersen AFB (for those who may remember, there still are prominent humps halfway down each of the two main runways), received a command briefing on current USAF operations in the Pacific, inspected the B-52s on the flight line, went deep-sea fishing and golfing, and were the guests of the local newspaper at a luau at Tumon Beach, which used to be a favorite G.I. swimming spot.

From Guam we flew north in an Air Micronesia DC-6 on our way to Saipan. As we passed Rota, I



Former Commanding General of the Twentieth Air Force, Curtis LeMay, addresses those attending the Reunion Dinner on Guam, marking the twenty-fifth anniversary of the Twentieth Air Force.

remembered how all aircraft had been warned to keep well off its coast until V-J Day, for the island was still held by the enemy with strong anti-aircraft emplacements. We went over Aguijan, now called Goat Island in honor of its only inhabitants. Then came the climax of the tour for many of us, as we circled Tinian and Saipan at about 1,000 feet.

The great World War II fields are easily recognized from the air, as are Tinian Town and Tanapag Harbor on Saipan. Many of the roads, hardstands, and taxi strips are now overgrown with the thick tangantangan trees that were seeded as a refoliating agent after the war. Yet the outline of some unit areas can still be identified. I spotted the site of my Group headquarters, the 444th, and the area where we lived—first in tents and later in quonset huts—but none of the buildings remain. As we saw later, all that is left from the era, outside of the huge airstrips, are a few Japanese-built concrete buildings. The jungle and typhoons of twenty-five years have taken their toll.

After landing at Saipan's port of entry, Kobler Field, the former Air Transport Command base, we checked into the Royal Taga Hotel. It's new, air-conditioned, and located directly on the beach where the Marines landed in June 1944. A few rusted Sherman tanks still lie on the reef offshore. Other than that, there is little evidence of World War II on Saipan, where one of its greatest battles was fought. Ironically, the island is now a favorite spot for honeymooning couples from Japan.

We visited Isley Field, which had been the first B-29 base in the Marianas and the home of the 73d Wing, and other historic spots on this beautiful island. Traveling with our tour were some ex-Marines who pointed out such sites as Banzai Cliff (where thousands of enemy soldiers made a final, and futile, charge) and Garapan, the former Japanese capital of the Marianas, which has never been rebuilt. Chalan Kanoa, site of the wartime Japanese sugar mill, is now the main center of Saipan's 10,500 population. Yet the island was so serene I couldn't help but wonder where all those people were.

Some of our group visited spots of personal interest. Jack Jenkins, now of Apple Valley, Calif., once of the 497th Group, reported he found the large rock overlooking the Pacific where he often sat "pondering and planning my future if I ever got out of this place."

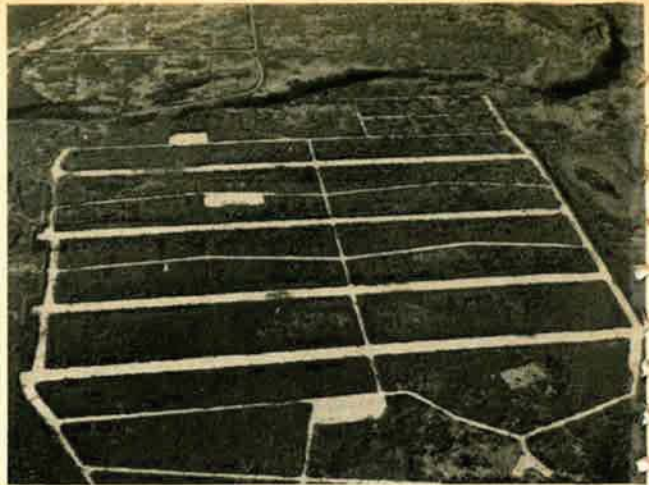
Since there is no scheduled air service to Tinian, the Air Force brought a C-97 up from Guam and flew us in early one morning. As in '45, the gear was left down during the 3.5-mile flight, and after a few passes over the island we landed at the old Navy strip just to the south of West Field, once the home of the 58th Wing.

The welcome we received at Tinian was unbelievable. Most of the island's 750 people were at the field, and the local authorities had declared the day a holiday. There were many signs of "Welcome Back Heroes" and "Thank You." The school children sang songs of greeting, gave us the traditional arrival kiss, and presented each visitor with both a shell and a flower lei. Charlie Kelly, a former B-29 gunner and now a captain with the Boston police force, had to admit, "It brought tears to my eyes."

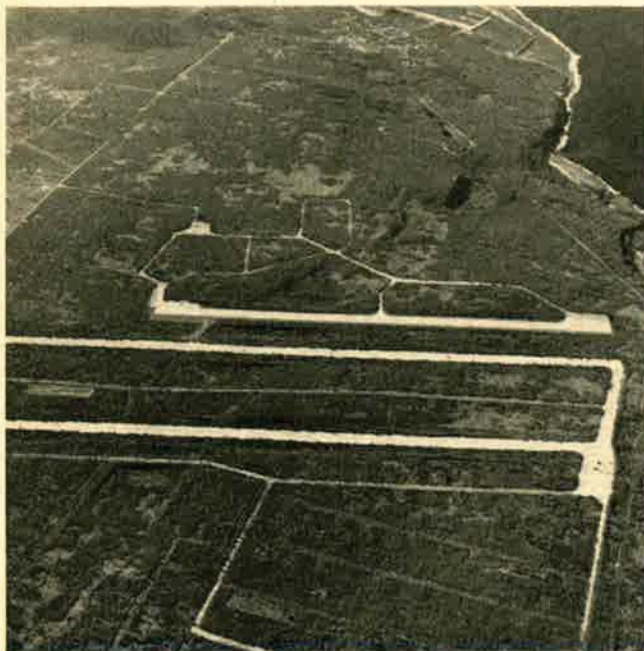
*(Continued on following page)*



Isley Field, home for the 73d Bomb Wing during WW II. At upper left is Kobler Field, Saipan's present airport.



The inverted "Y," bottom right, on Tinian's huge North Field was the loading site for the two A-bomb missions.



Tinian's West Field was home of the wartime 58th Wing. At the upper right are Tinian Town and Tinian's harbor.

