JUNE 1970 / 60c

AIR FORCE

and SPACE DIGEST

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

The Plight of the Prisoners

America Responds— Will Hanoi?

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AIR FORCE and SPACE DIGEST

The Magazine of Aerospace Power
Published by the Air Force Association

VOLUME 53, NUMBER 6 **JUNE 1970**

DEPARTMENTS

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An Editorial

War Prisoners Have Human Rights Too

By John F. Loosbrock

EDITOR, AIR FORCE/SPACE DIGEST

ONE can make a very good case, in purely military terms, for the missions into the Parrot's Beak and the Fishhook in Cambodia. It is sound military doctrine to strike, and strike hard, at an enemy's supply caches and his command and control centers. One has only to recall the immense contribution to the ending of our own Civil War, made by Sherman's March to the Sea. The history of war is studded with other examples.

The box score on weapons, ammunition, and food supplies already netted in the Cambodian raids is impressive (*see page 14*), and it is good to know that a significant, though incalculable, number of young Americans now serving in South Vietnam will have their fair chance of living to a ripe old age as a result of these operations.

The political side effects of the Cambodian raids are another matter. However one may feel about the necessity for the action there, its divisive impact on the American body politic is as much a fact of life as are the obvious military pluses involved in limiting the enemy's ability to hurt our own troops and those of our allies.

One of the most distressing side effects we have noted is the increasing tendency to substitute knee-jerk reflexes for the rule of reason, to replace honest debate with the parroting of *ersatz* slogans. It is possible, we feel, to be moved to sorrow and anger at the unnecessary and tragic deaths of the four Kent State students without betraying in any way one's belief that a Communist-dominated Asia would be a deadly peril, not only to the United States, but to free men everywhere. But the polarization of our society is making it ever more difficult to discuss almost any issue from more than one point of view.

A friend of ours warned us years ago: "When you walk down the middle of the road, you can get hit from either side." He was right, and it saddens us to have to admit it. But because he was right, important issues, on which all Americans, regardless of color, creed, or political persuasion, should be able to unite, get lost in the shuffle.

A case in point is the plight of the Americans who are known to be either prisoners of the North Vietnamese and the Viet Cong or who are missing and believed to be prisoners. Only one week before the massive gathering on the Ellipse protested the Cambodian operations to the President, the nation, and the world, a much smaller, less vocal, and less photographed crowd gathered only a block away in Constitution Hall (*see page 32*).

Families of the war prisoners and of the men missing in action were there, from all parts of the land. There were speeches, requests for help, calls to action, and promises of support. But media coverage was sparse and, we suspect, the Hanoi government was much more impressed and hardened in its intransigence by what happened on the Ellipse seven days later.

The Air Force Association and this magazine took the lead in the matter of the prisoners of war last fall when we published in our October issue Lou Stockstill's magnificent article portraying their plight. Much has happened since in a positive way, as is outlined in detail beginning on page 32. But what remains to be done shows clearly in the statistics—thirty-one men have been released (nine by Hanoi and twenty-two others by the Viet Cong in South Vietnam); 450 are still in prison to our certain knowledge; and 1,096 more still languish in the shadowy land of "missing in action," leaving behind women who know not whether they are wives or widows.

There is much talk of human rights among those who protest the war. But there also is a basic human right involved in the matter of the war prisoners. Any prisoner, no matter how heinous his crime—whether he is imprisoned for criminal, civil, or political reasons, or whether he is a legitimate prisoner of war—deserves the basic human rights guaranteed by domestic and international law. In the case of a prisoner of war, his family is entitled by the Geneva Convention to know where he is held, and to communicate with him.

The North Vietnamese say our men are not prisoners of war but war criminals, and hence not protected by the Geneva Convention. That is pure hogwash. The Geneva Convention does not go into the matter of the legitimacy or illegitimacy of a war. If a man is in the military service, is wearing his country's uniform, and is captured, he is a prisoner of war and entitled to humane treatment under the Convention, which North Vietnam has signed.

Surely here is a cause in which all Americans can come together. We can appreciate the purity of motive with which more and more Americans are opposing the war in Southeast Asia. This is their right and their privilege. But we can also hope that the protestors, who say they are so concerned and who say they care so much, will direct at least a portion of that concern and that care toward their own countrymen whose basic human rights are being trodden upon by the country whose flag flew last month on the Ellipse.

If it is all well and good, when one disagrees with the President of the United States, to march on Washington and "tell it to Nixon," is it not even more pertinent and even more constructive to take up the cause of the American war prisoners and "tell it to Hanoi"?—END

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Sure it's hard to believe.

But the AN/UYA-7 is operating right now in Southeast Asia. And we'll be glad to give you a Stateside demonstration. Just call or write, and we'll arrange a special show, just for you.

After all, you don't know how much you need it till you use it.

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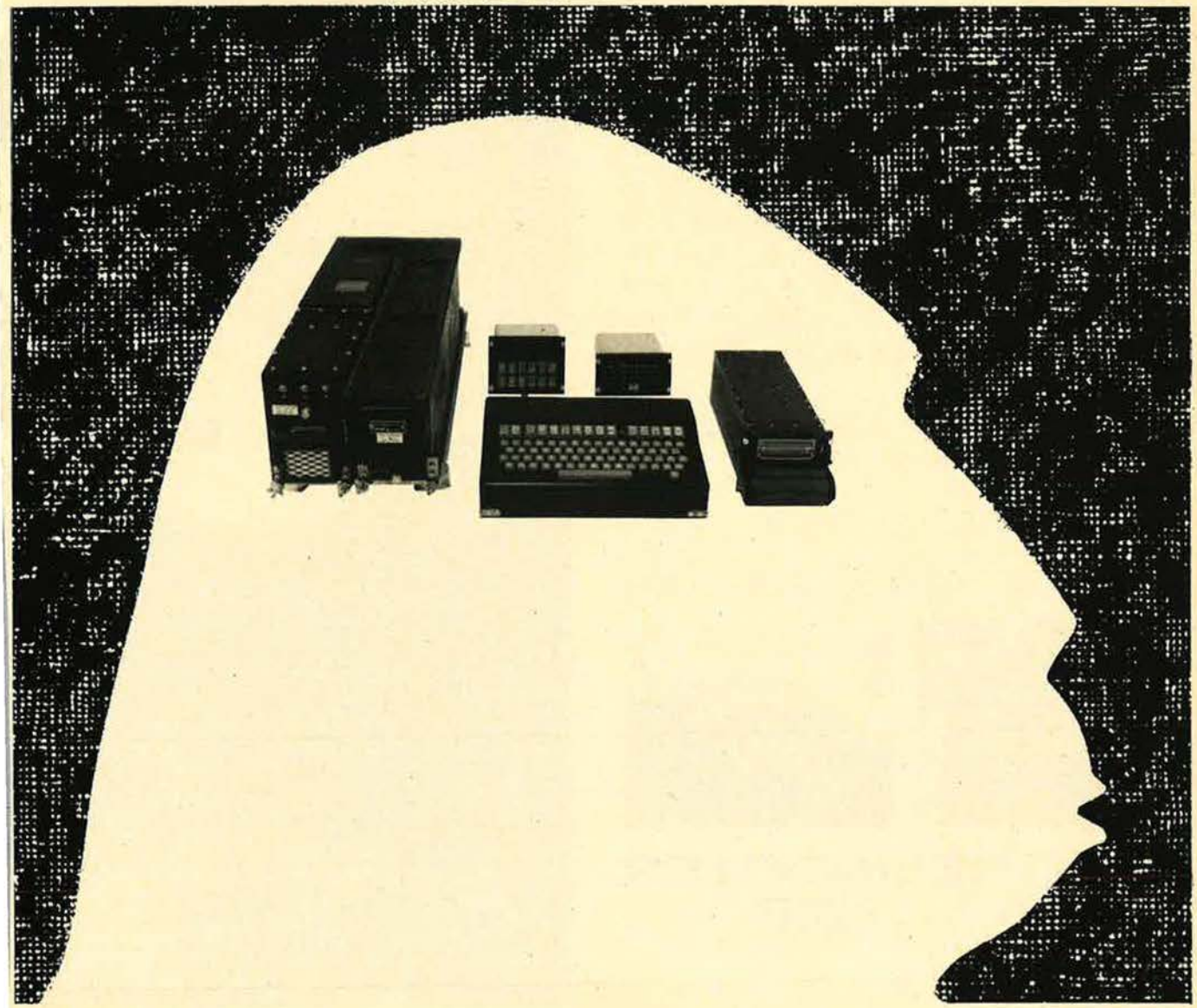

OH-58A KIOWA The L O H

In the living tradition of a "Huey Team" member, the U. S. Army's Kiowa is making a name for itself as a light observation helicopter.

Here's what the record looks like:

In Vietnam the Kiowa, in its initial deployment phase, is recording over 90% availability; is proving rapid transitional-training advantages and is requiring less than one-half hour maintenance time for each hour of flight time. It is now on the Huey team in its combat role.

The story's the same in Europe. The NET Team trained 24 pilots; the Kiowa had a 90% availability record and flew 373 flight hours—again with less than one-half hour maintenance for each hour flown. The Kiowa is now with the Army trained unit.

In these two theaters, on its introduction and training missions, the Kiowa has logged over 12,000 accident/incident-free hours.

And in the U. S. Navy, the TH-57A SeaRanger flies the Huey tradition flag at full mast too —16,000 accident-free hours with 650 students trained since the delivery of the 40 trainers to Pensacola over a year ago. Average availability? 80%!

Yes, when the combat or training missions are as important as these, then the answer has got to be Bell.

Kiowa—from the combat know-how generation of Bells.

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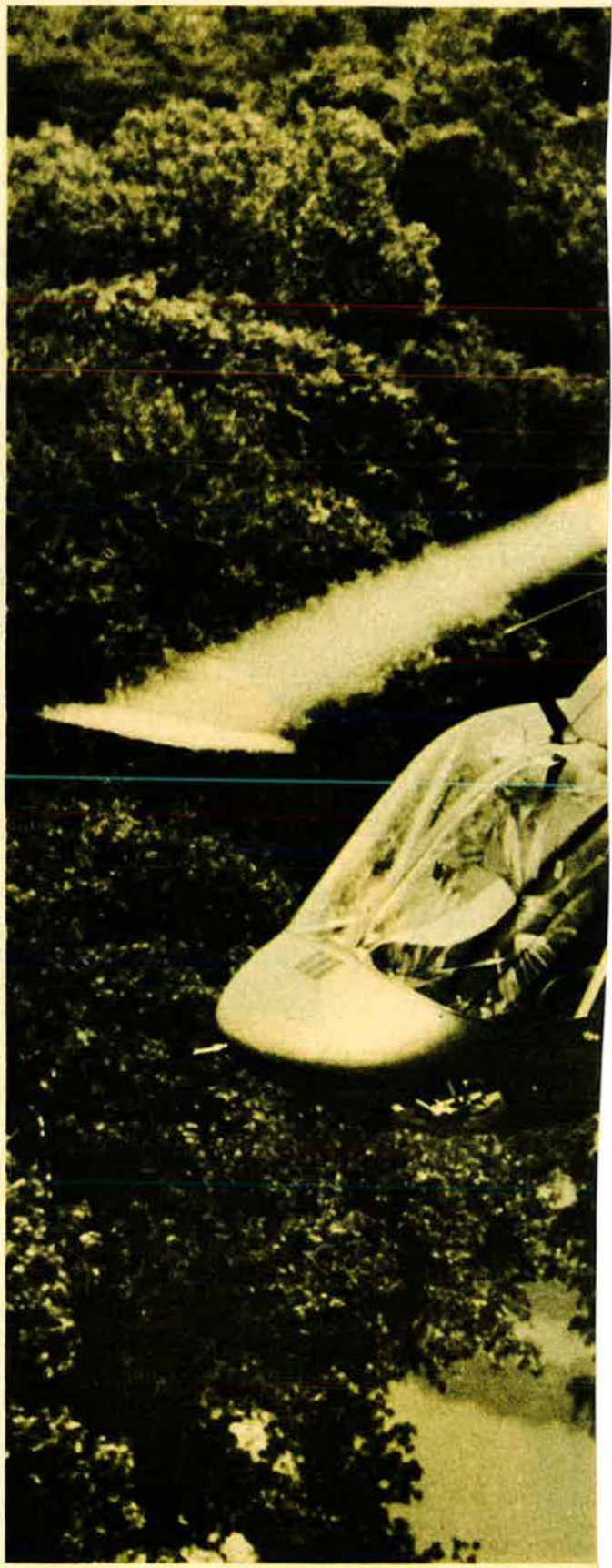

with Huey Hustle

AIRMAIL

Thanks

Gentlemen: Just a note concerning the April 1970 editorial, "We Will Not See Quite Their Like Again," by John L. Frisbee.

His insight and sensitivity created a poignant piece. Damn good—goose-bump good!

You rate a salute for this one, and you've got it!

COL. S. L. VON FOSSEN
Robins AFB, Ga.

End of the Pipe-and-Drum Band

Gentlemen: I was dismayed to read your notice in the March issue of the planned deactivation of the US Air Force Pipe Band ["Aerospace World," page 23].

The eleven-man unit stands for much more than the Mitchell tartan, the World War II associations of the Army Air Forces with Scotland, or even the tens of thousands of people who have thrilled to the music of MSgt. Norval B. Jones and his pipers. The Pipe Band is a living memorial to the Highland units who defended the early American frontier and to the considerable strain of Celtic blood that has helped to make the armed forces of the United States what they are today.

Say it isn't so! Say it isn't so!

MAJ. WM. V. KENNEDY, USA Res.
Camp Hill, Pa.

Officer Managers

Gentlemen: Being an engineer who served his hitch in an Air Force laboratory, I can readily sympathize with Lt. Brian A. Berenbach's assertion, "Airmail," April issue, that low officer-retention rates adversely affect systems management. The Air Force must emphasize its endeavors to attract and retain young officers who possess the potential to become top-flight technical managers. This can largely be accomplished by more careful attention to the selection of senior officers who have exhibited the particular qualifications needed to fill technical management slots. Consider, for example, the effect on a junior officer's career motivation of observing, as I have, such practices as:

(1) A squadron commander, fed up with the inability of his field-grade subordinates to carry out his directives, threatens his unit with a formal inspection to ensure that haircuts, sideburns, and moustaches conform to regulations.

(2) A field-grade officer who holds a doctorate in engineering is assigned the task of monitoring airman personnel records.

(3) A research officer, holder of a graduate degree in engineering, is denied permission by his supervisor to attend, at the officer's own expense, a national scientific meeting held eighty miles from their duty station.

In an age where national survival depends to a large measure on technical vigilance, the Air Force cannot afford to allow a significant measure of truth to accrue to H. G. Wells's contention that "The professional military mind is, by necessity, an inferior and unimaginative mind. No man of high intellectual quality would willingly imprison his gifts in such a calling."

ROBERT L. ATWELL, JR.
Richmond, Va.

F-4 Phantom Book

Gentlemen: For a book on the F-4 Phantom, I would appreciate from readers any material on its developmental phases and operational activity. Information from pilots, past and present, and crewmen, including anecdotal stories, would be appreciated.

ROBERT GORALSKI
Pentagon Correspondent
NBC News
4001 Nebraska Ave., N.W.
Washington, D.C. 20016

Mareeba Memorial

Gentlemen: WW II Army Air Force members who were stationed near Mareeba, Queensland, Australia, may remember that the Mareeba school was taken over as a hospital by the Air Force during the war, and a concert hall constructed for entertainment of American personnel.

On relinquishing the school after the war, the Air Force allowed the entertainment hall to remain, and it has since then been used to advantage by the school. However, the hall has now been declared unsafe and was to have been demolished.

So far as I can see, this hall is the only thing left to serve as a reminder that many US airmen flew from the Mareeba Aerodrome in the defense of freedom. For this reason, I am doing my utmost to preserve the hall.

I envisage having the building remodeled and dedicated as a memorial to these men.

The Queensland government, through the State Education Department, will subsidize the project to the extent of fifty percent of cost. However, it is the raising of the initial fifty percent that is causing concern.

It appeared that my hope of raising the necessary funds was a forlorn one, until I recalled that, through the help of former American servicemen, the famous St. Christopher's Chapel at Rockhampton (Qld.) was restored and is now a permanent memorial to American-Australian relations.

I believe it is tragic that this District has nothing to remind us of the debt we owe. I also feel most embarrassed that the few who are willing to contribute have insufficient resources to provide the necessary funds for the project. Thus, as a last resport, my appeal is reluctantly directed toward securing American aid to keep their own memory alive. I trust the project will even yet come to a successful conclusion.

ROWLAND HEDGES, Head Teacher
Box 309
State School
Mareeba 4880, Australia

Stearman Club

Gentlemen: Recognizing the thinning of the ranks of our pioneers of aviation and, consequently, the loss of much of their colorful past experiences and personal contributions, Mr Bernie Kreitzer, president of Stearman Aircraft Industries, Inc., announced the formation of the Stearman Alumnus Club.

A key function of the club will be the exchange of memorabilia relative to Stearman and Stearman products so that we may tie past and present together, preventing the loss of valuable history with the passage of time.

All those who, by virtue of a long standing affection for Stearman products, qualify to join the Stearman Alumnus Club are invited to join our membership. Membership is free and

(Continued on page 11)

SCIENCE/SCOPE

Three custom-designed calibration vans, first of their kind, have been delivered to the U.S. Navy by Hughes. The mobile vans conform to interstate highway requirements and will be driven to the dock to calibrate the Pacific fleet's electronic and ordnance equipment -- eliminating the present expense of removing ships' equipment to land-based laboratories and substantially reducing down-time. They will be stationed in the geographical areas of major ship concentrations, mainly San Diego, Long Beach, and Pearl Harbor.

Switzerland's computerized air defense system -- built in California by Hughes but code-named "Florida" by the Swiss -- has been accepted and put in operation. It consists of several radar stations that provide simultaneous range, bearing, and height data to the high-speed Hughes computer, nerve center of the system. Should a target be identified as an immediate threat, the commander can request all-weather aircraft or surface-to-air missiles to intercept and destroy.

Florida is similar to Japan's BADGE system, which became operational last year, and to the IPG system which received final acceptance earlier this year by Belgium, The Netherlands, and the Federal Republic of Germany. IPG will eventually be absorbed into NATO's NADGE network, extending from Norway to Turkey.

A new, all-electronic mass memory device developed by Hughes promises to make computer information processing faster, simpler, and more efficient. Trademarked DYNABIT, it stores vast quantities of information on magnetic wire thinner than a human hair. It has no moving parts, can withstand severe environmental conditions, and can be adapted to new or existing computer applications.

New uses for lasers developed by Hughes include cutting clothing patterns for Genesco, Inc., Nashville garment manufacturer; prototype of the computer-controlled system can cut different patterns singly from a variety of materials much faster than a blade...and trimming thick or thin film resistors with a laser resistor trimmer that can cut nichrome, gold, chromium, and tantalum films as well as standard inks; its single Q-switched laser is split and distributed to as many as four individually controlled trimming stations.

A high-speed digital MODEM transceiver -- one of the smallest, lightest, most versatile in the defense communications field -- was delivered to the U.S. Air Force recently by Hughes. The 70-lb. MODEM (modulator-demodulator) replaces a current 250-lb. device. It transmits or receives 1200 or 2400 digital bits per second in a narrow frequency range over normal telephone circuits, and will be used in conjunction with military computers, teletypes, radars, and other sensors.

Two high-resolution scanning radiometers now being used aboard the new ITOS I weather satellite produce high-quality daytime pictures of the earth's cloud cover on a global basis and -- unlike TV cameras -- are equally effective at night. As the satellite circles Earth on its 909-mile-high, near-polar orbit, the radiometers also measure cloud altitudes. They were built by Santa Barbara Research Center, a Hughes subsidiary.

You needed all the advantages of containers, plus one. They had to fly.

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Right now, we offer direct 747 service to London, Paris, Frankfurt, San Juan, Honolulu, Tokyo and Hong Kong.

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For information on how the Pan Am® 747 flying safe deposit box system can make your life easier, please call us.

*Subject to gov't. approval.

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Upon receipt, we will forward your fetime SAC membership card and ther information relative to the club harter and planned activities.

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We look forward to hearing from ll Stearman people, worldwide. Send our name, mailing address, the approximate date you first became involved with a Stearman, and the model lesignation, to:

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ifth Floor
133 15th St., N.W.
Vashington, D.C. 20005
Attn: Mr. Lloyd S. Stearman
Honorary Chairman of the Board

EA Songbook

entlemen: . . . I am collecting songs nd routines of the war in Southeast sia to be taped and given to the Air orce Academy and the Historical ivisions of the Seventh Air Force nd the USAF. This "tell it like it is" istory, written and played by the articipants in the war, deserves to be reserved.

I have plenty of current material nd the classics that have been handed own, but I'm short on informal sesons and songs from the first twoirds of the war. Any tapes will be ppreciated and, if you wish, returned. also need to know who wrote what, ackground, etc., on the entire genre. elp!

MAJ. JOHN H. ROBERTS
Aide to Vice Commander
Seventh Air Force
APO San Francisco 96307

ttention: Air Commandos

entlemen: Worldwide interest in an ir Commando Association will deterine if an association will be formed Hurlburt Field, Fla. The proposed irpose of the association is to conue Air Commando relationships, onsor reunions, maintain mailing ts, and promote the Commando Hall Fame.

Membership will be open to all forer Air Commandos who served durg World War II and in the Southst Asia conflict, including widows deceased Air Commandos.

Responses will determine whether e Air Commando organization ould be formed. Questions, suggestions, and comments about the association should be mailed with a stamped, self-addressed envelope.

OFFICE OF THE WING COMMANDER
1st Special Operations Wing
Attn: Mrs. D. Roberson
Hurlburt Field, Fla. 32544

UNIT REUNIONS

CBI Hump Pilots Association
The 25th annual reunion of the China-Burma-India Hump Pilots Association will be held at the Ramada Inn, Monroe, La., August 28-30. For further information write or call

Herb Fisher
Port of New York Authority
111 Eighth Ave. (Rm. 1409)
New York, N.Y. 10011
Phone: (212) 620-8396

2d Bomb Group
Members of the 2d Bomb Group, WW II, will hold a reunion August 14-16 at the Brown Palace Hotel, Denver, Colo. Bring the family. For further details contact

Lt. Col. Carroll Tucker
1321 Uvalde St.
Caldwell, Idaho 83605
or
Clyde M. Atkerson
2028 Reever St.
Arlington, Tex. 76010

4th Air Rescue
Flight "C" of the 4th Air Rescue, stationed at McChord AFB, Wash., 1947-1953, will hold its annual reunion at The Firs, Tacoma, Wash., August 15, beginning at 7:00 p.m. For information or reservations contact

Joseph D. Coyle
P.O. Box 18
Buckley, Wash. 98321
Phone: (206) 829-1675

Flying Class 41-G
The annual reunion of Flying Class 41-G will be a doubleheader this year. September 26 is the date. The Eastern Division reunion will be held at Randolph AFB, Tex. Reservations will be handled by

Maj. Lewis C. Redwine
110 Haggin St.
San Antonio, Tex. 78210

The Western Division affair will be held at Las Vegas, Nev., with reservations being handled by

Col. Edward J. Albany
1214 Perkins Way
Sacramento, Calif. 95818
or
Col. George Commenator
7649 E. 31st St.
Tucson, Ariz. 85711

Any member not receiving class correspondence should notify

Col. Elmer L. Henson, Jr.
2132 Old Hickory Blvd.
Nashville, Tenn. 37215

Class 42-B Aviation Cadets—West Coast
We need your help for our West Coast reunion, planned for the fall of 1970, Los Angeles or San Francisco area. Send your name and location, and any other class members', as well as Cadet home addresses from original orders. Suggestions for the reunion, date, location, etc., are welcome.

W. E. Radtke
March & McLennan, Inc.
One Bush St.
San Francisco, Calif. 94104
Phone: (415) 981-1900
or
R. E. Monroe
18225 Meadowsweet
Irvine, Calif. 92664
Phone: (714) 833-2238

366th Fighter Group
We are trying to contact all officers and enlisted men who served with the 366th Fighter Group (389th, 390th, and 391st Squadrons) during World War II to advise them of a 25-year reunion being planned for Friday, September 25, 1970, at the Army-Navy Club, Washington, D.C. All officers and enlisted men are requested to write

Col. Albert P. Hinckley, USAF (Ret.)
Henchman's Lea
Orlean, Va. 22128
or
Lt. Col. Herbert H. Bennett, USAF (Ret.)
4204 Stanby Court
Alexandria, Va. 22312
or
Robert D. Carter
4322 36th St., N.W.
Washington, D.C. 20008

451st Bomb Sqdn., 322d Bomb Group
The annual reunion of the 451st Bomb Squadron will be held at Rock Lane Lodge on Table Rock Lake in the Ozarks, starting Friday, August 14. All former members of the 449th (Flak Bait Sqdn.), 450th, and 452d Bomb Squadrons are invited to join us. Please contact

Ken Cohen
220 Madison Ave.
New York, N.Y. 10016

464th Bomb Group, 15th Air Force
A reunion for members of the 464th Bomb Group, 15th Air Force, who were based in Italy during World War II, will be held August 7-9 at the Holiday Inn, St. Joseph, Mich. Contact

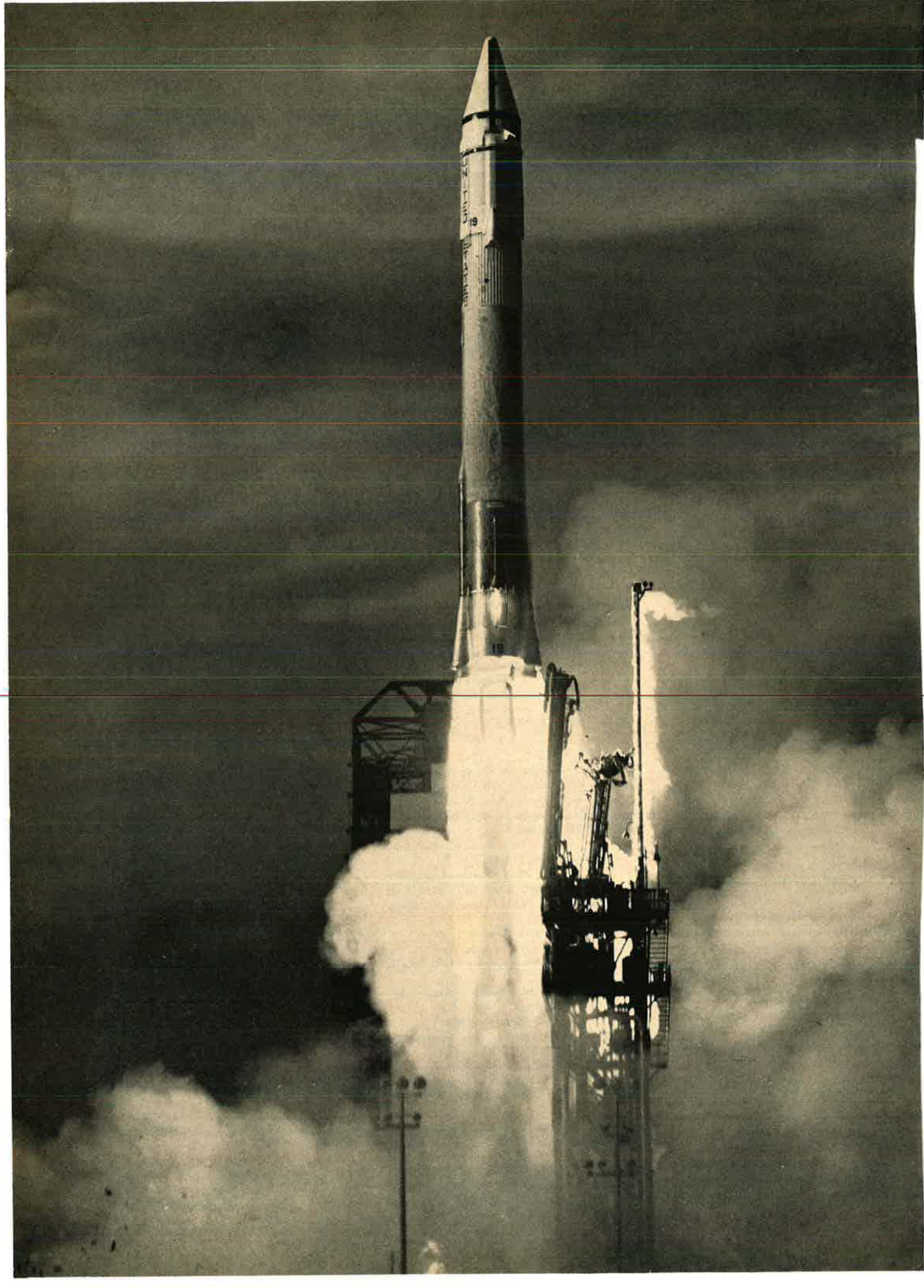
H. R. Anderson
4321 Miller Ave.
Erie, Pa. 16509

493d Fighter Sqdn., 48th Fighter Group
World War II members of the 493d Fighter Squadron, 48th Fighter Group, are being sought for a reunion scheduled for August 21-23, 1970, in St. Louis, Mo., at the Sheraton Jefferson Hotel. Write to

Lt. Col. Edward W. Miller
Deputy Director of Munitions
Hq. PACAF
APO San Francisco 96553

501st Bomb Squadron
A first reunion is being planned for the original squadron members, 1942-1944, of the 501st Bomb Squadron, 345th Bomb Group, World War II. Contact

Col. H. A. Kortemeyer
Hq. ADC
Box 45
Ent AFB, Colo. 80912



It will keep on outdoing itself through the 1970's.

General Dynamics will probably build a more versatile space vehicle one day. But right now, our Convair division's Atlas-Centaur stands all alone in bringing off the tough, varied jobs assigned to it.

Designed as an ICBM

Versatility was bred into Atlas from the start. Developed as an ICBM, it proved capable of launching human payloads —the Mercury astronauts—into earth orbit years ahead of any other U.S. booster.

In all, Atlas has logged more than 380 launches. And with Centaur, the nation's first high-energy upper stage, it has thrust seven Surveyors to the moon and two Mariners toward Mars.

With a record like this, Atlas-Centaur has now been selected to boost the INTELSAT IV series of communications satellites into orbit beginning in 1971.

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GENERAL DYNAMICS

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By Claude Witze
SENIOR EDITOR, AIR FORCE/SPACE DIGEST

Peace in Our Time?

WASHINGTON, D.C., MAY 12

If you are old enough to Remember Pearl Harbor, which once was a national battle cry, you are old enough to remember when the liberals in Washington were in favor of increasing the power of the President. Here in 1970, the White House has more power than ever before, and the liberals, of all people, say that we face a constitutional crisis because Richard Nixon ordered troops into Cambodia. It is a shift that can be interpreted, as it has been, as a climactic bit of evidence that Big Government ain't what it was cracked up to be. *The Wall Street Journal* says, "It's just too bad they didn't realize what they were building years ago."

In the vanguard on Capitol Hill stand Senator J. William Fulbright and a substantial part of his Foreign Relations Committee. They feel that they have lost all control over Foreign Relations and are reduced, at this point, to sentiment for amendments to military-procurement bills that would ban the use of funds in Indochina. One of their problems, in this respect, is that action on military funding is a responsibility of the Armed Services and Appropriations Committees. If you look deeply into this well, as we have warned our readers before, you will find in its murky waters that Foreign Relations is at the bottom, while Armed Services and Appropriations, after all these years of cold war, seem to be swimming.

None of this is intended to detract from the seriousness of the situation as of this writing in mid-May. In addition to the paroxysm in Congress, there has been another on the college campuses. Of the two, it is easy to understand how young people can react this way, even when it leads to such tragedies as the one at Kent State, in Ohio. Congressmen should know better. It is their responsibility to support the Army, and if they cut off the rations, they are going to lose a lot of votes.

What Mr. Nixon did has been assailed from every possible angle, and if there is a theory extant on his motivations that has not been discussed around this town, we have missed it. For all that, the most sensible theory is the one offered by the President. He said the operation against Communist strongholds in Cambodia is not an invasion and that it is necessary to protect our retiring forces in Vietnam. He said, more specifically, that the decision was "indispensable for the continuing success of the [Vietnam] withdrawal program." He added: "We will not allow American men by the thousands to be killed by an enemy from privileged sanctuaries." After what happened at Hué in the Tet offensive of 1968, it is hard to discount his apprehension.

As of this morning (May 12) the White House says the operation in Cambodia is a "stunning success." More than 5,000 North Vietnamese have been killed. The American toll is eighty-nine. Other statistics:

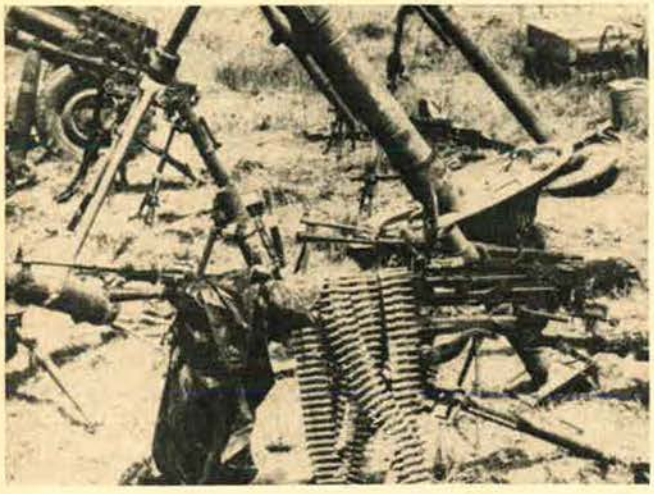
Individual weapons captured	7,680
Crew-served weapons captured	964
Rockets captured	9,743
Mortars captured	6,888
Small-arms ammo captured (rounds)	8,500,000
Machine-gun ammo captured (rounds)	6,700,000
Rifle ammo captured (rounds)	1,700,000
Land, personnel mines captured	357
Bunkers destroyed	3,237
Vehicles destroyed or captured	146

Of equal importance is the seizure of 3,692,000 pounds of rice. That is enough to feed 83,000 combat troops for one month, or sustain all known North Vietnamese in Cambodia for two months.

The unearthing of these caches continues, and the figures quoted here are expected to be only a small part of the total of weapons and materiel seized between now and the end of June. It is a date fixed by the President himself for withdrawal.