In size and shape, Tinian resembles Manhattan Island. In 1944, the Army Engineers laid out the roads and streets in the pattern of New York City, with Riverside Drive to the west, Broadway in the center, and 1st Avenue on the east. From our landing site, we traveled north on "Broadway" in buses that had been ferried over from Saipan the night before on an old LST. I remembered Broadway as a four-lane, divided highway with hundreds of trucks and jeeps pounding back and forth at top speed. Today two lanes are clear—in some places not so clear. We were the road's sole travelers.

At the end of Broadway we came to what had once been the world's largest air base, North Field. Its four parallel, 8,500-foot runways served the 313th Wing and, in August 1945, the 509th Group, which flew

only two combat missions—the atomic flights to Hiroshima and Nagasaki. At each of the pits where the atomic bombs were loaded on the B-29s, there is a bronze marker, installed and maintained by the people of Tinian. The area otherwise is deserted.

We headed back down Broadway to Tinian Town, now called San Jose Village, the Spanish name of four centuries ago. Here the people had prepared what must have been the most fabulous feast in the history of the island. Every family contributed something to the dozens of native dishes. Coke and beer, strictly rationed the last time I was here, were in good supply. Mayor Jose Cruz, who "couldn't speak English when you were here before, but now I can debate anything with you," presented a Certificate of Appreciation for "service beyond the call of duty" to General LeMay and his men of the Twentieth.

Again there were personal tours. Four members of the 6th Group took off to locate their old camping ground. They found a flower garden still blooming among the weeds. "That's Tom Striker's garden!" J. B. Hudson, now of Culpeper, Va., said. "That's all he ever did. Plant flowers and push papers!" John Jennings of Phoenix, Ariz., came across the remains of a latrine and recalled the "night a guy went over here and found a Japanese soldier using it. Scared the hell out of both of 'em!"

Then it was back to Saipan, where the next morning we were briefed by officials of the Trust Territory of the Pacific on the United States administration of the former Japanese-controlled Mariana, Marshall, and Caroline Islands. After that, we flew to Guam for the gala Reunion Dinner. That flight couldn't have been more "real," for just as we passed Tinian an oil line broke, the prop had to be feathered, and we came in on three engines. Just like old times.

The reception and dinner at Andersen AFB, graciously hosted by the Eur-Pac Co. and Pan American, was attended by ex-sergeants to ex-generals who had assembled to celebrate the twenty-fifth anniversary of the "first global air force . . . the historic, symbolic forerunner of today's Air Force." There were a few messages and fewer speeches, and an excellent sound movie of the B-29s in combat.





Still standing more than a quarter century later is this Japanese-constructed air operations building on Tinian.



Many a B-29 mission against Japan was flown from this concrete runway at Isley Field on the island of Saipan.

The former Commanding General of the Twentieth, Curtis LeMay, honored us with his presence. One of the wives remarked to him that she was surprised by the respect the present AF members showed for the Twentieth. He replied, "The B-29 command was the first logistic and tactical operation to be handled exclusively by the Air Force. Their job was to bring about the surrender of the home islands of Japan without the loss of a single foot soldier. These men succeeded in that mission."

Among other leaders present were: The late Gen. Thomas S. Power (*see p. 17*), the former Commander of the 314th Wing and later Commander in Chief of the Strategic Air Command; Maj. Gen. Alfred F. Kalberer (Ret.), former CO of the 462d Group; Maj. Gen. William C. Kingsbury (Ret.), representing the 40th Group; Col. Robert A. Ping (Ret.), former CO of the 505th Group; Lt. Gen. Clarence S. Irvine (Ret.), former Deputy Chief of Staff of the Twentieth; Lt. Gen. Paul K. Carlton, now Commander of the Fifteenth Air Force, formerly of the 468th Group; and Maj. Gen. Earl L. Johnson, SAC's Ass't Deputy

Chief of Staff, formerly of the 9th Group and one of the principal planners of the reunion.

The assistance given us by the men at Andersen AFB throughout the entire visit was outstanding. Mary MacGuire of Casper, Wyo., whose husband was shot down over Tokyo and held prisoner until the war's end, later wrote, "I wish every schoolboy in the United States could have met the fine young servicemen we talked with during our visit. They are a credit to their country."

Several days after arriving home, I received the September 20, 1970, issue of the *Pacific Daily News*. It reported, in part: "Honoring the Twentieth, the luau at the Royal Taga was an idyllic scene of palm trees swaying, torches blazing, sloe-eyed maidens dancing to the throb of native drums, and, overhead, a bomber's moon. Time in Saipan, it's often said, is reckoned by World War II and Typhoon Jean. A third meridian was added this past week—the Twentieth Air Force Pacific Reunion. It was great!"

And that it was. . . .—END



The people of Tinian have installed and maintained bronze markers at each of the pits where A-bombs were loaded for the B-29 missions against Nagasaki and Hiroshima.

*The author, Richard M. Keenan, is Executive Director of the Twentieth Air Force Association and was the organizer of the association's reunion in the Pacific last summer. Mr. Keenan enlisted in the AAF in World War II and served with the Sixth Air Force in the Caribbean before transferring to the Twentieth Air Force's 58th Bomb Wing, on Tinian early in 1945, where he served as a sergeant aerial gunner until the war's end. Now in the real-estate business in the Washington, D.C., area, Mr. Keenan is also the author of the article "Last of the B-29s," which appeared in the Aerospace Historian last spring.*

\* \* \*

*The Twentieth Air Force Association has made reservations for next summer (August 21 through September 4) for another Pacific tour, to Hawaii, the Marianas, and including a three-day visit to Tokyo. Pan American is offering all former Air Force members (not just 20th AF) substantial fare reductions. Further details may be obtained from Mr. Keenan at 4465 MacArthur Blvd., Suite 8, Washington, D.C. 20007.*



THE UTAH STATE ORGANIZATION . . .  
*cited for consistent and effective programming in  
 support of the mission of the Air Force Association.*



During his visit to Hill Air Force Base to speak at the Utah AFA-sponsored Commander's Dining-In, Secretary of the Air Force Dr. Robert C. Seamans, Jr., center, and Maj. Gen. Richard M. Hoban, right, Commander, Ogden Air Materiel Area, examine a photograph of the Secretary and Capt. Tom Wood, left, taken during one of Dr. Seamans' trips to South Vietnam. The Secretary was presented a Golden Spike plaque in appreciation of his visit to Hill AFB.