For all of the brickbats and reservations about the Cambodian expedition that have come from responsible

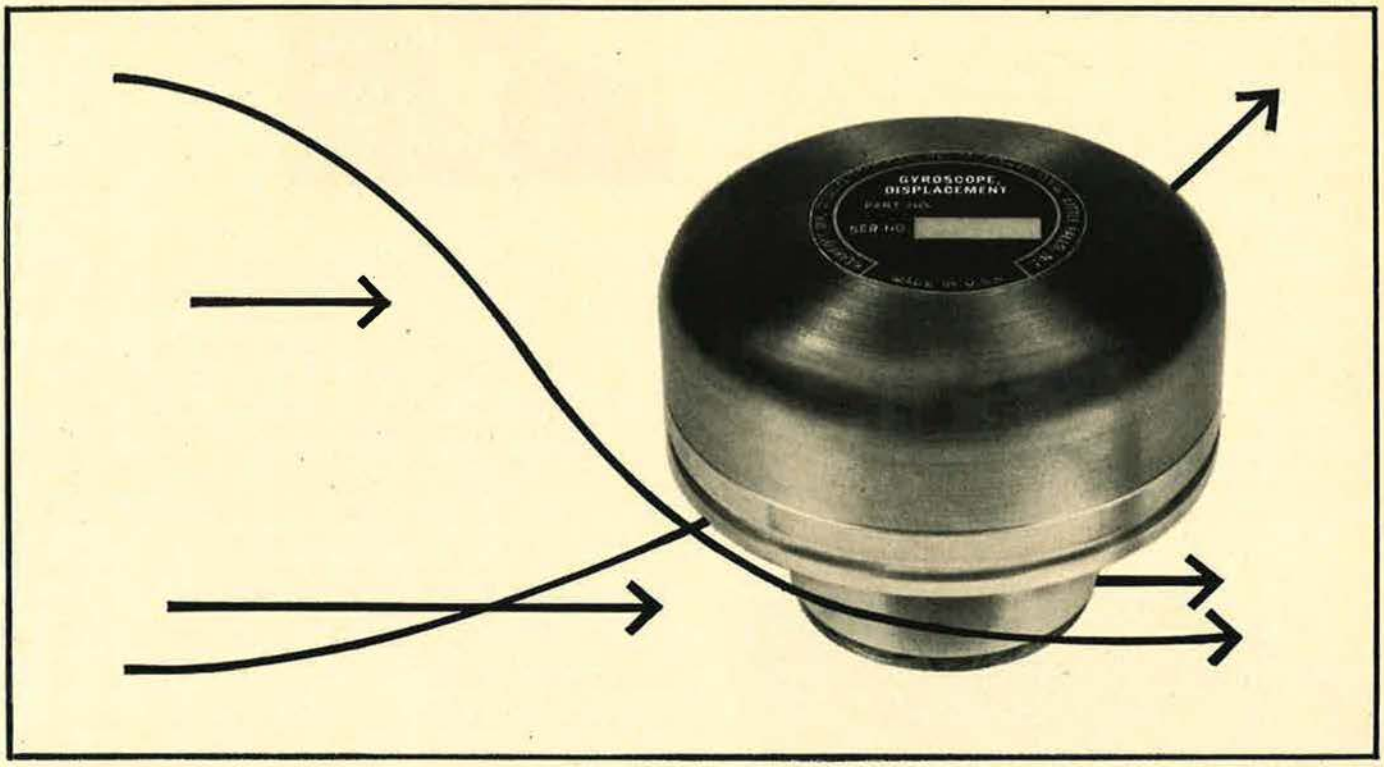
(*Continued on page 16*)



Weapons that will not be used to kill Americans, shown here, include machine guns, rifles, mortars, and rocket launchers. They were captured in the Parrot's Beak area.

Here are antitank mines, possible water mines, heavy machine guns, ammunition containers, and flamethrowers They were seized by South Vietnamese units in Cambodia

One gyro started a revolution in inertial navigation and guidance.



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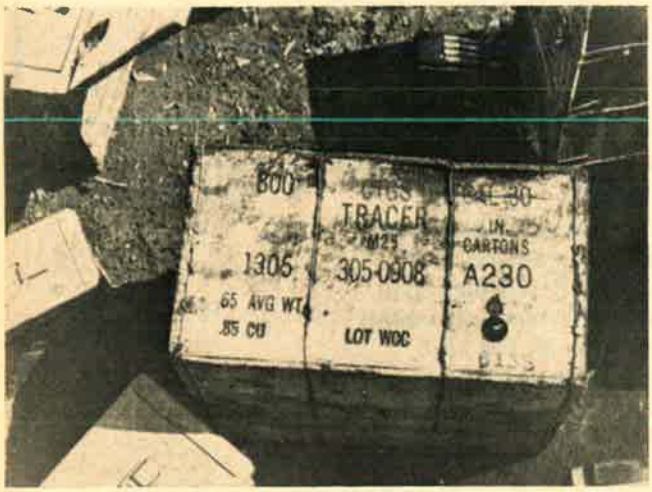
sources, it is difficult to see why Mr. Nixon should be denied the right to prove his point, if he can. Most of his critics, and certainly the loudest ones, did not vote for this President. They supported one or another of the genuine doves that shuffled across the stage in 1968. If any one of them, including some now still in the Senate, held out more real promise than the GOP candidate of ending the war, he might have won. After all, it was a close race.

Once Mr. Nixon was in the White House and committed to his own program for withdrawal from Vietnam, it turned out that he was not going to snap his fingers and suddenly have more than half a million men debarked on the West Coast. It had to be done by degrees. Not many weeks later, the men who know the most about Indochina began to talk about the serious situation that would be faced by the last contingents of American troops. Will there be another Dunkirk? It was not a foolish question, except to those who have forgotten Dunkirk, just as they have failed to Remember Pearl Harbor.

At Dunkirk, in 1940, nearly 400,000 British and French troops were evacuated in some of the most tense hours of World War II. That there was no massacre was due to the heroism of perimeter defenders on the ground and the intense activity, a few miles away, of the Royal Air Force. The pattern is not one that could be followed in Southeast Asia.

This is what the President was talking about when he called the Cambodian action essential to the withdrawal program. It is an aspect that has enjoyed minimal discussion and understanding by his critics.



This is US .30-caliber tracer ammunition, still packed in the carton from an American factory. It was uncovered in Cambodia's Fishhook area, eight kilometers from Vietnam.

There is one other aspect of the situation worthy of mention. It is the strong possibility that when Richard Nixon was reaching his decision he was studying some cables that did not come from Indochina. He has messages, every hour, from the Middle East. As depicted in a local cartoon, this situation is a bomb, fuzed by Russian airpower, on which the American Administration and military forces sit while they study a map of Cambodia. This reporter knows astute military and political observers who believe that when Mr. Nixon made his Cambodian decision he knowingly ignored both Congress and the volatile students of America in order to deliver a firm message to Moscow. He was, in his way, speaking like Harry Truman in the Greek crisis or the way John Kennedy took the podium during the Cuban missile affair.

Robert C. Moot is Assistant Secretary of Defense (Comptroller). He says that spending for US domestic programs is increasing faster than Pentagon spending.

Somehow, it is not easy to swallow the idea that we are today in the midst of a crisis of such magnitude as Mr. Fulbright and some of the pundits would have us think. The American political system is going to continue, and a more realistic threat may be that we will have a Senatorial election in November with only a single issue under debate. Picking a Senator in 1970 should not be an exercise in screening the doves from the hawks, as the New Left tried to distort the issues two years ago. More than the fate of Richard Nixon is at stake, be he warmaker or peacemaker. At stake is our national security.

Arithmetic Lesson

There is no time like the present to point out that there is not much to be gained from beating a sick horse. The long-standing myth that the defense industry, with the focus on aerospace, is a self-perpetuating monster should be fading away in the light of economic reality. People like Wisconsin's Senator William Proxmire insist the arms and warplane makers fill out their own blank checks. If this be the fact, their pens have run dry. Jack Anderson, a newspaper columnist, continues to make statements like: "Seventy cents out of every tax dollar has gone to purchase military weapons that have been constantly turned in like automobiles for new models." Well, federal revenues for Fiscal 1971 were estimated in January at $202.1 billion. And the Administration asked for a Defense procurement allocation of $18.6 billion. If that is seventy cents out of every dollar, Jack Anderson needs a new slide rule.

One of the men most irritated by distortions in this area of public interest is the Comptroller at the Pentagon, an Assistant Secretary of Defense named Robert Moot, who has served there under both Democratic and Republican Administrations. Not a man given to offhand comments on national defense policy, which is none of his professional business anyhow, Mr. Moot displays distress from time to time over the deliberate distortions that keep cropping up when ill-informed people talk or write about what they call "defense dollars." Not long ago, he gave a little speech on the subject here in Washington.

The Comptroller, who has more figures on his books than any official outside the Bureau of the Budget, went back to World War II and the Korean War. While we were supporting those conflicts, the federal budget made

significant advances, and the money, for the most part, went into the wars. Domestic programs were reduced or, at best, held static. Military expenditures in 1940 took 16.3 percent of the federal budget. By 1945, a peak war year, they had risen to 83.9 percent. The pattern, Mr. Moot says, was repeated in the Korean War, with a rise from 27.7 percent to 62.1 percent.

Now comes Vietnam. Senator Proxmire and Jack Anderson haven't mentioned it, but military expenditures have declined, as a percentage of the budget, from 41.8 percent in 1964 to 41.5 percent in 1969. Just to prove that the pattern was broken, domestic program funding was not cut or held to the line. It increased at a greater rate than the defense budget, despite the war. Mr. Moot said:

"Everyone recognizes that there has been a tremendous growth in the federal budget in the last ten years. The Fiscal Year 1971 budget is more than double the FY 1961 budget. In absolute terms, the increase is more than $100 billion—$103 billion to be exact.

"What few people realize is that most of the increase is due to domestic programs. During this period, defense spending did increase by sixty-one percent. During this same period, however, domestic programs increased by 143 percent.

"This represents an increase for nondefense purposes of almost $80 billion out of the total increase of $103 billion."

He then explained why, when there is blood to be let, it comes from the veins of the Pentagon. Only slightly more than half of the federal budget is what the Comptroller calls controllable. Social security, medicare, medicaid, interest, and the farm-support program get priorities because they are based on permanent legislation. The outlays come out of formulas established by law.

In the controllable portion of the federal budget, the Defense Department accounts for two-thirds of the outlay for goods and services. This means that if there is a cut, two out of every three dollars must come from DoD.—END

The Wayward Press (DEPARTMENT OF INTERESTING COINCIDENCES)

Seymour M. Hersh, who was honored last month with a Pulitzer Prize, has written a book called My Lai 4: A Report on the Massacre and Its Aftermath, *to be published by Random House. An extract was printed in the May issue of* Harper's Magazine, *in which Mr. Hersh quotes the text of "a letter sent home by a GI to his family and later published in his local newspaper." The author does not identify the GI or the newspaper. He gives no date. Here is a quote from the copyrighted text:*

"The huts here are thatched palm leaves. Each one has a dried mud bunker inside. These bunkers are to protect the families. Kind of like air raid shelters.

"My unit commanders, however, chose to think that these bunkers are offensive. So every hut we find that has a bunker, we are ordered to burn to the ground.

"When the ten helicopters landed this morning, in the midst of these huts, and six men jumped out of each 'chopper,' we were firing the moment we hit the ground. We fired into all the huts we could. Then we got 'on line' and swept the area.

"It is then that we burn these huts and take all men old enough to carry a weapon and the choppers come and get them. . . . Everyone is crying, begging, and praying that we don't separate them and take their husbands and fathers, sons and grandfathers. The women wail and moan. Then they watch in terror as we burn their homes, personal possessions, and food. Yes, we burn all rice and shoot all livestock.

"Some of the guys are so careless! Today a buddy of mine called, 'La dai' (Come here) into a hut and an old man came out of the bomb shelter. My buddy told the old man to get away from the hut and since we had to move quickly on a sweep, just threw a hand grenade into the shelter.

"As he pulled the pin the old man got excited and started jabbering and running toward my buddy and the hut. A GI, notwithstanding, stopped the old man with a football tackle just as my buddy threw the grenade. . . . After he threw it, and was running for cover, we heard a baby crying from inside the shelter.

"There was nothing we could do. . . .

"After the explosion we found the mother, two children (ages about six and twelve, boy and girl) and an almost newborn baby. That is what the old man was trying to tell us!"

* * *

Anton Myrer wrote a novel, published in 1968 by Holt, Rinehart and Winston, called Once an Eagle. *It is a distinguished work of fiction about a soldier. Part of the adventure takes place in Southeast Asia, where the natives are referred to as "Khotianese." Here is an extract from this work of fiction, quoted from page 763:*

"The sweep was moving quickly through the huts now. A soldier just ahead of him called, 'La dai, la dai!' and a bent old man with a white beard came out of the hut nearest them, his eyes narrowed. The soldier motioned him away sharply, slipped a grenade from his belt and pulled the pin. The old farmer's eyes went wide; he croaked something inaudible and waved his arms. The soldier lobbed the grenade into the entrance and ducked away quickly. The old man shouted something that sounded like, 'Po ban nah!' and started back for the hut, coming right past Krisler, who stared at him in amazement—then caught him around the waist and flung him to the ground as gently as a gesture that violent could be, falling with him, watching the soldier scuttle away from the entrance. At that instant there came the thin, choked squalling of a baby from the hut. Lying there on his belly, Krisler thought with brevity of dread, Four second lag—nothing to do; then: Oh Jesus—that's why he wanted to get back in there; then: Maybe it's a dud, it might be a dud, if only it's a——

"The explosion was sharp and violent. Dust boiled sluggishly and bits of mud and earth spattered out of the entrance. Silence. He ran forward, stepped inside. In the center of the hut was a funny little bunker, like a squat beehive of dried mud; its side had been blown out by the grenade, and he peered in. Several forms in a dark tangle of limbs and strips of clothing and bits of pottery and a great deal of blood. The small bodies were mangled and limp. None of them moved. He stepped back.

" 'What is it?' It was Sam, behind him in the dim light.

"Two children—it looks like two children—and the mother and a baby."

AEROSPACE WORLD

By William P. Schlitz
NEWS EDITOR, AIR FORCE/SPACE DIGEST

WASHINGTON, D.C., MAY 14

As the South Vietnamese and their US allies push the ground—and air—war across regional boundaries into Cambodia in an effort to destroy enemy sanctuaries and staging areas there, the long-range policy of "Vietnamizing" the war continues apace, with stepped-up training of a broad spectrum of South Vietnam's armed forces.

The effective use of complex weapon systems is dependent on the technical competency of the specialists maintaining them, and so a crucial first step in modernizing South Vietnam's Air Force is to train the technicians essential to air operations—from control-tower personnel to flight instructors.

This job has largely fallen to USAF's Air Training Command, which has established an inclusive program in the required skills that turns out Vietnamese instructors as well as technicians.

Previously, most training of VNAF technical personnel was undertaken in the US as part of the Military Assistance Program, but, TAC reports, three in-country VNAF technical training schools now are operating in Vietnam.

The schools are run by the Vietnamese, with Americans as temporary advisers. When the in-country program is fully operational this year, TAC says VNAF will be capable of conducting formal training in seventeen new specialties essential to air operations, including maintaining various types of aircraft and engines.

Five US ATC bases recently completed an accelerated project to build hundreds of training devices of 286 different types to assist in the training.

After completing a course in their specialty, VNAF students are given an instructor course, followed by a spell of practice teaching, before being assigned to a permanent post.

☆

The Air Force has issued requests for proposals (RFPs) to twelve companies for competitive prototype development of the A-X specialized close air support aircraft.

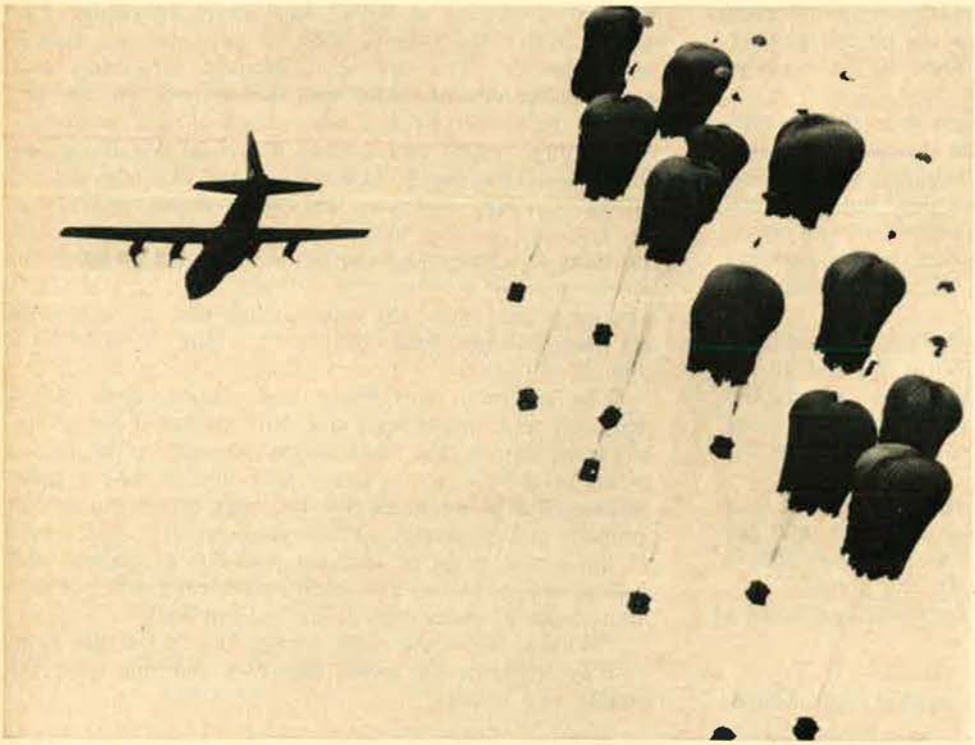
Companies receiving the RFPs are Beech Aircraft Corp.; Boeing Co.; Fairchild-Hiller Corp.; Grumman Aircraft Engineering Corp.; LTV Aerospace, Inc.; North American Rockwell Corp.; Textron, Inc.; Cessna Aircraft Co.; General Dynamics Corp.; Lockheed Aircraft Corp.; McDonnell Douglas Corp.; and Northrop Corp.

Proposals are due in ninety days, with evaluation to be completed within about seventy-five days after receipt. Contracts would then be awarded to two companies for a competitive development phase lasting approximately twenty-six months.

If approved for production, the A-X will be a rugged, twin-engine, single-seat aircraft optimized for close air support. It will have short takeoff and landing characteristics; excellent maneuverability; large, varied payloads; and long loiter times.

In addition, it will be the first Air Force aircraft planned from the start with high survivability against ground fire as a primary objective.

The A-X is managed by the A-X



A precise pattern of parachutes heralds the arrival of supplies at Ha Thanh Camp, South Vietnam, during an aerial drop at the outpost. The perennial C-130 Hercules is the messenger, a welcome visitor to ground-bound guardians of the station. This award-winning photograph, entitled "Cargo Away," was taken by Sgt. Ralph Saenz of the 600th Photo Squadron.

Winner of the 1969 Cheney Trophy, Sgt. Isidro Arroyo, Jr., poses with a helicopter gunship, the counterpart of the aircraft in which the airman was downed twice last year.

Lightplane designer Jim Bede, center, is congratulated by Fred B. Lee, left, and B. F. Emmons, for piloting his BD-2 piston aircraft a record 8,974 unrefueled miles.

Systems Program Office of the Air Force Systems Command's Aeronautical Systems Division, Wright-Patterson AFB, Ohio.

☆

Beginning in October, the US Army will undertake initial flight training of all USAF helicopter pilots.

Under the new program, recommended by the House Appropriations Committee, about 225 helicopter pilots will be trained annually for the Air Force. The practice of first giving pilots fixed-wing training before helicopter training will be eliminated in most cases. Also, a certain number of currently rated fixed-wing USAF pilots will receive helicopter training to meet experience requirements.

The helicopter training will be conducted at Fort Wolters, Tex., and Fort Rucker, Ala., the US Army's two major helicopter training centers.

Upon graduation from the Army rotary-wing course, with about 190 flight hours, the Air Force pilots will undergo transition to USAF helicopters at a centralized combat crew training school, the location of which is still undecided. This phase of the training program will require another thirty to seventy hours of flight training, depending on the type of aircraft.

USAF currently has about 1,065 pilots manning its fleet of 500 copters, with most assigned to Aerospace Rescue and Recovery Service units.

Graduates of the helicopter training program will incur a five-year active-duty commitment, and will compete on equal terms with other pilots for regular commissions or full career status. The helicopter pilots achieving USAF career status will be afforded the opportunity for fixed-wing training at a future date.

USAF helicopter pilots currently are trained at Sheppard AFB, Tex.

☆

The winners of several top Air Force and aerospace awards for 1969 were announced recently. Apollo-11 moon-mission Astronauts Neil Armstrong, Edwin Aldrin, Jr., and Michael Collins added to their laurels both the Gen. Thomas D. White Space Trophy and the Collier Trophy.

The trophy honoring General White, retired USAF Chief of Staff who died in 1965, is awarded annually to the military or civilian member of the Air Force making the most outstanding contribution to US progress in aerospace.

Also awarded annually is the Collier Trophy, presented by the National Aeronautic Association for the greatest achievement in aeronautics and astronautics in America. It is named for Robert J. Collier, publisher and pioneer aviation enthusiast.

Winner of the 1969 Cheney Award, presented for an "act of valor, extreme fortitude, or self-sacrifice in a humanitarian interest performed in connection with aircraft," is USAF Sgt. Isidro Arroyo, Jr. On two missions early last year the helicopters in which Sergeant Arroyo was serving as a gunner were shot down. In both cases the sergeant, although injured himself, assisted more seriously hurt crew members to rescue helicopters. With only three years of service in the Air Force, Sergeant Arroyo has won ten combat decorations, including the DFC, eight Air Medals, and the Purple Heart. He currently is serving as a weapons instructor in SEA.

The Mackay Trophy, awarded for the "most meritorious flight of the year," was won by the 49th Tactical Fighter Wing, Holloman AFB, N.M., for its flawless redeployment from Germany to Holloman in April 1969.

The Cheney Trophy is named for Lt. William Cheney, killed in an air collision in 1918. The Mackay Trophy was established by Clarence M. Mackay in 1911.

☆

Apollo-14, originally scheduled for October, is now delayed until December. The next manned mission to the moon will be a replay, with a different crew, of what Apollo-13 was supposed to achieve—a lengthy exploration of the Fra Mauro hilly area of the lunar surface. The crew will include America's first astronaut, Alan Shepard, as well as Stuart Roosa and Edgar Mitchell.

The Apollo-14 delay, NASA Administrator Dr. Thomas O. Paine announced, is designed to allow time to make modifications on the service module oxygen tanks of the spaceship, in order to prevent the sort of disaster that occurred to similar hardware aboard Apollo-13. Modifications will include removal of small tank electric fans, changing of heaters inside the tank, and shielding to be placed between tanks.

☆

The Air Force has designated the 354th Tactical Fighter Wing, currently serving in South Korea, to be the first of three tactical fighter wings to be equipped with the A-7D aircraft.

Under the Tactical Air Command, the unit will convert to A-7Ds at Myrtle Beach AFB, S.C., at some future point, with the wing being fully operational by June 1971.

Gen. William Momyer, TAC Commander, said that the A-7D "should make a significant contribution in

(Continued on following page)

US Navy has commissioned Grumman Aerospace Corp. to modify A-6A aircraft to the KA-6D tanker configuration. With no other new aircraft coming along to carry out the air-to-air refueling mission, the revised A-6s will fill the gap, substantially extending carrier-based aircraft radiuses and providing for worldwide ferry operations.

TAC as close-support aircraft." The aircraft can transport a greater payload than any other single-engine aircraft and was designed specifically for close-support and interdiction missions. It is also equipped with an M-61 20-mm cannon with a firing capability of 6,000 rounds a minute.

The A-7D is produced by LTV Aerospace Corp.'s Vought Aeronautics Division, Grand Prairie, Tex.

The aircraft is the first US plane to be equipped with a "head-up display," which uses a computer to make available continuous and instant information for navigation, weapon delivery, and landing.

The A-7D's range is exceptional for a single-engine aircraft, up to 4,000 miles with the use of wing tanks.

☆

Strategic Air Command has established a Major Command Training Program for junior officers, patterned on USAF's Air Staff Training (ASTRA) Program.

One-year internships at headquarters posts will be offered to rated officers with three to seven years of service.

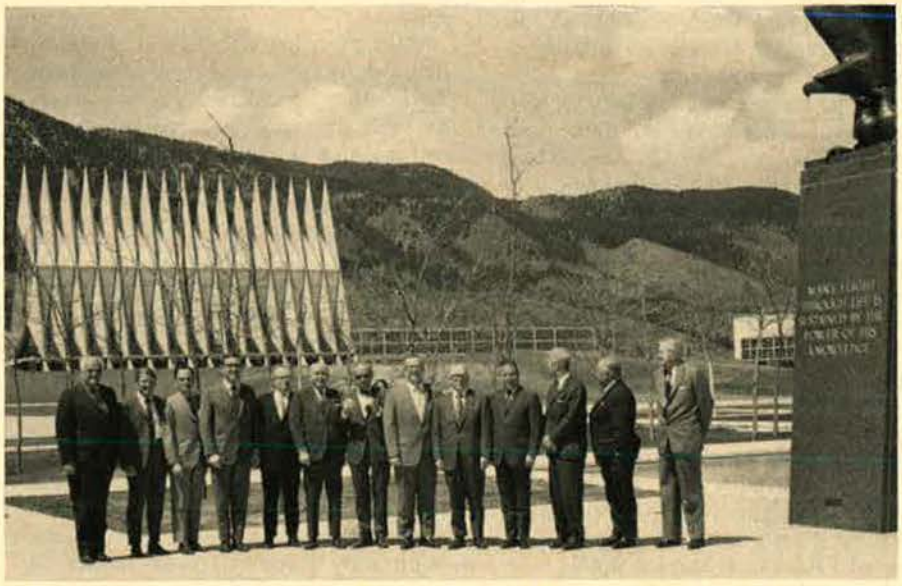
The object of the program is to give young career-minded officers the broadening experience of an informal training tour at high headquarters. The program kicks off this summer, with ten officers selected for transfer to either Hq. SAC or at another major command in the US.

Following the tour, the participants will be reassigned to a tactical unit within their parent command. Officers interested in such tours should contact their consolidated base personnel office.

☆

The Royal Canadian Air Force plans to erect a memorial to Canadian aviation, the history of which dates back sixty years, parallel to our own.

Thirty-five acres have been set aside by the Department of National Defense for the project, at Trenton, On-



The Board of Visitors, established to advise the President on operation of the US Air Force Academy, ended its annual meeting April 26. From left are John A. Lang, Jr., Administrative Assistant to the Secretary of the Air Force and Official Board of Visitors Observer; Kenneth H. Dahlberg, Dahlberg Electronics, Golden Valley, Minn.; James M. Reynolds, Reynolds Printasign, Pacoima, Calif.; Rep. Donald G. Brotzman, Colo.; Rep. Byron G. Rogers, Colo.; Sen. J. Caleb Boggs, Del.; Dr. Daniel J. Boorstin, Director, National Museum of History and Technology, Smithsonian Institution, Washington, D.C.; Rep. John J. Rhodes, Ariz.; Rep. John F. Flynt, Jr., Ga. (Chairman of the Board of Visitors); Rep. Ed Foreman, N.M.; Sen. Peter H. Dominick, Colo.; Gen. Emmett O'Donnell, Jr., USAF (Ret.), McLean, Va.; and Brig. Gen. Will F. Nicholson, USAF (Ret.), Denver.

tario, and RCAF is in the process of raising some $4 million to finance construction.

The building complex will consist of a Memorial Hall dedicated to the spirit of those who gave their lives shaping the service's history, and will also include chapels, theaters, a convention hall, and administrative areas. Audiovisual and electronic devices are to provide a complete history of Canadian aviation, citations, decorations, etc.

A strong bond between US and Canadian air forces existed well before the postwar threat to North American airspace loomed large, which drew the two services into an even closer mutual defense attitude. Shortly before US entry into World War II, as much as six percent of RCAF personnel were from the US. And, as of December 7, 1941, 6,129 Americans were serving in the RCAF, with some 900 already on operations as pilots and aerial gunners.

The planned memorial in a very real sense also will honor those Americans, living and dead, who have served with their Canadian allies.

Donations are being accepted at the RCAF Memorial Fund, P.O. Box 310 Astra, Trenton, Ontario, Canada.

☆

USAF has announced three changes, effective May 1, intended to accelerate voluntary retirements:

1. A "seven-day rule" permits eligible personnel with more than twenty years of active service to retire, instead of accepting assignments to new stations (except SEA). Retirement must be requested within seven days of assignment notification, and personnel may elect to retire within six months or on completion of an overseas or stabilized tour if they have at least twenty years' active service on that day.

2. The final year of an active-duty service commitment is waived to retire, except that promotion commitments will not be waived. This also applies to long tours overseas if a year has been completed or a year elapsed since USAF moved an individual's family.

3. An approved retirement application cannot be withdrawn, except in certain cases such as hardship.

☆

In May, the Netherlands became the fifth country to join NATO's Seasparrow Project, visualized as a second-generation point-defense antimissile system.

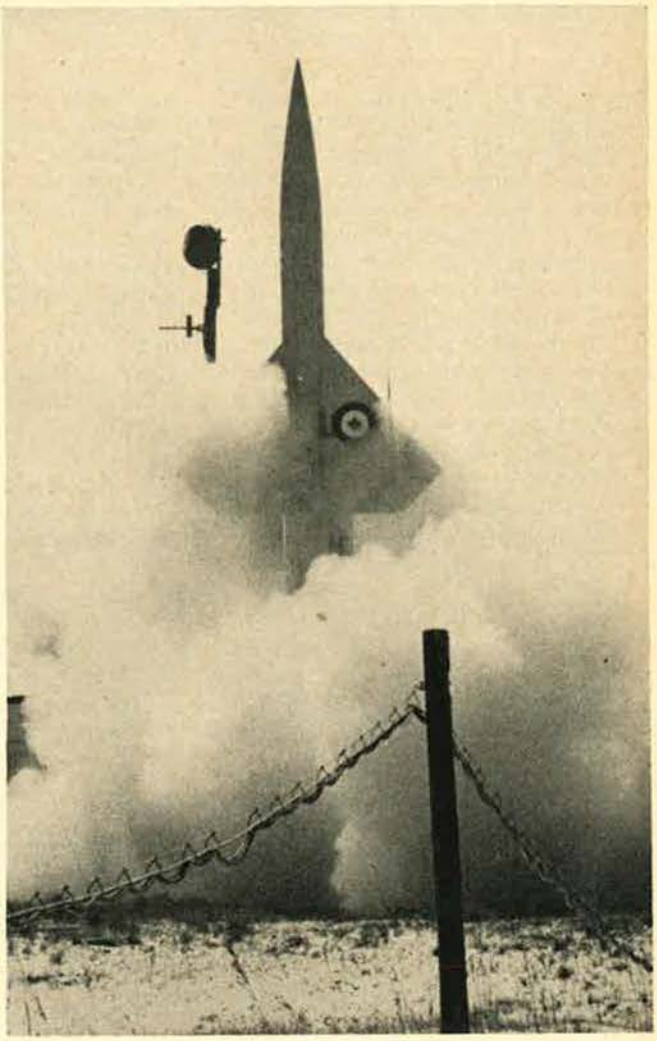
Other members of the project, formally established with the letting of the first development contract in September, are Denmark, Italy, Norway, and the US.

The participants are to share Seasparrow development costs proportionately to the number of subsystems each acquires, with the object of

(Continued on following page)

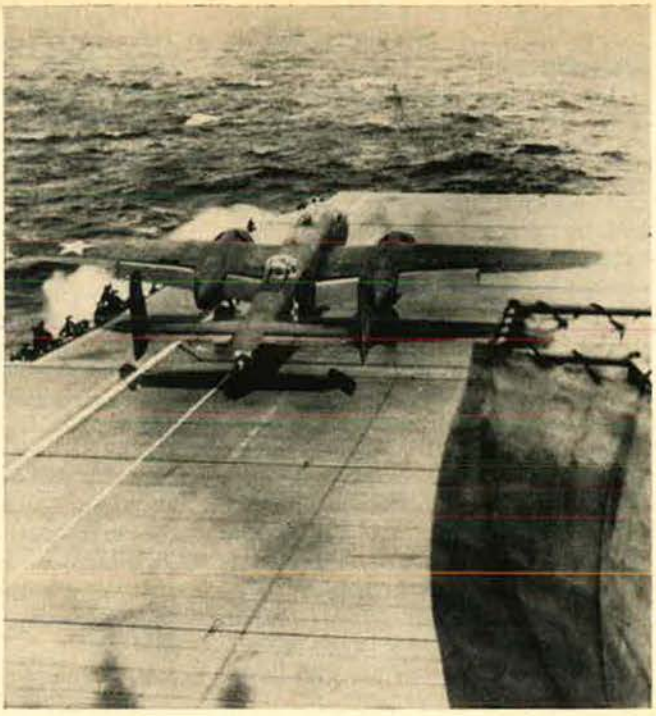
Here are plans for the Royal Canadian Air Force's proposed memorial to aviation. RCAF is in the process of raising $4 million to finance construction of the project.

Lt. Gen. Thomas S. Moorman, Superintendent of the AF Academy, chats with Dr. Charles Draper, winner of the Academy's Thomas D. White National Defense Award.



This year's first launch of a Canadian Bomarc missile off Florida's coast occurred during a NORAD joint exercise.

The P-3C version of the Orion submarine-hunting aircraft. Upgraded from the A and B models, the P-3C has fifty-two sonobuoy launch tubes and an integrated general-purpose computer to speed up and simplify ASW procedures.



April marked the twenty-eighth anniversary of the first attack on the Japanese homeland by US aircraft during World War II. From the pitching deck of the USS *Hornet*, sixteen B-25s, led by Jimmy Doolittle, conducted the raid.

stretching R&D finances to the maximum in the interests of economy.

Seasparrow will be designed for use by ships against aircraft, missiles, and surface targets. It will utilize a combination illumination and target-tracking radar and Sparrow missiles stored and fired from cell-type launchers. Computers will handle fire control.

Under the R&D contract, three models will be built, complete with supporting equipment, spare parts, and documentation. US Navy will test one system, one will remain with the contractor for systems evaluation, and Norway will conduct operational environment tests on the third.

☆

NEWS NOTES—Gen. J. P. **McConnell,** USAF (Ret.), has been appointed Executive Director of the **Air Force Museum Foundation** with offices in Washington, D.C. The former USAF Chief of Staff will help the Museum in its transition to a new home (*see May AF/SD, page 157*).

A low-cost **collision-avoidance system** that can be put aboard any size aircraft has passed the preliminary design stage and shows promise for **extensive application,** RCA Corp. announced.

US Air Force Academy's **Cadet John C. Penney** recently set a new Academy **sailplane altitude record** of 33,900 feet, breaking the old record of 32,200 feet set in 1968 by then Cadet Carl Keil.

The **Aerospace Rescue and Recovery Service** with headquarters at Scott AFB, Ill., received the first of fifteen new **HC-130N Hercules** aircraft specially designed for ARRS work. The HC-130N is the third version of the C-130 ARRS aircraft.

The **20th Air Force Association** has completed final arrangements for an extensive **tour of Hawaii and the Marianas** September 7 through September 19. The planned tour, sponsored by top Air Force leaders past and present, including Gen. Curtis LeMay, USAF (Ret.), as Honorary Chairman, is unique in that it is the first unit of its size to sponsor a return to the scenes of its World War II trials and triumphs. *(For details on the trip, contact Richard M. Keenan, 20th AF Association, 4465 MacArthur Blvd., Suite 8, Washington, D.C. 20007. [202] 337-2799.)*

A "well done" for the **Aerospace Defense Command,** which on June 28 will mark the **twentieth year** of being on twenty-four-hour-a-day alert.