Two outstanding dining-ins were sponsored by the Utah AFA during October. The first, the annual **Commander's Dining-In**, was held in the Hill AFB Officers' Club on October 13.

A capacity audience of more than 300 military, civic, industrial, and AFA leaders attended the dinner, which featured an address by **Dr. Robert C. Seamans, Jr.**, Secretary of the Air Force.

In his address, Dr. Seamans said, "If the people understand the military threat and the Air Force role in national defense, they will have the knowledge on which to base their decisions for or against competing requirements."

Dr. Seamans urged the public "to aid and support the POW campaigns sponsored by the Air Force Association, the Civil Air Patrol, and many other civic and fraternal organizations." He said, "The cruel exploitation of the men and their families by the North Vietnamese and dissident

elements in our country has been a national tragedy."

The dinner was cohosted by **Maj. Gen. Richard M. Hoban**, Commander, Ogden Air Materiel Area (OOAMA), and AFA's **Wasatch Chapter**, **Thomas D. Miller**, President. **Col. William D. Kyle**, the Commander of Hill AFB, was President of the Mess, and **Chaplain (Lt. Col.) W. F. Fulton, Jr.**, delivered the invocation. Utah AFA President **Harry L. Cleveland** presented Secretary Seamans a Golden Spike plaque in appreciation of his visit.

Special guests included **Sen. Frank E. Moss** (D-Utah); **Maj. Gen. H. L. Hogan, III**, Director, Office of Information, Office of the Secretary of the Air Force; **Brig. Gen. Wesley Pendergraft**, Vice Commander, OOAMA; **Brig. Gen. Leon C. Packer**, USAFR, Mobilization Assistant to Commander, OOAMA; AFA National Secretary **Nathan Mazer**; and **Jack C. Price**, Vice President of AFA's Rocky Mountain Region.

The second event, a **Noncommissioned Officers' Honors Night Dining-In**, was held in the Hill AFB NCO Open Mess on October 15.

The dinner, hosted by AFA's **Golden Spike Chapter** in cooperation with the **Hill AFB NCO Open Mess**, attracted more than 200 Hill AFB NCOs. **Frank Coppin** is President of the Golden Spike Chapter.

Chief Master Sergeant of the Air Force **Donald L. Harlow**, the guest of honor and speaker, lauding today's airmen, said, "Airmen today are better educated, more sophisticated and knowledgeable than those of a decade ago." He also said the Air Force is "doing everything to retain its men. Hopefully, we will see a pay raise and better living conditions in the near future."

During the program, **Utah AFA Awards of Merit** for "professionalism and service" were presented to **SMSgt. Jay C. Phillips**, 4754th Radar Evaluation Sqdn.; **MSgt. Raymond F. Brinkman**, Hq. 945th Military Airlift Gp. (Res.); **MSgt. Frank M. Jauregui**, 4677th Defense Systems Evaluation Sqdn.; **TSgt. Arnold H. Chapman**, Hq. 2849th Air Base Group (AFLC); **TSgt. Douglas A. Nanninga**, 1906th Communications Sqdn. (AFSC); **SSgt. Willie R. Hatton**, 2952d Combat Logistic Support Sqdn. (AFLC); **SSgt. James W. Sullens**, 533-S Field Training Det. (ATC); **SSgt. Vaughn D. Ashley**, 2701st Explosive Ordnance Depot Sqdn.; and **Sgt. Robert J. Hegner**, Hq. OOAMA. The awards were presented by **Brig. Gen. Wesley Pendergraft**, Vice Commander, OOAMA, and the citations accompanying the awards were read by **1st Lt. John W. Arnold**.

**CMSgt. Wilber Harris** was Chairman of the Mess, and **Chaplain (Maj.) Thomas L. Kearney** delivered the invocation.

\* \* \*

Meeting in the Selfridge AFB Officers' Club on October 24, delegates to the **Michigan AFA's 1970 Convention** elected **Richard Hoerle** to succeed **Marjorie O. Hunt** as President for 1971. The following were elected to serve with him: **Stewart Greer**, Vice President; **Beryl Martin**, Secretary; and **Henry Lemmen**, Treasurer.

A Friday night Open House, hosted



Chief Master Sergeant of the Air Force **Donald L. Harlow**, guest of honor and speaker at Utah AFA's Noncommissioned Officers' Honors Night Dining-In, chats with Utah AFA President **Harry Cleveland** (see accompanying story for details).

by the **Detroit Chapter**, opened the Convention, and the **Dearborn** and **Kalamazoo Chapters** hosted a Saturday morning breakfast.

**Gen. Bernard A. Schriever**, USAF (Ret.), Chairman of the Board of Schriever & McKee Associates of Arlington, Va., was the guest speaker. General Schriever spoke on "Foreign Policy and Military Strategy."

The Michigan AFA's newly established **Hoyt S. Vandenberg Achievement Award**, recently donated through the Hoyt S. Vandenberg Chapter by **Teledyne CAE**, was accepted from Chapter President **Dick Mossoney** by Michigan AFA President **Hunt**, who then presented it to **Edwin Pipp**, feature aerospace writer for the *Detroit News*. The trophy, which will be presented annually to a Michigan resident who has made outstanding contributions to aerospace power, replaces the State AFA's **Michigan Airability Award**, now retired to the Detroit Historical Museum.

Other Michigan AFA awards went to **Capt. Michael Mickelson**, Information Officer at Selfridge AFB; **Richard Mossoney**, Hoyt S. Vandenberg Chapter President; and Mount Clemens Chapter President **Cecil Vogt**. Captain Mickelson was cited for "general cooperation and assistance of a high order to AFA"; Mr. Mossoney for "continuing an outstanding ROTC program through the Chapter's annual ROTC banquet"; and Mr. Vogt for "outstanding support of AFJROTC, AF Reserve, and the Air Force Academy."