Retired Air Force **Brig. Gen. Erik Hemming Nelson,** eighty-one, among the first aviators to circumnavigate the globe in 1924 in one of the Douglas "World Cruisers," died in May after a long illness.—END

INDEX TO ADVERTISERS

LETTER FROM EUROPE

By Stefan Geisenheyner
AIR FORCE/SPACE DIGEST EDITOR FOR EUROPE

British Sales Success in Romania

Romania, which has already contracted to produce 215 British-designed Britten-Norman BN2 Islanders under license by 1974, has indicated that it wants to assemble an additional eighty-five of these light STOL transport aircraft.

This was conveyed to Roy Mason, president of the British Board of Trade, during his official visit to Romania in March. Mr. Mason toured the Islander assembly plant which became operational late last year. The plant, near Bucharest, has already produced ten Islanders and is tooling up to produce three aircraft per month this summer. The facility was set up as part of a package involving the purchase of six British Aircraft Corp. BAC 111 airliners by TAROM, the national Romanian airline.

The BN2 Islander, undertaken as a private venture by Britten-Norman in 1964, was specifically designed for the commercial short-haul operator. It is a twin-engine transport with a passenger-seating capacity allowing very low seat-mile costs over the envisioned short-block distances. The BN2 offers an excellent power-to-weight ratio and a generous wing area, providing far better short-field performance than any other aircraft in its price class.

The design was laid out to lower maintenance costs, through a combination of simplicity and structural strength, and easy accessibility to all vital parts. Price of the basic model—according to the manufacturer—is in reach of short-haul operators around the world.

The Islander, powered by two Lycoming piston engines of 260 hp each, can seat up to ten passengers. Maximum range under optimal conditions at full load is 800 miles at speeds of 150 to 160 mph. Exceptional is its STOL performance, which allows operation at restricted airfields.

With maximum takeoff weight of 6,000 pounds, the BN2 lifts off after a roll of only 720 feet and lands on grass strips as short as 420 feet. This performance can be termed spectacular for such an economic and relatively low-powered aircraft. Maximum useful load is presently set at 2,200 pounds, which may be increased if engines of higher-power output are installed. Large cabin doors on both sides give high flexibility for passenger, freight, or mixed operations.

This is a British-designed STOL transport, called the Britten-Norman BN2 Islander. At least 215 will be built in Romania under license, and the total may be 300.

The canard wing in front of this airplane is called the "Moustache." The aircraft is the Mirage Milan, designed by Marcel Dassault of France in cooperation with the Swiss. It is classed as a multimission plane, with high maneuverability.

Such commendable characteristics found instant recognition worldwide, and orders were booked on a large scale. Islanders are now in service with fifty-six operators in twenty-seven countries and are currently produced at the Britten-Norman plant on the Isle of Wight at the rate of fourteen per month. This will be increased to twenty aircraft per month in the near future.

A BN2 on a delivery flight to Australia participated in the 11,000-mile air race from England to Australia last December. It won first place in its class, outperforming all other participating light twins.

The licensing agreement with Romania represents a major achievement for British industry and is considered a pacesetter for future licensing agreements with East-bloc nations.

Dassault Milan to Fly This Summer

During last year's Paris Air Show, France's Avions Marcel Dassault (AMD), producer of the famed Mirage series, demonstrated an experimental model of the Mirage V fighter-bomber fitted with a retractable canard wing. This reportedly helps improve landing and takeoff performance, increases payload capability, and enhances maneuverability.

Extensive tests since last summer have fully proved the concept, and AMD has decided to offer on the export market a thoroughly remodeled Mirage V with canard wing under the name "Milan." The first preproduction Milan will fly this summer, and production-line deliveries can be expected in 1972.

(Continued on following page)

AMD developed the retractable canard wing in cooperation with the Swiss aviation firm Fabrique Fédérale d'Avions (FFA), which has produced about fifty Mirage interceptors for the Swiss Air Force. Nicknamed "Moustache," the canard wing is mounted in the front fuselage between the radome and the cockpit. This very simple aerodynamic device retracts forward, actuated by a small, lightweight mechanism powered by an electric motor. The device requires little space and fits easily into the fuselage. At present, the "moustaches" are deployed manually but eventually an automatic deployment system triggered by aircraft attitude and speed vectors probably will be developed.

When the device's aerodynamic potential was established during the test series, it was decided to reequip and adapt the Mirage V to its newly acquired performance extension. The aircraft received a more powerful engine and up-to-date electronic equipment to allow its use as an interceptor as well as a fighter-bomber.

First step was installation of a SNECMA Atar 09 K50 turbojet, with a thrust increase of about 2,500 pounds over the Atar 09 C of 13,280 pounds (with afterburner), the Mirage V's standard engine. The Atar 09 K50 is an advanced-technology engine developed for the Mirage F.1, an air-superiority fighter on order for the French Air Force.

The next phase was to exchange the Mirage V's rudimentary electronic equipment for the more sophisticated gear developed for the Anglo-French Jaguar fighter-bomber. This consists of a very modern weapon delivery system, advanced navigation equipment, and such accessories as a head-up display and ECM gear.

Thus, the Milan in its present form offers substantial performance increases over the Mirage V, while retaining or even enhancing the excellent air combat performance of the Mirage III interceptor. The Milan can be classed, therefore, as a true multimission aircraft.

The thrust increase resulted in better acceleration at all flight levels, shorter takeoff roll, and increased maneuverability and climbing speed. The canard wing makes itself felt primarily in the lower-speed regimes, where, in conjunction with the increased thrust, impressive performance figures can be reached.

Compared to the Mirage V, the slow flying qualities have been considerably improved as well. For example, turning radius at 300 knots with extended canard is decreased by thirty percent. This is highly desirable in dogfights at low level or for accurate weapon delivery. Takeoff speed may be reduced by twenty-five knots and takeoff distance by 1,970 feet, a factor of thirty-five percent. The combination of thrust increase and canard action allows takeoffs with a combat load of up to 4.2 tons. This figure includes two permanently installed 30-mm DEFA cannon with 250 rounds of ammunition.

Milan's combat radius is a very respectable 700 nautical miles in a hi-low-hi mission profile. This includes five minutes of combat and weapon delivery at low altitude with afterburner. The aircraft is capable of Mach-2-plus speed at altitude and can fly supersonically on the deck.

Milan is a true all-around aircraft for use as an interceptor or in close-support missions. Its self-defense capability is enhanced by the installation of the two cannon, making it a formidable opponent following release of outboard stores. This feature should be attractive to the world's smaller air forces, which usually have limited budgets and are unable to afford large numbers of specialized combat aircraft. With Milan, Dassault may be able to continue the sales success begun with the Mirage interceptor after the Arab-Israeli war in 1967.

Trident 3B Under Test

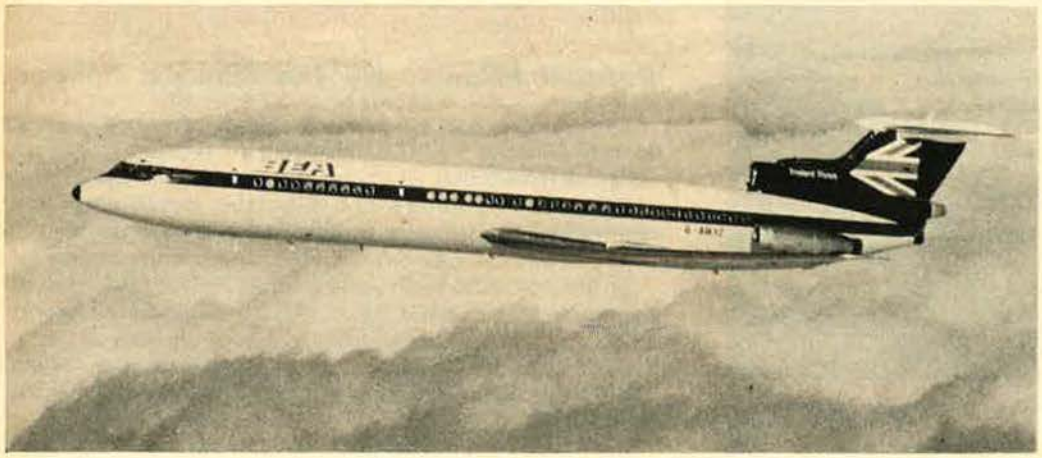
The Trident 3B is a growth version of the well-known Trident 1 and 2 airliners built by Britain's Hawker Siddeley and operational since 1962. The new aircraft normally carries 140 passengers but can transport up to 180 in a high-density version.

The three-engine 3B is unusual in that it carries a fourth engine in the tail for use as a booster in takeoff or under emergency conditions. A standard preproduction model completed its flight trials in February, which, however, did not include use of the booster. During these trials, speeds up to Mach 0.96 were reached and fully automatic blind landings concurrent with Category III conditions, *i.e.*, no visibility, were performed as routine procedure.

The first takeoff applying the Rolls-Royce RB162-86 booster occurred in mid-April. Basic powerplant of the Trident was three Spey turbofans, augmented by the booster—a lightweight, high-thrust-to-weight-ratio engine. The RB162-86, originated for VTOL application, delivers maximum thrust of 5,400 pounds. Comparative test takeoffs with and without the booster amply demonstrated Trident's improved performance using the extra power.

Installation of the booster increases operational flexibility of the aircraft with a minimum of cost and redesign. Range and payload could be increased, in addition to improved takeoff and climb performance. In particular, wherever limited runway length or hot climate and high-altitude conditions are encountered, aircraft range and payload remain unimpaired.

A typical example is the London–Naples route, where



Here is the Trident 3B, by Hawker Siddeley. It can carry from 140 to 180 passengers. In addition to the regular three engines, it has a fourth in the tail for use as a booster in takeoffs or during emergencies.

This is a closeup of the booster engine in the tail of the Trident 3B. When it is used, it permits the three other engines to operate below maximum and cuts noise output.

booster use will allow an additional seventy passengers while the aircraft retains its 2,400 n.m. range. In case of a main powerplant failure in flight, the RB162 can be started as a backup engine, adding its thrust to that of the two remaining engines.

During takeoff under normal conditions the thrust of the booster allows the Spey turbofans to operate below their maximum power output. This decreases wear and tear on the engines and increases overhaul and service life. Furthermore, it was discovered that flyover noise levels are substantially reduced.

First deliveries of the Trident 3B are due early in 1971. British European Airways (BEA) has twenty-six on order and expects to have the aircraft in fleet service by mid-1971. The airline is already operating thirty-seven of the earlier Trident 1 and 2s, which it put into service in 1962.

Three-Nation Surveillance Drone Tested

The battlefield surveillance drone AN/USD 501, built by Canadair Ltd., a subsidiary of General Dynamics, under contract by the British, Canadian, and German ministries of defense, successfully completed its flight trials at Camp Shilo, Manitoba, Canada, this spring. The project was initiated by Canadair in 1959 and was originally funded by Canada and Great Britain. In 1965 Germany joined the venture as a full cost-sharing partner.

The AN/USD 501 is a short-range reconnaissance drone designed to provide accurate tactical information about enemy activity under all-weather, day and night conditions. The system is self-contained and is based on a simple drone powered by a small turbojet sustainer

CONTINUED

engine, generating speeds up to Mach 1. The drone is launched from a mobile truck-mounted rail with an assist from a solid-fuel booster rocket. The drone follows a preselected course that takes it over enemy territory and back. It is designed for low-level flight at altitudes ranging from 600 to 1,000 feet. A built-in barometric device supplies height-keeping commands. On completion of a mission, the engine is shut down and the drone coasts to its recovery area, landing by parachute. Landing impact is cushioned by airbags inflated before touchdown. The vehicle can be refueled and reused.

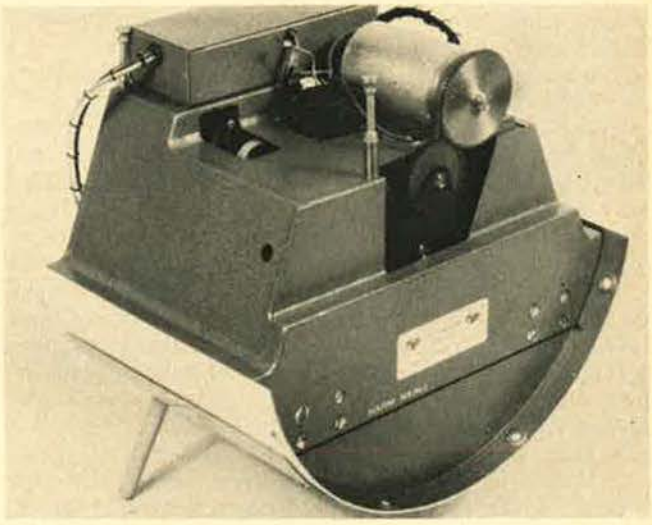
The drone can be equipped with a variety of sensors. Originally, it was to be fitted with photographic cameras and that option has been retained, although such equipment does not provide all-weather capability. Hawker Siddeley Dynamics (HSD) of Britain was contracted to develop infrared sensors to replace the early camera systems, and the tests at Camp Shilo were conducted with these new devices. HSD's infrared linescan system is highly modern and capable of operating under almost any weather and lighting conditions.

The infrared linescan device produces a continuous thermal picture of the terrain below. Content of the imagery depends solely on the temperature and emissivity of the scanned object, as opposed to photographic film, which records light values and reflectivity to produce an image. Thus, a normal lens cannot be used to obtain a clear infrared image.

The optical system of the linescan device rotates at 7,500 rpm and scans across the drone's flight path. The image obtained is focused by two parabolic mirrors and a ridge mirror onto the infrared detector.

This heat-sensitive device is cooled by liquid nitrogen and operates in the 8–14 micron infrared band. It reacts to temperature changes of the thermal picture focused on it, by modulating a constant current flowing through it. This change in current intensity is processed by a glow modulator tube, a device producing light proportional to electric energy passing through it. Through recorder optics, this light exposes standard photographic film which when developed converts the image to usable pictures.

In the AN/USD 501 system, the film is developed in flight and immediately available on landing. The tests in Canada were successful, and the system should become operational in the near future. Two hundred and eighty-nine drones are on order for the three governments.—END



The Hawker Siddeley Dynamics infrared linescan system is a sensor that will be used in a new surveillance drone.

A Briton Looks at Monty

Montgomery, The Field Marshal, by R. W. Thompson. Charles Scribner's Sons, New York, 1970. 344 pages. $8.95.

Montgomery, The Field Marshal is the author's second part of his study of one of the most controversial figures of the wartime Alliance. It surveys Montgomery's career from January 1943 through the Western European theater to the German surrender in May 1945. Mr. Thompson draws on a wide variety of sources, but regrettably adds nothing from any original or primary source except occasional references to his own experiences of the European campaigns. Readers with knowledge of this period will find little that is new to them.

However, the book has much to commend it, especially to American readers. It is refreshing to find a fellow countryman looking critically at the British military idol, even though that critical look is occasionally unfair and fails to locate precisely the reasons for Montgomery's considerable unpopularity with his American associates.

Montgomery's strategy in the Normandy battle and at Caen is clearly explained. Quotations from General Bradley indicate how thoroughly that strategy (taking the weight of the German armor to allow the American forces to wheel eastward below it) was appreciated and understood by Montgomery's subordinate if not by his Supreme Commander. The failure to take the Bevelands behind Antwerp, however, is equally logically criticized, as is the strategic concept of the drive to the Rhine bridges on too narrow a line in the face of determined flank and frontal opposition.

The handling of the Ardennes defenses is alleged to show Montgomery at his best. Cool, determined, exceptionally clear-sighted, and tactful in his handling of a dispirited US First Army, Montgomery did not defeat the armies of Von Runstedt alone, but his defense made a perfect foil to the aggression of Bradley and Patton in the south.

Later, however, in the advance to the Rhine, the caution that had caused him so much criticism in earlier campaigns was to prompt, in the author's opinion, gross overpreparation that would have been unnecessary had General Simpson, like General Patton, been given his head.

Although critical of the "broad-front" strategy, the author notes the weaknesses of Montgomery's overall preoccupation with "the drive to Berlin." He stresses the realities of Alliance politics, logistics, and the increasing weight of American influence, a reality that Montgomery never seemed to appreciate as his arguments for changes in the command structure flowed back to General Eisenhower. The British were correct in their assessment of the importance of Berlin; they were correct in their pursuit, with the imminence of victory, of political objectives; but, as Mr. Thompson observes, the realities of power and the pressure of public opinion would never permit a European victory in the North, won by a British Field Marshal commanding American armies.

To destroy a myth possessing popular credibility requires a care of expression, a precision in description, and an objectivity the author does not always achieve. Neither do his *en passant* personal remarks about Generals Ridgway and Patton enhance the overall impression. More precise documentation, a clearer chronological sequence, a more dispassionate distinction between observation and supposition, and the support of more relevant battle maps would have given greater weight to his final assessment of the Field Marshal. Even that assessment—"the most overrated general of World War II"—is not the author's own. Montgomery was more than just a "set piece" general; he was indeed thoroughly professional—dedicated and, in contrast to some of his colleagues, a loyal and honest subordinate.

It is now acknowledged that an Allied Supreme Commander must exercise command, and that allied subordinates must understand each other's attitudes, as well as the realities of power. This lesson is perhaps the most valuable contribution of Mr. Thompson's book.

—Reviewed by Sqdn. Ldr. Richard A. Mason, RAF. Squadron Leader Mason, an exchange officer, is at present an instructor in the Department of History at the US Air Force Academy.

Military-Industrial Complex

Report from Wasteland, by Senator William Proxmire. Praeger, New York, 1970. 238 pages. $6.95.

Senator Proxmire is a Democrat from Wisconsin who is Chairman of the Subcommittee on Economy in Government of the Joint Economic Committee. He is not a member of the Armed Services Committee or of the Aeronautical and Space Sciences Committee. He is a member of the Committee on Appropriations, where he is Chairman of the Subcommittee on the District of Columbia, but not a member of the Subcommittee on the Department of Defense.

Mr. Proxmire is in favor of unilateral disengagement by the United States from international arms competition. "What we find ourselves in," he says, "is a no-limit poker game with each side holding a royal flush." The Senator has no confidence in our intelligence effort at any point and has concluded that "given the present method of estimating strategic capabilities, the system contains a built-in, automatic, inevitable escalation device."

There is no evidence he ever has played poker.

In *Report from Wasteland,* the Senator digs up a long list of villains. They include all parties to the military-industrial complex. He goes over a great deal of ground previously plowed by the Congress in investigations that stretch back deep in history. By Mr. Proxmire's standards, Harry Truman pioneered with his World War II inquiry, and there were many before that.

In 1959, when Senator Proxmire had been on the Hill only two years, there was a lengthy hearing into the employment of retired military officers by defense firms, held by Rep. F. Edward Hébert and a House Armed Services Subcommittee. From Senator Proxmire's book, it would not appear that the Senator ever heard of these hearings, or their results. He scoffs at the idea that retired men hold these jobs under the restraint of many rules, regulations, and restrictions, but does not cite any case of violation. This is about what Mr. Hébert learned in 1959.

It is fitting and proper that *Report from Wasteland* should be dedicated to A. E. Fitzgerald and John McGee,

two of Mr. Proxmire's star witnesses and the men who really gave him most of this material. Both of them were employed in the Pentagon organization and have gained notoriety for their interpretation of what they could see from their desks. Out of this, Mr. Proxmire concludes that excessive power is exercised by the military establishment.

"This must be changed," he says. The fact, of course, is that Mr. Fitzgerald and Mr. McGee worked for the armed services at a time when the services operated under the strongest civilian controls imposed in recent years.

Mr. Proxmire discounts the nature of the threat. He says the best thing for both the United States and Russia would be to "throw it all out." As for China, it is even less important, and "we have made very large unneeded expenditures." That was written, it must be added in all fairness, before a Red Chinese satellite followed Sputnik into the sky.

—Reviewed by Claude Witze. Mr. Witze is a Senior Editor of AIR FORCE/SPACE DIGEST.

Understanding Southeast Asia

A Short Introduction to the History and Politics of Southeast Asia, by Sir Richard Allen. Oxford University Press, New York, 1970. 306 pages with bibliographical essay. $6.50 hard-cover; $2.50 paperbound.

This splendid little volume is a model of its kind. In 247 pages of text, the author outlines, first, the common characteristics of Southeast Asian society and culture; second, the legacy of each nation's colonial past; third, the impact of World War II; and, finally, postwar developments with particular emphasis on the international effects of American involvement. The nations treated are Burma, Laos, Cambodia, Vietnam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand, all but the last of which were at one time or another colonial dependencies of Western powers.

Sir Richard comes to his task with formidable credentials. He was formerly Head of the Southeast Asia Department of the Foreign Office in London and for more than thirty years a member of the British diplomatic service. From 1956 to 1962 he was the British Ambassador to Burma. Neither his British nor his Burmese connections, however, detract from his admirably detached viewpoint.

Readers concerned to find cogent reasons for either the style or extent of recent American involvement in Southeast Asia will find little comfort in these pages. In Sir Richard's view, the pattern of developments in the region during this century has been roughly as follows: First, in the years leading up to World War II, a gradual elaboration of colonial administration, more or less volatile as in each country it reflected gratuitous assumptions of Western superiority.

Next, with the Japanese onslaught in World War II, a break with the immediate past and the rise in each nation of resistance groups (some Communist, some purely nationalist, some a little of each) whose main goals implied some form of national liberation from colonial status. Such groups, whether Communist or not, received both moral and material encouragement from the Allied powers until 1946 or 1947 when the United States in particular began to discriminate between them on the basis of their admitted or presumed Communist leanings.

From that point on, suggests the author, the dominant theme became "the American obsession with the danger of communism in Asia," with consideration of the long-lived natural antagonisms between the various peoples being either disregarded or discounted. That Ho Chi Minh, for example, feared Chinese domination more than French, that "his reaction was typical of all Vietnamese throughout their history," these and other documented elements of the past have obviously had little impact on Western policy-makers.

For the future, the author sees "no ideal solution," although perhaps some form of neutralization of Indochina (as proposed by President de Gaulle in August 1966) seems more likely than most other alternatives. The major stumbling block to settlement, he makes clear, is the current intransigence of the North Vietnamese in Paris. But their attitude, he also makes clear, derives specifically from their sense of having been taken to the cleaners at Geneva in 1954, where they were forced to accept concessions imposed upon them by their Communist allies. Who, after all, other than the Vietminh, had freed Vietnam from French domination?

The twenty-five-page bibliographical essay may well be worth the price of the book by itself. It is divided into eight parts (short general works, long general works, and standard sources; then separate sections on each nation), each of which contains a list of books, followed by a short essay describing the background and general approach of each. The essay in effect is a short course in how to go about learning the history of Southeast Asia, something that the book as a whole makes it clear might well redound to our national interest.

—Reviewed by Maj. David MacIsaac. Major MacIsaac is a member of the Department of History at the US Air Force Academy.

NEW BOOKS IN BRIEF

The Blond Knight of Germany, by Col. R. F. Toliver and T. J. Constable. Erich Hartmann, the Luftwaffe's leading WW II ace, is the highest scoring fighter pilot in history. His story—from childhood, through the war and his subsequent ten-year imprisonment in the USSR, to his present position as Chief of Tactical Evaluation for the German Air Force—is told here, but presented with a lack of drama. Doubleday, N.Y. 318 pages. $7.95.

Combat Aircraft of the World, edited by J. W. R. Taylor. A "first" in aviation publishing, this book includes pictures and descriptions of all combat aircraft that entered squadron service in any country between 1909 and 1969. More than 800 types (including many prototypes) are described and illustrated with some 2,000 photos and drawings. Superbly done. G. P. Putnam's Sons, N.Y. 647 pages. $20.

Communications in Space, by Orrin E. Dunlap, Jr. Mr. Dunlap traces the growth and contributions of space communications systems from the days of Marconi through the early unmanned satellite programs of the USSR and the US to the moon landings and recent unmanned flights. Harper & Row, N.Y. 338 pages. $7.95.

The First to Fly: Aviation's Pioneer Days, by Sherwood Harris. The author makes use of diaries, letters, and interviews to convey the flavor of the early days of flying. Simon & Schuster, N.Y. 316 pages. $7.50.

Pictorial History of the Luftwaffes, by Alfred Price. Mr. Price includes more than 200 photographs, some of them never before published, in his history of the Luftwaffe. Arco Publishing Co., N.Y. 274 pages. $5.95.

Racing Planes and Air Races, 1970 Annual, by Reed Kinert. Interesting photos and detailed information on the planes and flyers taking part in 1969 US air races. Aero Publishers, Inc., Fallbrook, Calif. 105 pages. $3.

—JOANNE M. MILLER

The concept of a totally sea-based strategic deterrent periodically returns from limbo. A current revival appears to offer a lot for a little. But its superficial attractions begin to fade as we look at the heart of the issue in . . .

AIR FORCE
JUNE 1970

Let's Have Three for Deterrence

By John L. Frisbee
SENIOR EDITOR/PLANS AND POLICY

ON JANUARY 23, 1968, North Korea, a third-rate military power, seized the USS *Pueblo* in international waters. Eleven months later, after suffering torture, mistreatment, and continuous indignities, the *Pueblo's* crew was released in exchange for a US apology that was repudiated while it was being handed to the North Koreans at Panmunjom. The ship with its classified equipment has never been returned.

The *Pueblo* experience was frustrating, humiliating in the extreme. Yet, in the long run, it may have been worth the cost. Buried in the confusion, heartache, and humiliation of the *Pueblo* affair is a striking lesson in strategic deterrence, one that we can ill-afford to overlook.

Certainly it applies to the current campaign aimed at putting all US deterrent forces at sea. That proposal is being touted as a "new nuclear strategy" for the United States. In plain fact, little about it is new. The idea of deterrent forces based entirely at sea—as opposed to a three-pronged deterrent made up of land-based missiles, sea-based missiles, and long-range bombers—has been examined many times by military planners under the last three Administrations. It has been rejected every time.

A reading of President Nixon's "State of the World" message to Congress indicates that the present Administration has not bought this simplistic approach to deterrence either.

In that lengthy message, the President asked:

> Should a President, in the event of a nuclear attack, be left with the single option of ordering the mass destruction of enemy civilians, in the face of the certainty that it would be followed by the mass slaughter of Americans? Should the concept of assured destruction be narrowly defined and should it be the only measure of our ability to deter the variety of threats we face?

Mr. Nixon then stated that his Administration had reviewed deterrent strategies "ranging from minimum deterrence—a posture built around ballistic missile submarines and the assured destruction doctrine narrowly interpreted—to attempts at recapturing numerical superiority through accelerated US strategic deployments across the board." Both extremes were rejected as involving "undesirable risks."

No, the sea-based deterrent concept is not new. What *is* new is that supporters of a solely sea-based deterrent apparently have decided to take the issue to the public. And they have found a growing number of commentators eager to cooperate. It must be admitted that the package they propose is wrapped attractively, with what is literally disarming simplicity. The reasoning goes like this:

Missiles and bombers based in the continental United States automatically make this country a target for nuclear attack. If all missiles and bombers are sent to sea (where, it is claimed, they would remain largely immune to detection and attack—especially the submarine-launched missiles), the US would no longer be a target and its population would be safe from nuclear blast and fallout.

At the same time, our deterrent posture would remain as strong as ever, since sea-launched nuclear weapons could guarantee that any nation threatening our survival or national interests would be annihilated.

We also are told that geography makes a totally sea-based deterrent uniquely appropriate to the US since our ports open directly on the oceans. The Soviets, on the other hand, have only limited access to open

seas. Thus, say the proponents of sea-basing, the USSR likely would continue to rely on land-launched missiles and bombers as well as on their rapidly growing fleet of Y-class missile-carrying submarines. Keep this point in mind.

As a bonus, it is claimed that a US "sole-source" sea-based deterrent would be cheaper. Less provocative, too.

Sounds great. Why has a proposal offering so much for so little been rejected consistently for so long?

To begin with, deterrent forces must convince a potential enemy that any military action he takes for the purpose of destroying or disarming this country will be met by a response that is rational within the terms of our national interest. He must also be convinced that the response will make him pay a price unacceptably high in relation to what he might conceivably gain by attacking the US.

The certainty of US response to a *wide range* of enemy attack patterns is the heart of deterrence. If that certainty does not exist in the minds of Soviet planners —and perhaps soon of the Chinese—our deterrent has flunked its primary test. Lacking an adequate, comprehensive, believable deterrent, any US President inevitably is, at the least, severely handicapped in conducting this country's foreign relations. At the most, he is drastically compromised in one of his very basic responsibilities, the defense of the United States itself. The gravity of that responsibility has increased significantly in the last two years.

The Soviet take-over of Czechoslovakia, their penetration of the Middle East and the Mediterranean basin, and the rapidly growing strength of their military forces offer no evidence that Kremlin leaders have abandoned either an expansionist foreign policy or the use of force in carrying out that policy. The only effective barrier to their success is the United States. Removing or neutralizing that barrier is a persistent goal of Soviet strategy.

Logic, then, would persuade one that Soviet planners must be among the most ardent supporters of a totally sea-based US deterrent. Putting all our deterrent forces at sea would immeasurably simplify the Soviet strategic problem in two important ways:

First, by greatly increasing the probability of disarming the United States with small risk of any US nuclear response against the territory of the USSR; *second,* by opening wide the doors to nuclear blackmail in situations that may not directly and immediately threaten the life of this nation.

An example may underscore the folly of a wholly sea-based deterrent. It is a hypothetical example, but decidedly not improbable.

Let us suppose that we have actually adopted the sea-based deterrent policy. We have entirely phased out our long-range bombers and land-based missiles. All US strategic missiles are now at sea. Perhaps all of them are aboard nuclear-powered submarines, perhaps some are on surface ships, as a few proponents of sea-based deterrence have proposed—an idea that challenges one's credulity in an age of satellite reconnaissance and nuclear attack submarines.

The world, at this hypothetical point in time, is at peace—at least to the degree that it has been at peace since 1945. Freedom of the seas is guaranteed. Our missile-armed submarines can operate wherever in international waters we choose to send them. The Soviet attack submarines are equally free, even to lie off US submarine bases here and abroad, where they can pick up and track our submarines that are leaving port.

All has been going well with our sea-based deterrent forces for some time. Then one day an American missile-carrying submarine fails to report in. Attempts to contact it fail. The Pentagon wonders—and wonders. Then another disappears. And another. Coincidence? Not likely.

In the very beginning there is uncertainty. But it quickly becomes clear to the President and his advisers

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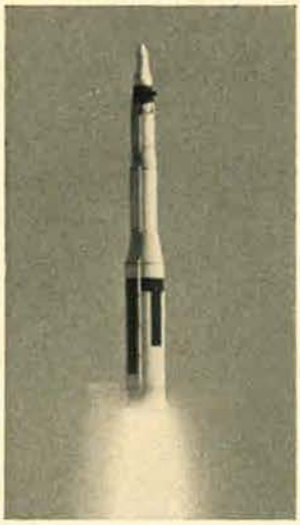

The increasingly accurate Minuteman has a growing ability to destroy hard targets, thus giving the US an option to respond against enemy military targets, rather than against cities only, if a disarming attack were aimed at US strategic forces. The Safeguard ABM system will protect Minuteman, as can greater hardening and point defenses, if ever needed.

One of 1,000 Minuteman silos. An enemy who attacked CONUS-based missiles or bombers would have to anticipate a response against targets in his homeland. This is the heart of deterrence.

Sea-launched missiles, like those on this US submarine at Holy Loch, are essential to deterrence. But no single system —land- or sea-based—could provide an adequate deterrent.

that they are face to face with a campaign of attrition against our sea-based deterrent forces—conceivably to disarm (and thus control) the United States, perhaps to establish a Soviet bargaining position for smaller immediate stakes that ultimately would lead to our knuckling under.

Our national leadership must choose among four alternative courses of action:

• **Alternative No. 1:** An assured-destruction retaliatory attack on the Soviet homeland. Our remaining submarine-launched missiles assuredly could destroy many targets in the Soviet homeland—principally cities, since the relatively small warheads of our sea-based missiles would not be very effective against hardened, land-based Soviet missiles. But what would this mean in terms of our national interest?

The USSR surely would hit our cities, since all US strategic *military* targets would be at sea. The nuclear exchange would cost many millions of lives. And we would have initiated it. Here is where the lesson of the *Pueblo* is instructive.

When the *Pueblo* was captured, the US held a substantial margin of nuclear superiority over North Korea's protector—the USSR. There was a remote possibility that an American attempt to rescue the *Pueblo* and its crew could escalate to nuclear war. We were not willing to take that chance for the *Pueblo*. Would we, as a people, accept the *certainty* of a devastating nuclear war in response to the capture or destruction of one US submarine—or even several of them?

Could any American President accept that certainty, made even more terrifying by the equal certainty that the United States would lose the war by every yardstick —whether moral or material? For after our sea-based missiles had all been fired, and after the Soviets had responded, they still would have many hardened land-based missiles and most of their bombers. We would have no comparably effective strategic weapon.

Millions of lives would have been sacrificed pointlessly—on both sides.

• **Alternative No. 2:** Hunt down the Soviet sea-based forces in reprisal, but scrupulously avoid attacking any targets in the USSR for fear of a Soviet response against our own homeland. If we were to win such a war of attrition at sea, it would not make very much difference since the Soviet land-based missile and bomber forces still would be intact, holding our cities hostage. And it might be difficult to win. Whenever it was to their advantage, the Soviets could simply call their submarines back to their home ports. We could not attack them there without drawing down a nuclear response on the only targets left in the US—our cities. The word "sanctuary" would enter the vocabulary of strategic warfare.

• **Alternative No. 3:** Begin a crash program to restore balance to the US/USSR nuclear equation by expanding our options through diversification of deterrent weapon systems. Does anyone seriously believe that Soviet leaders, now holding all the aces, would let this happen?

• **Alternative No. 4:** Move from an era of confrontation to one that might be called "coercive negotiation" —on Soviet terms. The President could expect the agenda to include withdrawal of US forces from Europe and the Far East, dissolution of NATO, and abrogation of US interests in the Middle East. There wouldn't be much negotiating.

A principal reason why the US has maintained three separate but complementary strategic deterrent systems (land-based missiles, sea-based missiles, and bombers) is to avoid being forced into the kind of "coercive negotiations" just described as the least bad of several very unpleasant alternatives.

So long as we hold to our present strategy of multiple deterrent systems, the military planners of any hostile nation are confronted by a series of presently unsolvable tactical problems. Now, to disarm or destroy the United States, our territorial sovereignty must be violated by strikes at missile sites and bomber bases *in this country*. That's quite a different challenge from attacking a ship at sea, as the *Pueblo* incident demonstrated. Enemy planners must assume that an attack on our land—on our civilian population—would guarantee a US response, so long as all our strategic weapons weren't destroyed or reduced to impotence by a first strike.