AFA Certificates of Honor were presented to **President Hunt**; **Mark McKee**, publisher of the *Macomb*

*Daily*; **Allison L. Scafuri**, a member of the Mount Clemens Chapter; and **Mrs. Donald Odell**, Michigan Coordinator, National League of Families of American Prisoners and Missing in Southeast Asia.

The four recipients were cited for "outstanding service to the cause of human rights, by virtue of taking positive action in behalf of Americans who are missing in action or held prisoner of war in Southeast Asia."

**Maj. Gilbert Whiteman**, Liaison Officer, Air Force Institute of Technology, Michigan State University, was Master of Ceremonies. **Lt. Col. Franklin W. Krueger**, Selfridge AFB Chaplain, delivered the invocation, and **Maj. Gen. James L. Murray**, USAFR, President of Teledyne CAE, introduced the guest speaker. The colors were posted by the Selfridge AFB Color Guard.

Special guests included **Col. Kenneth I. Gunnarson**, Commander, 4708th Air Base Group, Selfridge AFB; **Col. Leonard M. Baldock**, Senior Reserve Advisor to Department Chief of Operations and Reserve, Canadian Armed Services, and a past president of the Royal Canadian Air Force Association; **Col. Howard C. Strand**, Commander, 127th Tac Recon Wing, Michigan Air National Guard; Mount Clemens Mayor **Abraham S. Levine**; **Glenn Stille**, Detroit Historical Museum; **Paul Poorman**, managing editor of the *Detroit News*; ladies of MIA/POWs; and representatives of the Detroit Wing of the **Polish Air Force Veterans Association**.

\* \* \*

At the Ohio AFA's recent convention in Fairborn, Ohio, the **Aerospace**

**Power Award** was presented to **Gen. Jack Merrell**, Commander, Air Force Logistics Command, Wright-Patterson AFB.

General Merrell was cited for his personal efforts and leadership in establishing the new **Air Force Museum** at Wright-Patterson AFB. In presenting the award, Ohio AFA President **Bernard D. Osborne** praised General Merrell's active and dedicated support of the Air Force Museum Foundation's program, and national and local activities of the Air Force Association.

**George D. Hardy**, AFA's National President, the featured speaker at the Convention Banquet, presented an AFA Certificate of Honor to **Neil Zurcher**, a newsman with WJW-TV in Cleveland. Mr. Zurcher was cited for "outstanding service to the cause of human rights by virtue of taking positive action in behalf of Americans who are missing in action or held prisoner of war in Southeast Asia." In addition to many other contributions to the MIA/POW effort, Mr. Zurcher arranged TV interviews for families of MIA/POWs, and produced several TV documentaries in support of MIA/POW efforts.

In his address, Mr. Hardy talked about the clash between external threat and internal apathy, "... the peril of questing after some utopian abstractions while a determined adversary stealthily erodes the foundations of our ecological house of cards."

"AFA's constitution," he said, "wisely and correctly sets forth as one of our most pressing tasks that of information, of keeping ourselves informed, and of informing others about the decisive issues of our time, especially as they affect and shape the

(Continued on following page)



**Edwin Pipp**, center, recipient of the Michigan AFA's **Hoyt S. Vandenberg Achievement Award**, displays his trophy to, from the left, **Hoyt S. Vandenberg Chapter President Richard Mossoney**; **Gen. Bernard A. Schriever**, USAF (Ret.), guest speaker; outgoing Michigan AFA President **Marjorie O. Hunt**; and **Maj. Gen. J. L. Murray**, USAFR, President of Teledyne CAE (see accompanying story).



Gen. Jack Merrell, center, Commander, Air Force Logistics Command, Wright-Patterson Air Force Base, receives the Ohio AFA's "Aerospace Power Award" from Ohio AFA President Bernard D. Osborne during the State AFA's recent Convention in Fairborn. AFA National President George D. Hardy, right, was the guest speaker at the Chapter's Convention Banquet (see accompanying story).

future of US aerospace power. This function," he emphasized, "is more urgent and more difficult in this time of polarization, of political bias and downright hostility toward the defense sector of society."

**Melvin Gerhold**, Columbus Chapter President, was named the Ohio AFA's "Man of the Year" in recognition of his work with youth as an Air Force Junior ROTC instructor at Franklin County's Westland High School. For his efforts in writing and obtaining passage of a national AFA award supporting the Air Force Museum Foundation's fund drive, an Ohio AFA Citation of Honor was presented to **Robert Hunter**, a past president of the **Wright Memorial Chapter** and a member of AFA's **Civilian Personnel Council**. The awards were presented by Mr. Osborne.

**Brig. Gen. Glen J. McClernon**, USAF (Ret.), President of the Wright Memorial Chapter, was Master of Ceremonies, and **Ernest E. Pierce**, Executive Vice President of the Ohio AFA, was Convention Chairman. The AFJROTC Color Guard from Dayton's Stebbins High School posted the Colors, and **William M. Whitney**, Vice President for AFA's Great Lakes Region, led the Pledge of Allegiance.

Delegates unanimously elected the following slate to serve for 1971: **Ernest Pierce**, President; **Robert Maltby**, Executive Vice President; **Robert**

**Hunter**, Francis Spaulding, and **Fred Bardwell**, Vice Presidents; **Lewis Michael**, Secretary; and **Kenneth Banks**, Treasurer.

During the business session, Ohio AFA President Osborne presented each state officer and Chapter presi-

dent a token of appreciation for their cooperation and support during his tenure.

Special guests included **Marjorie O. Hunt**, Michigan AFA President; **Lyle Ganz**, Wisconsin AFA President; **Dick Hoerle**, Michigan AFA President-elect; and **Dorothy Whitney**, President of the Gen. Claire Chennault Chapter of Detroit, Mich.

On Sunday morning, delegates were treated to a tour of Wright-Patterson AFB and the Air Force Museum, following which **William Whitney**, AFA's Vice President for the Great Lakes Region, conducted a most productive regional meeting featuring a presentation from President Hardy.

\* \* \*

**Adm. John S. McCain, Jr.**, Commander in Chief, Pacific (CINCPAC), was the guest of honor and speaker at a joint meeting of the AFA's **Fort Worth Chapter** and **Fort Worth Airpower Council**, recently held in the Green Oaks Inn.

More than 500 attended the dinner meeting at which Admiral McCain gave his views on the war in Southeast Asia, concluding with a question-and-answer period.

During the program, the Fort Worth Airpower Council presented Admiral McCain a Colt Special .22-caliber revolver in a presentation case. He also received a Texas hat from the President of the Chamber of

(Continued on page 76)



Adm. John S. McCain, Jr., Commander in Chief, Pacific (CINCPAC), displays tokens of appreciation he received during his recent visit to Fort Worth, Tex., as guest of honor and speaker at a joint meeting of AFA's Fort Worth Chapter and Fort Worth Airpower Council. AFA National Director Sam E. Keith, Jr., Chairman of the Council, is at the right (see accompanying story for details).

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*leading 300 musicians and singers*

*and many other top stars*



Honor America Day – the biggest birthday party in American history – stirred the emotions of the 400,000 people who personally participated in the Washington, D.C. celebration and the millions more who watched and listened on radio and television.

Now, in a special offer for Air Force Association members, you can relive this exciting and entertaining event in a 2-record stereo LP album called "Proudly They Came." The 80-minute package of entertainment and inspiration is narrated by Jimmy Stewart and brings you the highlights of this unforgettable event... A \$6.98 value, you as an AFA member can have this two - record album for \$5.99 ... a special savings of nearly \$1.00.

Air Force Association  
1750 Pennsylvania Avenue, N.W.  
Washington, D.C. 20006

Enclosed is my check for \$ \_\_\_\_\_ which is full payment for \_\_\_\_\_ copies (at \$5.99 per album) of the new LP Album "Proudly They Came." Please send these albums to:

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

(Orders will be filled within 30 days of receipt of order)

Additional names and addresses may be included on a separate sheet if you wish copies sent as gifts.

Make check payable to Air Force Association.

**SPECIAL NOTE:** A royalty from the net proceeds from the sale of each album will be paid to the Honor America Day Committee to help support a continuation of its work.





# THIS IS AFA

The Air Force Association is an independent, nonprofit airpower organization with no personal, political, or commercial axes to grind; established January 26, 1946, incorporated February 4, 1946.

## Objectives

The Association provides an organization through which free men may unite to fulfill the responsibilities imposed by the impact of aerospace technology on modern society; to support armed strength adequate to maintain the security and peace of the United States and the free world; to educate themselves and the public at large in the development of adequate aerospace power for the betterment of all mankind; and to help develop friendly relations among free nations, based on respect for the principles of freedom and equal rights for all mankind.

## Membership

**Active Members:** US citizens who support the aims and objectives of the Air Force Association, and who are not on active duty with any branch of the United States armed forces—\$7 per year.

**Service Members** (nonvoting, nonofficeholding); US citizens on extended active duty with any branch of the United States armed forces—\$7 per year.

**Cadet Members** (nonvoting, nonofficeholding): US citizens enrolled as Air Force ROTC Cadets, Civil Air Patrol Cadets, or Cadets of the United States Air Force Academy—\$3.50 per year.

**Associate Members** (nonvoting, nonofficeholding); Non-US citizens who support the aims and objectives of the Air Force Association whose application for membership meets AFA constitutional requirements—\$7 per year.

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**GEORGE D. HARDY**, President, Hyattsville, Md.; **NATHAN H. MAZER**, Secretary, Roy, Utah; **JACK B. GROSS**, Treasurer, Harrisburg, Pa.; **JESS LARSON**, Chairman of the Board, Washington, D.C.

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## State Contacts

Following each state name, in parentheses, are the names of the localities in which AFA Chapters are located. Information regarding these Chapters, or any place of AFA's activities within the state, may be obtained from the state contact.

**ALABAMA** (Auburn, Birmingham, Huntsville, Mobile, Montgomery, Selma): Dr. Boyd E. Macroy, 3721 Princeton Rd., Montgomery, Ala. 36111 (phone 293-6871).

**ALASKA** (Anchorage, Fairbanks, Kenai, Nome): Gordon Wear, Box 777, Fairbanks, Alaska 99701 (phone 452-4411).

**ARIZONA** (Phoenix, Tucson): Hugh P. Stewart, 709 Valley Bldg., Tucson, Ariz. 85705 (phone 622-3357).

**ARKANSAS** (Fort Smith, Little Rock): Alex E. Harris, 3700 Cantrell Rd., Apt. 612, Little Rock, Ark. 72202 (phone 664-1915).

**CALIFORNIA** (Antelope Valley, Burbank, Chico, El Segundo, Fairfield, Fresno, Harbor City, Long Beach, Los Angeles, Monterey, Newport Beach, Norwalk, Novato, Pasadena, Riverside, Sacramento, San Bernardino, San Diego, San Francisco, Santa Barbara, Santa Clara County, Santa Monica, Tahoe City, Vandenberg AFB, Van Nuys, Ventura): Gene DeVisscher, 2775 Cottage Way, Sacramento, Calif. 95825 (phone 487-7818).

**COLORADO** (Boulder, Colorado Springs, Denver, Pueblo): R. E. Stanley, 7644 Heath Dr., Colorado Springs, Colo. 80907 (phone 473-3154).

**CONNECTICUT** (Torrington): Cecil H. Gardner, 21 Field Rd., Cos Cob, Conn. 06807 (phone 869-3146).

**DELAWARE** (Wilmington): Vito A. Panzarino, Greater Wilmington Airport, Bldg. 1504, Wilmington, Del. 19720 (phone 328-1208).

**DISTRICT OF COLUMBIA** (Washington, D. C.): Robert J. Schissel, 2000 6th St., N.W., Washington, D.C. 20006 (phone 222-2222).

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**GEORGIA** (Savannah, St. Simons Island, Valdosta, Warner Robins): William H. Kelly, 241 Kensington Dr., Savannah, Ga. 31402 (phone 964-1941).

**HAWAII** (Honolulu): John H. Felix, Suite 2012, 1441 Kapiolani Blvd., Honolulu, Hawaii 96813 (phone 946-8080).

**IDAHO** (Boise, Burley, Pocatello, Rupert, Twin Falls): Donald M. Riley, 6925 Copper Dr., Boise, Idaho 83704 (phone 375-2948).