The existence of three coordinated and complementary systems, each with separate and distinct characteristic, makes it impossible, with any technology now known, to knock out all three in a simultaneous surprise attack. At least one element of the US deterrent, probably two of the three, or more likely a significant percentage of all three, would escape destruction. So, planners on the other side must accept the inevitability of a retaliatory strike. And they can't plan with confidence on receiving an acceptable level of damage—much less on a free ride—because any one of the three US systems can assure the aggressor's destruction. *(For a discussion of this point, see, "B-1—Blue Chip in the Deterrent Stack," AF/SD, April 1970.)*

It's worth repeating that an enemy's perception of the *certainty* of US response is the heart of deterrence. That certainty would not exist if we built our deterrent on any single system—land-based or sea-based or airborne. We need all three.

Why have the proponents of a totally sea-based deterrent picked this time to rehash an old and tired argument? A major reason, no doubt, is the publicity that rightfully has been given to the Soviet missile buildup, especially the rapid deployment of the SS-9, which is capable of carrying three very large warheads. It is sometimes assumed that one SS-9 could destroy three of our Minuteman missiles. (Contrariwise, of course, one Soviet torpedo with a TNT warhead could destroy sixteen missiles aboard a submarine.)

Secretary of Defense Melvin R. Laird has been represented as believing that by the mid-1970s the SS-9 will have made land-based missiles and bombers unreliable as deterrent weapons. That does not appear to be quite his position. In an April 20 address to Associated Press editors, Mr. Laird said:

> *Assuming we do not take additional actions to offset the expanding threat* . . . I must, as Secretary of Defense, face the disquieting possibility that in the mid-to-late 1970s we would no longer be able to rely on either the bomber or Minuteman force to survive a surprise attack. In such a situation, we would be left with only the Polaris/Poseidon deterrent force in our

strategic arsenal for high confidence retaliatory purposes. *This would pose intolerable risks for American security.* (Italics added.)

Mr. Laird's fears should come as no surprise to anyone familiar with defense affairs. Weapons technology is extremely dynamic, and every weapon system has potential vulnerabilities that have to be guarded against. This has been true throughout history. It is one reason for having multiple deterrent systems—to hedge against a technological breakthrough that might, at least temporarily, checkmate a single weapon system and give an enemy the opening he was waiting for.

In the early 1950s, for example, our bombers were becoming vulnerable to surprise attack by enemy bombers. We built the DEW Line radars and the SAGE command and control system to warn and protect the big birds. In the early 1960s, our ICBMs, sitting above ground on their launch pads, were becoming vulnerable to the improving accuracy of Soviet missiles. We put them into hardened silos. In the early 1970s, Polaris and Poseidon are becoming vulnerable to intensive Soviet developments in antisubmarine warfare. The USSR now has close to 400 submarines, all built since World War II, compared to our 140-plus, some of which are World War II vintage. As a counter, we are beginning to develop an Underseas Long-range Missile System (ULMS).

Similarly, Minuteman can be given additional protection with the Safeguard ABM, with stronger hardening and, if necessary, with hard-point antimissile defenses. Our bomber force can be made more secure with improved warning, better dispersal, and faster reaction time.

In short, one cannot reasonably foresee a weapon that is, and will remain, invulnerable, simply because technology can't be frozen.

But if we were foolish enough to adopt any one system as a deterrent to nuclear war, the sea-based missile is the least desirable single system available. A totally sea-based strategic force may constitute a deterrent in the perception of its proponents, but not in the perception of enemy planners. And that is where it really counts.

There are other reasons why sea-based deterrence alone could not be truly effective. One is the uncertainty of assured, continuous communications with submerged vessels. A reliable communications net is the brain and nervous system of a deterrent force. This is particularly relevant to the US deterrent, which is designed primarily as a second-strike force, where constant communication, even during a nuclear exchange, is essential for tactical orders and retargeting. Land-based systems have this capability through their highly redundant communications nets, including the airborne command and launch facility known as Looking Glass.

Another weakness of a sea-based deterrent is the difficulty of achieving accuracy comparable to land-based missiles—a degree of accuracy that would make the relatively small warheads of Polaris and Poseidon useful against hard targets, rather than only against cities. Still another restraint is the high cost of sea-based systems, with only a part of them able to be kept on alert, in contrast to the ninety-nine percent alert status of land-based missiles.

These deficiencies do not invalidate sea-based missiles as part of the three-pronged deterrent system we now have. In that coordinated team, the shortcomings of any one system are compensated by the unique strengths of the other two. Polaris/Poseidon submarine-launched missiles are an indispensable part of the deterrent team. No knowledgeable person would want to write them off. But not many would want to stake the future of this nation on a totally sea-based deterrent, either.

The one overriding inadequacy of a single sea-based deterrent is, however, its inability to convey to an enemy the *certainty* of a US response to attack. That, in itself, invalidates the concept of totally sea-based deterrence. Collateral weaknesses, significant though they are, do not further reduce the worth of the concept.

After all, zero is a value that is irreducible.—END

The US bomber force, third member of the deterrent triad, adds vital flexibility to US deterrence. Bombers can be launched on warning and recalled, penetrate enemy defenses in many ways, deliver weapons with great accuracy. Our combination of missiles and bombers prevents an enemy from disarming the US in a surprise attack. The B-52, shown here, will be replaced by the B-1 in the late 1970s.

In October 1969, AIR FORCE/SPACE DIGEST published Louis R. Stockstill's comprehensive account of the inhumane treatment of American POWs in Southeast Asia. The article was widely reprinted and attracted international notice. It set off a flood of appeals to Hanoi through letters to embassies of many countries. In May, in Washington, a rally organized by the League of Families of American Prisoners of War in Southeast Asia underscored the growing concern of Americans everywhere for the welfare of the prisoners. The campaign for decent treatment of the POWs has begun to make some progress. But only through continuing and increased efforts can we have any real hope for further improvements in the treatment of the prisoners . . .

The Plight of the Prisoners We Have Not Forgotten

By Maurice L. Lien

MAYDAY! Mayday!

This call, an appeal for help known to airmen the world over, was sounded in the nation's capital the evening of May 1, the traditional May Day.

The plea, uttered from the podium by Mrs. James A. Mulligan, wife of a US prisoner of war in Southeast Asia, was echoed in the hearts of nearly 1,000 other wives, parents, and children at a rally that filled Constitution Hall. They met, along with more than 2,500 others—including Vice President Spiro T. Agnew—to appeal for justice for their husbands, fathers, and sons held prisoner of war or missing in action.

Scores of senior Air Force officers, headed by the Vice Chief of Staff, Gen. John C. Meyer, were present.

The Vice President told the audience that North Vietnam was guilty of "an unforgivable breach of the elementary rules of conduct among civilized people" in its mistreatment of American prisoners of war.

"We shall never forget these men, and we shall never forget how they have been treated," the Vice President pledged.

The purpose of the rally, supported by the Air Force Association's national headquarters and attended by hundreds of AFA members from the District of Columbia, Maryland, and Virginia, was twofold: to demonstrate to the wives and families of the prisoners and the missing that Americans care; and to show the North Vietnamese and Viet Cong that their conduct is not condoned by the American public.

May 1 is also "Law Day." It was for this reason that the rally sponsors—a bipartisan congressional group headed by Sen. Robert Dole of Kansas—selected that date for the appeal. Senator Dole said that May first was "an especially appropriate day to pay this tribute" because the joint resolution passed by Congress

"Mayday! Mayday!" was the call of Mrs. James A. Mulligan in an appeal for help for her Navy husband and more than 1,500 others held captive or missing in Southeast Asia.

Constitution Hall was filled for the Law Day "Appeal for International Justice" for American MIA/POWs. In the audience were nearly 1,000 next of kin, more than half of them from Air Force families, who had come to Washington for the rally and to attend a meeting the following day. The USAF Ceremonial Band provided music for the rally.

designating Law Day specifically referred to international justice.

Other rally sponsors included Sen. Peter H. Dominick (R-Colo.); Sen. Barry Goldwater (R-Ariz.); Sen. Mike Mansfield (D-Mont.); Sen. George Murphy (R-Calif.); Sen. Edmund S. Muskie (D-Me.); and Sen. John Stennis (D-Miss.). Others were Representatives W. C. Daniel (D-Va.); Martin B. McKneally (R-N.Y.); Catherine May (R-Wash.); Richard L. Roudebush (R-Ind.); Robert L. F. Sikes (D-Fla.); and Olin E. Teague (D-Tex.).

Speakers included ten members of Congress, six wives of prisoners or missing servicemen, and Capt. James A. Lovell, Jr., USN, who recalled the world's concern over the fate of his Apollo-13 crew on its ill-fated trip to the moon. Captain Lovell asked that "now, again, people of the world unite with prayer and with pressure to bring these brave men home."

Another speaker was H. Ross Perot, the Dallas, Tex., multimillionaire who has devoted much of his time and fortune to arousing world opinion against Hanoi in its treatment of POWs. Mr. Perot, who testified on the issue before a House Foreign Affairs subcommittee earlier in the day, stressed that Hanoi "will not be moved by sentiment" or by "human emotion," but only by the pressure of 200,000,000 Americans.

Also present for the rally were four of the nine US prisoners released so far by Hanoi. Among them were Air Force Majs. Fred N. Thompson and Joe V. Carpenter, both from Maxwell AFB, Ala. They were introduced to the audience, as was AFA National President George D. Hardy.

According to rally officials, relatives of the missing men were present from every state except Hawaii. Many next of kin were flown to Washington in Air Force, Navy, or National Guard transport aircraft. Other relatives came by bus and car, some from faraway states. The morning following the rally, they filled to overflowing the Department of Interior auditorium for the first national meeting called to discuss ways to help their loved ones.

The meeting was organized by the League of Families of American Prisoners of War in Southeast Asia, an organization formed in the spring of 1969 to foster exchanges of information between families. All next of kin who attended the rally were invited to participate in the discussions.

During the meeting, a team of DoD officials, headed by Air Force Brig. Gen. Daniel "Chappie" James, Jr., Deputy Assistant Secretary of Defense for Public Affairs, stood by to answer questions.

That a major rally for MIA/POWs or a national meeting of their next of kin would be held in the nation's capital was undreamed of by most families just a year ago. Before May 18, 1969, Administration policy for the families had been, "Don't do anything to jeopardize either the delicate negotiations being conducted or the lives of your loved ones." Mrs. James B. Stockdale of Coronado, Calif., wife of a senior Naval officer held in North Vietnam, was not content just to sit and wait. Almost singlehandedly she set out to form a national organization of families. She wanted a better communications net, greater exchange of information among POW families, and more positive action from government officials.

Informal local and regional groups of POW and MIA wives had been formed in many localities where families of men who are overseas tend to wait it out: near large air bases, Army installations, and Naval facilities, close to friends, medical facilities, and other services. They exchanged information about prisoners; discussed

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AFA National President George D. Hardy (right) talked with H. Ross Perot and two wives at a reception in the Rayburn House Office Building prior to the Constitution Hall rally. Mrs. James E. Plowman (left) is the wife of a Navy lieutenant who has been missing in action since 1967, while Mrs. Howard J. Hill's husband, an Air Force captain, is being held prisoner by the Communists.

actions being taken by government officials or international organizations; and, most important, acted as morale boosters for each other in what they knew would be many, many months of heartbreaking loneliness and frustration.

In 1968 Mrs. Stockdale began contacting wives in cities across the country, asking them to serve as area coordinators in a new, national organization, and to seek out others to affiliate with them. Her perseverance led to the formation, in early 1969, of the League.

During the League's formative stage, Administration policy had been cautious to the point that neighbors, and in some cases children, did not know fathers, husbands, or sons were missing. At that time, many families would not participate—for fear of jeopardizing the lives of loved ones. Since the reversal of Administration policy in the spring of 1969, League membership has grown to approximately 1,000 families and is active across the entire country.

Funds to support activities of the League, and of the many local and regional groups, come primarily from the families themselves. Many have spent thousands of dollars seeking information about their husbands or sons, or in trying to gain public support that might persuade the Communists to release the names of men held prisoner and to abide by the Geneva Conventions.

News coverage of the prisoner-of-war situation in the first few months following the change of Administration policy was localized and spotty. Not enough factual information on the shocking treatment of prisoners, and the doubts and burdens their families had to bear, was published in any single article to enable the American public and the world to comprehend the extent of North Vietnam's inhumanity. This changed in October 1969, when AIR FORCE/SPACE DIGEST published what the editors referred to as "one of the most important articles ever published in this magazine." Even today, DoD officials call it the "most helpful, single article" on MIA/POWs published to date.

The article was "The Forgotten Americans of the Vietnam War," by Louis R. Stockstill.

Response to "The Forgotten Americans" was immediate and dramatic, beginning with a reading of the complete article on the floor of the US House of Representatives by Rep. Roman C. Pucinski of Illinois. In his preamble, Congressman Pucinski said, "I call this article to the House because I consider it one of the most important documents of journalism in recent years. . . . It should shake the conscience of the whole free world." The article has been entered in the *Congressional Record* five times, most recently on

At the rally, Mrs. Jerry A. Singleton recited a prayer she says every night in her Dallas, Tex., home, for the safe return of her Air Force captain husband, a prisoner of war, and for all of the men held prisoner or missing in action in Southeast Asia.

Mrs. Douglas B. Peterson, wife of an Air Force major identified as a prisoner of war by a pacifist group, also spoke at the Constitution Hall rally. She was one of five MIA/POW wives who accompanied H. Ross Perot on his most recent trip to Southeast Asia and European capitals.

Gen. John C. Meyer, USAF Vice Chief of Staff, met with a group of wives in the passenger lounge at the Andrews AFB, Md., air terminal, prior to their departure for home the day following the rally, to emphasize again the Air Force's concern for the well-being and safe return of their husbands.

March 6 at a hearing before the House Armed Services Committee, headed by Rep. L. Mendel Rivers.

The Reader's Digest ran a condensation of "The Forgotten Americans" as the lead article in its November 1969 edition. Circulation of the *Digest's* US edition alone is 17,400,000. More than two-thirds of a million reprints have been requested by *Digest* readers. AFA distributed 50,000 reprints of the original AF/SD article, including copies to every Ambassador to the United Nations and to the foreign press corps in New York and Washington.

On November 11, 1969, the United States urged the UN to exert its moral influence on Hanoi to ensure humane treatment of prisoners of war. The presentation was made by Mrs. Rita Hauser, US Representative to the UN Human Rights Commission. In her presentation, Mrs. Hauser drew heavily on material in "The Forgotten Americans."

The Upward Trend in Letter Writing

	1964	1965	1966	1967	1968	1969*
Number of men classified as POWs or as missing in action	22	173	472	878	1,243	1,428
Number of men writing letters during the year**	1	19	47	73	94	208
Number of men writing letters for the first time	—	18	28	33	23	114
Total number of letters received by families	8	35	156	165	256	699

* Figures for 1969 are still incomplete, since letters written by POWs late in the year are still being received by families.

** This tabulation does not necessarily derive from the row below it, as a cumulative total, since some families received mail on a one-time only basis.

Requests for reprints of the AF/SD version of Mr. Stockstill's article had begun pouring into AFA headquarters literally before distribution of the magazine was completed. Telephone calls from families of men missing or held prisoner came in from all parts of the country. It was immediately obvious that families were organized and geared for action. They were ready to tell the world what was happening to their loved ones. "The Forgotten Americans" gave them, for the first time, something they could use to arouse public opinion. Some 13,500 reprints of the article were sent by AFA directly to next of kin, at their request and at no charge.

AFA National President George D. Hardy first spoke on the plight of American prisoners in Southeast Asia in Spokane, Wash., in early October, just as the article was beginning to reach AFA members. Within a week, AFA's Washington office had received requests for copies of his remarks and the article from POW families in neighboring cities and distant states—an indication that their communications net is effective.

In his travels, Mr. Hardy meets with families whenever he can, to learn of ways in which AFA can be of help. Of these meetings, he says, "I am continually amazed that [POW/MIA families] can keep a positive attitude through all this. They know the Communists and some peace groups are trying to use them as pawns, yet they sustain each other and keep up their activities. Every time I meet with such a group, I am impressed by their patience and courage, and I leave more determined to keep up my efforts and those of AFA in behalf of these men and their wonderful families."

AFA efforts in support of MIA/POWs have generally taken two forms: first, to spark a nationwide letter-writing campaign to foreign governments, especially to those that recognize or do business with the government in North Vietnam, and to foreign publications; and, second, to directly support the families of the missing or imprisoned men and assist them in telling their stories to the world.

AFA Chapters and individual members first joined in the campaign by distributing reprints of "The Forgotten Americans" to news media, to other organiza-

(Continued on following page)

Secretary of Defense Melvin R. Laird (left) spoke to next of kin at the reception in the Rayburn Building and assured them that President Nixon "has not forgotten your loved ones." Pointing (center) is rally chairman, Sen. Bob Dole of Kansas. At right is USAF Brig. Gen. Daniel "Chappie" James. Air Force Secretary Robert C. Seamans, Jr., and USAF Vice Chief Gen. Meyer were also present.

tions, and to civic leaders in their communities. Many AFA Chapters invited the families to join in their meetings. This gave family spokesmen an opportunity to emphasize that the POW situation was not a remote problem but rather one of direct concern to every citizen.

An outstanding example was the campaign, led by Georgia's State AFA President William H. Kelly, who is a colonel in the Georgia Air National Guard. Colonel Kelly and his State and Chapter officers developed a plan to distribute reprints through individuals and through regional and statewide groups. Colonel Kelly sent messages and reprints to all members of Georgia's Press and Broadcasting Associations; to 550 top Jaycee members; to 100 key members of the Retired Officers Association living in the state; to religious and youth groups; and to many others. Chapters, meanwhile, concentrated on local media, organizations, and civic leaders.