**ILLINOIS** (Champaign, Chicago, Elmhurst, La Grange, Park Forest, Peoria): Ludwig Fahrenwald, III, 108 N. Ardmore, Villa Park, Ill. 60181 (phone 832-6566).

**INDIANA** (Indianapolis): Oliver K. Loer, 268 S. 800 W., Swayzee, Ind. 46986, (phone 922-7136).

**IOWA** (Cedar Rapids, Des Moines): Ric Jorgensen, 4005 Kingsmen, Des Moines, Iowa 50311 (phone 255-7656).

**KANSAS** (Wichita): Don C. Ross, 10 Linwood, Eastborough, Wichita, Kan. 67201 (phone 686-6409).

**LOUISIANA** (Alexandria, Baton Rouge, Bossier City, Lafayette, Monroe, New Orleans, Ruston, Shreveport): Toulmin H. Brown, 6931 E. Ridge Dr., Shreveport, La. 71105 (phone 853-0293).

**MARYLAND** (Baltimore): Henry R. Johnston, 106 Taplow Rd., Baltimore, Md. 21212 (phone 435-3366).

**MASSACHUSETTS** (Boston, Florence, Lexington, Northampton, Plymouth, Randolph, Saugus, Taunton, Worcester): Andrew W. Trushaw, Jr., 204 N. Maple St., Florence, Mass. 01060 (phone 584-5327).

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**MINNESOTA** (Duluth, Minneapolis, St. Paul): Victor Vacanti, 8941 10th Ave., Minneapolis, Minn. 55420 (phone 888-4240).

**MISSISSIPPI** (Biloxi, Jackson): M. E. Castleman, 5207 Washington Ave., Gulfport, Miss. 39501 (phone 863-6526).

**MISSOURI** (Kansas City, Springfield, St. Louis): Rodney G. Horton, 4314 N. E. 53d St., Kansas City, Mo. 64119 (phone 452-7834).

**NEBRASKA** (Lincoln, Omaha): Lloyd Grimm, P. O. Box 1477, Omaha, Neb. 68101 (phone 553-1812).

**NEVADA** (Las Vegas): Barney Rawlings, 2617 Mason Ave., Las Vegas, Nev. 89102 (phone 735-5111).

**NEW HAMPSHIRE** (Pease AFB): R. L. Devoucoux, 270 McKinley Rd., Portsmouth, N. H. 03801 (phone 624-4011).

**NEW JERSEY** (Atlantic City, Belleville, Chatham, Fort Monmouth, Jersey City, McGuire AFB, Newark, Paterson, Trenton, Wallington): James P. Grazioso, 208 63d St., West New York, N. J. 07093 (phone 867-5472).

**NEW MEXICO** (Alamogordo, Albuquerque, Roswell): Pat Sheehan, P. O. Box 271, Albuquerque, N. M. 87103 (phone 255-7629).

**NEW YORK** (Binghamton, Buffalo, Elmira, Forest Hills, Freeport, Ithaca, Kew Gardens, Lakewood, Newburgh, New York City, Patchogue, Pittsburgh, Rochester, Rome, Staten Island, Sunnyside, Syracuse, White Plains): William C. Rapp, 18 N. Hempstead Rd., Room 508, New City, N.Y. 14092 (phone 634-9955).

**NORTH CAROLINA** (Fayetteville, Raleigh): Edwin A. Capps, 4913 Yaddin Dr., Raleigh, N. C. 27609 (phone 829-7196).

**OHIO** (Akron, Canton, Cincinnati, Cleveland, Columbus, Dayton, Youngstown): Bernard D. Osborne, 3046 Tralce Trail, Dayton, Ohio 45430 (phone 255-2581).

**OKLAHOMA** (Altus, Enid, Oklahoma City, Tulsa): Ed MacFarland, Suite 1100, Shell Building, Tulsa, Okla. 74119 (phone 583-1877).

**OREGON** (Corvallis, Portland): Robert Ringo, 605 S. W. Jefferson St., Corvallis, Ore. 97330 (phone 753-4482).

**PENNSYLVANIA** (Allentown, Ambridge, Erie, Harrisburg, Lewistown, Philadelphia, Pittsburgh, Wayne): Gilbert E. Petrina, Box 113, RD #1 Hershey, Pa. 17033 (phone 367-3368).

**RHODE ISLAND** (Warwick): Matthew Puchalski, c/o 143 SOG RIANT, T. F. Green Airport, Warwick, R. I. 02886 (phone 737-2100, ext. 27).

**SOUTH CAROLINA** (Charleston, Columbia, Myrtle Beach): James F. Hackler, Jr., Box 2065, Myrtle Beach, S. C. 29577 (phone 449-3331).

**SOUTH DAKOTA** (Sioux Falls): Don Hedlund, 2701 W. 24th St., Sioux Falls, S. D. 57105.

**TENNESSEE** (Memphis, Nashville): James W. Carter, Williamsburg Rd., Route 3, Brentwood, Tenn. 37027.

**TEXAS** (Abilene, Amarillo, Austin, Big Spring, Corpus Christi, Dallas, Del Rio, El Paso, Fort Worth, Houston, Lubbock, San Angelo, San Antonio, Sherman, Waco, Wichita Falls): John Allison, P.O. Box 5116, Waco, Tex. 76708.

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**VERMONT** (Burlington): R. F. Wissinger, 158th CAM SD, Burlington International Airport, Vt. 05401 (phone 863-4494).

**VIRGINIA** (Arlington, Danville, Hampton, Lynchburg, Norfolk, Richmond, Roanoke, Staunton): Richard C. Emrich, 6416 Noble Dr., McLean, Va. 22201 (phone 962-0710).

**WASHINGTON** (Bellevue, Port Angeles, Seattle, Spokane, Tacoma): Clyde Stricker, P. O. Box 88850, Seattle, Wash. 98188 (phone 534-2396 or 244-8600).

**WISCONSIN** (Madison, Milwaukee): Lyle W. Ganz, 1536 N. 69th St., Wauwatosa, Wis. 53213 (phone 444-4442).

**WYOMING** (Cheyenne): Conley B. Stroud, Jr., 6421 Evers Blvd., Cheyenne, Wyo. 82001 (phone 235-2222).



# Now -- Family

with Air Force Association

## A new plus for Military Personnel from AFA

The Air Force Association and its underwriter, United Benefit Life Insurance Company are pleased and proud to offer new FAMILY PLAN AFA MILITARY GROUP LIFE INSURANCE to active duty personnel of the USAF and members of the Air Force Ready Reserve and Air National Guard.

For only \$2.50 per month, in addition to the low \$10 monthly premium for the insured's basic coverage, the new FAMILY PLAN insures the spouse for 30% of the insured's existing coverage. All children (regardless of number) between the ages of six months and 21 years are covered in the amount of \$2,000 (\$250 between the ages of 15 days—or upon leaving the hospital, if later—and six months). And, in the event of the principal policyholder's death, this family insurance may be converted to a permanent plan of insurance by the member's family

### Big, new benefits for members and their families

Insured's Age	Insured's Basic Coverage**	Coverage for Spouse	Coverage for Each Child
20-39	\$20,000**	\$6,000	\$2,000
40-44	17,500**	5,250	2,000
45-49	13,500**	4,050	2,000
50-59	10,000**	3,000	2,000
60-64	7,500**	2,250	2,000

\*A flat sum of \$15,000 is paid for all deaths which are caused by an aviation accident in which the insured is serving as pilot or crew member of the aircraft involved. In this case, the accidental death benefit does not apply.

\*\*An extra accidental death benefit of \$12,500 is also provided.

### IMPORTANT NOTE FOR CURRENT POLICYHOLDERS

Current AFA Military Group Life Insurance policyholders should not use this application.

**A special application form has been mailed to all policyholders.**

Current policyholders may also obtain additional application forms by writing directly to AFA's Insurance Division.

### OTHER BENEFITS

#### RETENTION OF COVERAGE AFTER LEAVING ACTIVE DUTY!

Coverage under this policy may be retained at the low, group rate with no change in benefits upon leaving active duty (and until attaining Age 65) provided the coverage has been in force for at least a 12-month period prior to leaving active duty.

#### GUARANTEED CONVERSION TO PERMANENT INSURANCE.

#### WAIVER OF PREMIUM FOR DISABILITY.

#### FULL CHOICE OF SETTLEMENT OPTIONS.



# Coverage

## Military Group Life Insurance

**CONTINUED, UNRESTRICTED COVERAGE**  
*assures your family the best possible protection!*

- OPTIONAL COVERAGE FOR SPOUSE AND CHILDREN
- NO WAR CLAUSE!
- NO HAZARDOUS DUTY RESTRICTION!
- \$12,500 ACCIDENTAL DEATH BENEFIT

There is no war clause, combat-zone waiting period, other hazardous duty restriction or geographical limitation on AFA Military Group Life Insurance coverage. It is AFA's policy to continue to provide the broadest possible protection to all of our member-policyholders. An additional benefit of \$12,500 is paid for accidental deaths—even those caused by aviation accidents—except when the insured is serving as pilot or crew member of the aircraft involved.

**COVERAGE—AT THE SAME LOW PREMIUM — FOR FLYING AND NON-FLYING PERSONNEL**

Policyholders are insured for the same basic amounts, at the same low premium, whether or not they are on active duty status. This eliminates the penalty of lower coverage for non-flying personnel whose death is caused (in part or in whole) by illness or ordinary accident. There is no exception\* to this provision which is clearly stated in the benefit table on the opposite page.

**EXCLUSIONS — FOR YOUR PROTECTION**

To provide maximum coverage at minimum cost for all participants, there are a few exclusions which apply to this coverage. They are:

Benefits for suicide or death from injuries intentionally inflicted while sane or insane shall not be effective until the policy has been in force for twelve months.

Accidental Death Benefit shall not be effective if death is caused by: (1) From injuries intentionally self-inflicted while sane or insane, or (2) From injuries sustained while committing a felony, or (3) Either directly or indirectly from mental infirmity or poisoning or asphyxiation from carbon monoxide, or (4) During any period while the policy is in force under the waiver of premium provision of the policy, or (5) From an aviation accident, military or civilian, in which the insured was acting as pilot or crew member of the aircraft involved.

**FACTS ABOUT YOUR POLICY**

Benefits are dated and take effect on the last day of the month in which your application for coverage is post-dated. Coverage runs concurrently with AFA membership. Military Group Life Insurance is written in conformity with the Insurance Regulations of the District of Columbia.

Insurance will be provided under the group insurance policy issued by United Benefit Life Insurance Company to the Reserve Association. However, National Guard and Reserve members who are permanent residents of Ohio, Texas, Florida, and New Jersey, will not be covered under the policy, but will be eligible for individual policies providing somewhat similar benefits.

**MAIL YOUR APPLICATION TODAY** **MAIL YOUR APPLICATION TODAY**

**AFA MILITARY GROUP LIFE INSURANCE WITH OPTIONAL FAMILY PLAN**  
 (Underwritten by United of Omaha) **ONLY FOR USE OF NON-POLICYHOLDERS**

---

Rank \_\_\_\_\_ Name \_\_\_\_\_ (please print) \_\_\_\_\_ Social Security No. \_\_\_\_\_

---

Mailing Address \_\_\_\_\_

---

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

---

Date of Birth \_\_\_\_\_

---

Beneficiary \_\_\_\_\_ Relationship \_\_\_\_\_

A.  I apply for AFA Military Group Life Insurance with family plan coverage, at a monthly premium of \$12.50. Please send me an additional application form for enrollment of eligible family members.

B.  I apply for AFA Basic Military Group Life Insurance only (does not include family coverage), at a monthly premium of \$10.00.

Please indicate below the form of payment you elect:

	<b>Family Plan</b>	<b>Basic Plan</b>
<input type="checkbox"/> Monthly government allotment. I enclose 2 months' premium (\$25 for Family Plan, \$20 for Basic Plan) to cover the period necessary for my allotment to be established.	<input type="checkbox"/> \$12.50	<input type="checkbox"/> \$10
<input type="checkbox"/> Quarterly, direct to AFA, I enclose amount checked.	<input type="checkbox"/> \$37.50	<input type="checkbox"/> \$30
<input type="checkbox"/> Semi-annually, direct to AFA, I enclose amount checked.	<input type="checkbox"/> \$75	<input type="checkbox"/> \$60
<input type="checkbox"/> Annually, direct to AFA, I enclose amount checked.	<input type="checkbox"/> \$150	<input type="checkbox"/> \$120

Category of eligibility. Please check appropriate box:

Active Duty, Air Force  
 Ready Reserve, Air Force  
 Air National Guard

This insurance is available only to AFA members:

I enclose \$7 for annual AFA membership dues (includes subscription (\$6) to AIR FORCE/SPACE DIGEST.  
 I am an AFA member.

I understand the conditions governing AFA's Group Life Insurance Plan. I certify that I am eligible for this insurance under the category indicated, that I am currently in good health, and that I have successfully passed, within the past two year period, the last physical examination required by my branch of service. (Reserve and Guard personnel not on extended active duty must include with this application a copy of their most recently completed SF88.)

---

Signature of Applicant \_\_\_\_\_ Date \_\_\_\_\_



Bob Stevens'

# "There I was..."

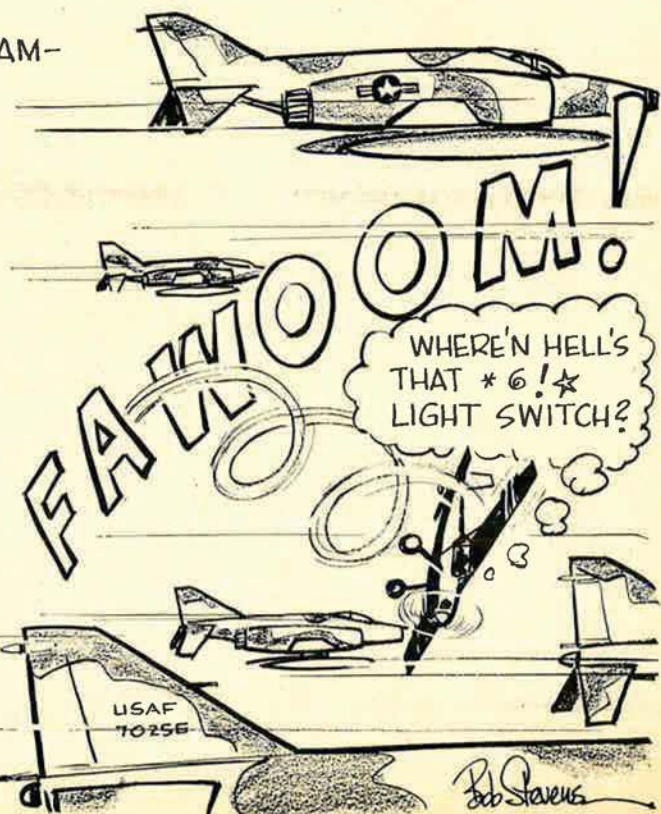
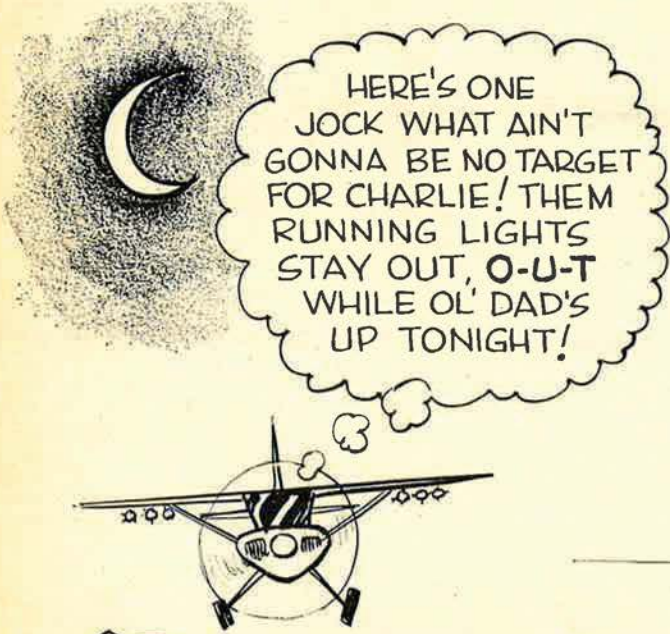
Flexible planning is a virtue often practiced in inverse ratio to one's distance from the problem. But how marvelously the mind concentrates on alternatives when the planner's own anatomy is in the well-known sling!



AND FROM AN ADJACENT PART OF THE SKY -



WE NOW PICK UP A FAC\* OVER VIETNAM-



\* FORWARD AIR CONTROLLER

THANKS TO BOB HOWARD COLUMBUS, OHIO

Bob Stevens



### **MEET THE NEW LEADER IN THE LIVELY ART OF DRONE ELECTRONICS.**

The most dramatic and far-reaching development in the history of drone control is now under way at Motorola's Government Electronics Division. It is called ITCS (Integrated Target Control System) and officially designated AN/USW-3 (V). ■ It is a tri-service procurement of an integrated target control system designed to meet the needs of all the services well into the '80's. ■ ITCS can handle both subsonic and supersonic targets, multiple targets, all attitude maneuvering targets, and targets in formation. It has a range of 250 NM which can be extended to 400 NM through the use of an airborne relay. It can control any type of tactical drone, be it winged,

wheeled, hulled or tracked. ■ ITCS has the capability required to include a vector miss distance scoring system. It can be used as a lightweight, low-cost, bomb scoring or radar bombing system. ■ ITCS is comprised of a family of eight different control stations, each compatible with the single compact vehicle subsystem. ■ ITCS, or a portion of it, may meet your unique range or tactical requirement.

For more information write: Motorola Radar Operations, 8201 E. McDowell Road, Scottsdale, Arizona 85252, or call (602) 949-3172.



**MOTOROLA**  
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## Over 1,000 consecutive home station departures without mechanical delay.

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