Other AFA units throughout the country took up the POW cause. In Michigan, for example, State AFA President Marjorie O. Hunt sent out some 600 news releases to all newspapers and radio and TV stations in the state. She included a letter explaining AFA, and a list of Chapter presidents who could be contacted for local information. She also appeared on an hour-long broadcast on radio station WMUZ in Detroit, and made a tape for another station.

Dallas, Tex., Chapter President Brig. Gen. Herbert G. Bench, USAF (Ret.), sent a reprint of the Stock-still article to each Chapter member urging them to write letters to foreign governments and to selected publications, and to keep the reprints available in their offices. In neighboring Fort Worth, Gordon Brownlee distributed 1,500 reprints and got excellent coverage in that city's news media.

In early March, George J. Burrus, III, President of the Cape Canaveral Chapter and Chairman of AFA's Florida State POW Letter Committee, reported that a community-wide project in his area had succeeded in obtaining nearly 25,000 signatures on petitions, and that local school children were writing letters. Chapters across the state are actively supporting this program.

Ten wives of men listed as missing in action or prisoners of war live in the Tucson, Ariz., area. AFA's Tucson Chapter has invited these wives to all its functions. The Chapter has helped raise funds so four of the wives could visit the capitals of the free world to tell their stories.

The Spokane, Wash., Chapter, under the leadership of Vernon L. Gomes, Chairman of their POW committee, and in cooperation with the Armed Services Committee of the Spokane Chamber of Commerce, conducted a successful fund-raising drive to help pay expenses for other wives and a mother of a prisoner of war to make a similar trip.

These are only representative examples of nationwide AFA programs to publicize the plight of American prisoners of war in Southeast Asia and to assist their families. This report would be incomplete, however, without mention of the outstanding program of the Eglin, Fla., Chapter of AFA.

Col. Harry G. Howton, USAF (Ret.), with the help of Chuck Widaman, Eglin Chapter President, and Herbert "Bud" West, Florida State AFA immediate Past President, helped develop a model program of action, and published a twenty-four-page brochure describing in detail what concerned citizens can do to help. The program involves the League of Families, the Eglin AFB and Hurlburt Field Officers' Wives Clubs and NCO Wives Clubs, religious groups, the news media, and many other organizations. Colonel Howton serves as Area Coordinator for the program.

The brochure, which has been widely distributed,

Once a year since the end of World War II members of the *Amerikanisch Kriegsgefangenen* had met in an atmosphere thick with smoke and nostalgia, to swap the same old stories. This year it was different, as Kriegies (their own abbreviation) got together in Cincinnati in late April. As former prisoners of war in Germany (the Kriegies are alumni of Stalag Luft III), they found a legitimate and very personal cause—the American POWs and MIAs of the Vietnam War.

A Saturday morning at a Kriegie reunion normally is not an ideal time to schedule a serious meeting. But on the morning of April 25 the ballroom at Cincinnati's Netherland-Hilton Hotel was packed, standing room only, with others standing in the hall. No one stirred for two hours of a seminar devoted to the problem of the POWs and MIAs of Vietnam. They heard presentations by representatives of the Department of Defense, the American Red Cross, by the wife of a missing-in-action Marine Corps pilot, and by the wife of an Air Force captain who is known to be a POW. The seminar was chaired by US Rep. Burt L. Talcott (R-Calif.), a Kriegie himself and the man who put the seminar together.

In another unprecedented action, the Kriegies passed a resolution, speaking as former prisoners themselves, which strongly urged the support of all persons, nations, and governments in seeking humane treatment for US prisoners in Vietnam and asking full compliance by the government of North Vietnam with the Geneva Convention on prisoners, including "the elemental judicial privilege of *habeas corpus,* which accords to any next of kin of any prisoner the right to have the person of the prisoner identified or produced or his place of burial known."

The Kriegies hope to work with other groups of ex-POWs, here and abroad, former allies and former enemies, in this effort. —J.F.L.

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includes information on MIA/POWs, sample letters and resolutions with suggested addresses, and much other valuable information. The Eglin group also printed bumper stickers to help keep this problem always in the public's mind. Details on the program can be had by writing: Eglin Chapter, AFA, P.O. Box 176, Shalimar, Fla. 32579.

Many other organizations are now involved in the campaign on behalf of the POWs. Included in these are veterans and other patriotic groups, such as United We Stand, the national Jaycees, and chambers of commerce and local groups in communities across the nation. On April 8, Maj. Gen. Winston P. Wilson, Chief of the National Guard Bureau, in a letter to the Adjutants General of all states, announced a "Show Your Concern" campaign, to be conducted on a voluntary basis by Guard personnel within their local communities.

Have we accomplished our mission? The answer, obviously, is no.

Have we been of any help? Yes, but it should be borne in mind that we still have a long way to go.

There has been what DoD officials term a "significant increase" in letters received by families of men held prisoner, starting in November 1969, after publication of "The Forgotten Americans," but this is considered only a start. In testimony before the House Committee on Armed Services on March 6, Richard G. Capen, Jr., Special Assistant to the Secretary of Defense for Legislative Affairs, testified:

"It must be pointed out that the Geneva Convention clearly specifies that a prisoner of war should be allowed to write not less than six letters and cards per month. In the five years our men have been held captive, only about 175 individuals have been allowed to write. Their families have received about 1,100 letters. Usually the frequency for those few letters has been around one or two letters per year.

"If the men we believe to be prisoners were allowed to write as dictated by the Geneva Convention," he continued, "their families should receive some 6,000 to 8,000 letters per month. But there have been only 1,100 in a total of five years."

The provision for treatment of prisoners of war as prescribed in the Geneva Conventions of 1949, which have been signed by more than 120 nations, including the US and North Vietnam, calls for the immediate release of sick and injured, impartial inspection of prisoner facilities, the complete identification of men held, and affirms the right of prisoners to correspond with their families.

According to DoD figures released on May 8 (as of May 2), the total number of US servicemen classified as prisoners or missing in action was 1,546. More than half—783—are Air Force *(see list, next page).*

Of the 450 servicemen DoD believes to be prisoners, 228 are Air Force. Of the remainder, 144 are Navy, fifty-five are Army, and twenty-three are Marines.

A total of 1,096 servicemen are missing and thought to be captive—555 from the Air Force, 337 Army, 112 Navy, and ninety-two Marines.

In March, an Army sergeant passed his sixth year in captivity. Twenty-one others have been prisoners or missing for more than five years.

A total of thirty-one Americans have been released by hostile forces to date—nine were released by Hanoi and twenty-two by the Viet Cong in South Vietnam.

Mrs. Harold C. Shively, mother of AF Capt. James Shively, a POW, is scheduled for a world tour (May 29–June 29) to influence Hanoi's treatment of POWs. AFA's Spokane, Wash., unit, headed by David A. Levitch (center), Chapter President, and Vernon L. Gomes, chairman of their POW committee, assisted in raising funds for the trip. Wives of Lt. Col. Galileo F. Bossio, listed as MIA, and Maj. Wesley D. Schierman, POW, are also going on the tour.

At the May 1 rally, H. Ross Perot put forth his analysis of North Vietnam's leaders. They are not concerned with prisoners—theirs or ours, he said. They refuse to acknowledge the some 33,000 North Vietnamese and Viet Cong held by the South Vietnamese, and cannot comprehend that the American public, or our government, would be concerned about "just 1,500" servicemen. Prisoners are useful to the Communists only for propaganda purposes or as pawns.

Mr. Perot emphasized, as did all rally speakers, that the leaders in Hanoi must be convinced that the American people and their leaders are truly concerned over "just 1,500" men. He declared that elected leaders must speak out, and the public must write letters, so that the message will be unmistakable. Permanent alienation of all Americans by the government in Hanoi is "a risk they cannot take, over 'just 1,500' men," Mr. Perot said. "They're counting on us to protect them from the Chinese over the long haul."

In a recent review of AFA's efforts in support of this campaign, AFA President Hardy said, "We've got to continue to encourage our members, to publicize this problem in their communities, and to get everyone to write to Hanoi and to other governments. I know it takes time, but as we were reminded at the rally, the prisoners have lots of time, just sitting in their cells."

The mission for the future, then, is clear. More Americans must get involved and express their concern. According to the Air Force Judge Advocate General's Office, "There is no public-affairs objection to a military person, as an individual citizen and even using his military rank and/or title, expressing his opinion to a foreign government on the POW issue." It did caution, however, that "actual content of the letters must be restricted to the subject of humane treatment of POWs by North Vietnam and must not invade the political arena."

The government in North Vietnam must be made to believe that 200,000,000 Americans are concerned about "just 1,500" of their countrymen. That is a goal to which AFA is dedicated.—END

USAF's Prisoners of War or Missing in Action

As of May 2, 1970, the following men of the United States Air Force—listed here alphabetically by last name—were carried by the Department of Defense as either prisoners of war or missing in action and believed captured by hostile forces in Southeast Asia.

Because this is the first known compilation of USAF personnel to be published, DoD has asked, for security reasons, that we not identify specific individuals they have reason to believe are prisoners. We have complied with this request, knowing that many of the names of known POWs have been publicly released on an individual basis. We do not wish to jeopardize, in any way, the life or well being of any man now held prisoner or who might be captured in the future.

Some of the names are followed by an asterisk (*), which indicates that the family of that man either has received mail from him or has been notified by an American pacifist group that such mail is en route. The names marked with the asterisks were released to news media by the pacifist group on three recent dates—January 15, March 11, and March 27. In addition, the January 15 release also included the names of five servicemen (three of them Air Force personnel) who were listed by the North Vietnamese as dead. The three USAF members so designated, still officially listed by DoD as "missing in action," are identified below by a double asterisk (**).—THE EDITORS

Abbott, Joseph S., Jr., Maj. *
Abbott, Robert Archie, 1st Lt. *
Abbott, Wilfred Keese, Maj.
Adachi, Thomas Y., SSgt.
Adam, John Quincy, Sgt.
Adams, Samuel, TSgt.
Adams, Steven Harold, SSgt.
Alberton, Bobby Joe, TSgt.
Albright, John Scott, II, 1st Lt.
Alfred, Gerald Oak, Jr., Capt.
Allee, Richard K., Maj.
Allen, Henry L., 1st Lt.
Allen, Thomas Ray, Capt.
Allinson, David Jay, Maj.
Ammon, Glendon Lee, Maj.
Anderson, Warren Leroy, Maj.
Andrews, Anthony Charles, Capt. *
Andrews, Stuart Merrill, Lt. Col.
Andrews, William Richard, Maj.
Angstadt, Ralph Harold, Maj.
Apodaca, Victor Joe, Jr., Capt.
Appleby, Ivar Dale, Maj.
Applehans, Richard Duane, Capt.
Armstrong, John William, Col.
Asire, Donald Henry, Col.
Atterberry, Edwin Lee, Maj.
Austin, Charles David, Capt.
Austin, Joseph Clair, Lt. Col.
Austin, William Renwick, II, Capt.
Ayers, Richard L., Maj.

Backus, Kenneth Frank, Capt.
Bagley, Bobby Ray, Lt. Col. *
Bailey, John Edward, Capt.
Baker, Arthur Dale, Capt.
Baker, Elmo Clinnard, Maj. *
Balamoti, Michael, Maj.
Balcom, Ralph Carol, Maj.
Baldridge, John R., Jr., 1st Lt.
Ballard, Arthur T., Jr., Maj.
Bannon, Paul W., Maj.
Barbay, Lawrence, Maj.
Bare, William Orlan, Capt.
Barnett, Robert Warren, Maj. *
Barras, Gregory I., Maj.
Barrett, Thomas Joseph, Capt. *
Baugh, William Joseph, Maj.
Bean, James Ellis, Col. *
Begley, Burriss Nelson, Lt. Col.
Belcher, Glenn Arthur, Capt.
Belcher, Robert Arthur, Maj.
Bennett, William George, Lt. Col.
Berg, Kile Dag, Capt. *
Berger, James Robert, Capt. *
Bergevin, Charles Lee, 1st Lt.
Beyer, Thomas John, Capt.
Biediger, Larry William, Maj.
Bifolchi, Charles Lawrence, Capt.
Biss, Robert Irvin, Capt. *
Black, Arthur Neil, SSgt. *
Blackwood, Gordon Byron, Capt.
Blair, Charles Edward, Lt. Col.
Blevins, John Charles, Capt.
Bliss, Ronald Glenn, Capt. *
Bodahl, John Keith, Capt.
Bogiages, Cristos C., Jr., Maj.
Bolstad, Richard Eugene, Maj. *
Bomar, Jack Williamson, Lt. Col. *
Booth, James Ervin, Capt.
Borden, Murray Lyman, Capt.
Borling, John Lorin, Capt. *
Bors, Joseph Chester, Maj.
Bossio, Galileo Fred, Lt. Col.
Boston, Leo Sydney, Maj.
Boyd, Charles Graham, Capt. *
Boyer, Terry Lee, Capt.
Branch, James Alvin, Maj.
Brand, Joseph William, Lt. Col.
Brashear, William James, Maj.
Brazelton, Michael Lee, Capt.
Brazik, Richard, Capt.
Brennan, Herbert Owen, Col.
Brenneman, Richard Charles, Capt. *
Bridger, Barry Burton, Capt.
Brinckmann, Robert Edwin, Lt. Col.
Brodak, John Warren, Capt.
Brooks, William L., Maj.
Brown, Earl C., Capt.
Brown, Wendell L., Capt.
Brown, Wilbur Ronald, Capt.
Browning, Ralph Thomas, Capt. *
Brownlee, Charles Richard, Maj.
Brucher, John Martin, Capt.
Brudno, Edward Alan, Capt. *
Brunstrom, Alan Leslie, Maj. *
Buchanan, Hubert Elliott, Capt.
Burd, Douglas Glenn, 1st Lt.
Burdett, Edward Burke, Col.
Burer, Arthur William, Maj.
Burkart, Charles W., Jr., Maj.
Burns, Donald Ray, Lt. Col.
Burns, Michael Thomas, Capt. *
Burroughs, William David, Lt. Col. *
Busch, Jon Thomas, Capt.
Bush, John Robert, Capt.
Bush, Robert Edward, Maj.
Butler, William Wallace, Capt.
Butt, Richard Leigh, Capt.
Bynum, Neil Stanley, 1st Lt.
Byrne, Ronald Edward, Jr., Lt. Col. *

Callies, Tommy Leon, Capt.
Campbell, Burton Wayne, Capt. *
Campbell, Clyde William, 1st Lt.
Campbell, William Edward, Lt. Col.
Capling, Elwyn Rex, Maj.
Cappelli, Charles Edward, Maj.
Caras, Franklin Angel, Maj.
Carrier, Daniel Lewis, Capt.
Carrigan, Larry Edward, Capt.
Carroll, Patrick Henry, 1st Lt.
Carter, James Louis, Lt. Col.
Case, Thomas Franklin, Maj.
Casey, Donald Francis, Lt. Col.
Chambers, Carl Dennis, Capt.
Chambers, Jerry Lee, Maj.
Cherry, Fred Vann, Lt. Col. *
Chesley, Larry James, Capt.
Chesnutt, Chambless M., Capt.
Chiarello, Vincent Augustus, Capt.
Christensen, Dale, MSgt.
Christiano, Joseph, Lt. Col.
Chwan, Michael Daniel, Capt.
Claflin, Richard Ames, Capt.
Clapper, Gean Preston, TSgt.
Clark, John C., Capt.
Clark, John Walter, Capt. **
Clark, Lawrence, TSgt.
Clark, Stanley Scott, Lt. Col.
Clark, Thomas E., Capt.
Clarke, Fred L., MSgt.
Clarke, George William, Jr., Capt.
Claxton, Charles Peter, Maj.
Clements, James Arlen, Maj. *
Coady, Robert F., Capt.
Cobeil, Earl Glenn, Maj.
Collins, James Quincy, Jr., Maj. *
Collins, Thomas Edward, III, Capt. *
Colwell, William Kevin, MSgt.
Condit, Douglas Craig, Capt.
Conklin, Bernard, Maj.
Conlon, John Francis, III, Capt.
Conner, Lorenze, Capt.
Connolly, Vincent John, Maj.
Cook, Glenn Richard, 1st Lt.
Cook, Kelly Francis, Lt. Col.
Cook, William Richard, Lt. Col.
Cooper, William Earl, Lt. Col.
Copeland, H. C., Maj.
Corbitt, Gilland Wales, Lt. Col.
Cordier, Kenneth William, Capt.
Cormier, Arthur, TSgt. *
Craner, Robert Roger, Maj.
Crecca, Joseph, Jr., Capt. *
Crew, James Alan, Capt.
Crews, John Hunter, III, Capt.
Cross, James E., Capt.
Crossman, Gregory John, Capt.
Crosson, Gerald Joseph, Jr., Capt.
Crow, Frederick Austin, Jr., Col.
Crumpler, Carl Boyette, Lt. Col. *
Cruz, Carlos Rafael, Capt.
Curtis, Thomas Jerry, Maj. *
Cushman, Clifton Emmet, Capt.
Cuthbert, Bradley Gene, Capt.

Daffron, Thomas C., Capt.
Dailey, Douglas Vincent, TSgt.
Danielson, Benjamin, Capt.
Darcy, Edward Joseph, TSgt.
Dardeau, Oscar Moise, Jr., Maj.
Daughtrey, Robert Norland, Maj. *
Dauten, Frederick, Maj.
Davies, John Owen, Capt.
Davies, Joseph Edwin, Capt.
Davis, Charlie B., Lt. Col.
Davis, Daniel Richard, 1st Lt.
Davis, Edgar Felton, Maj.
Davis, Gene Edmond, TSgt.
Davis, Robert Charles, Capt.
Day, George Everette, Lt. Col.
Deichelmann, Samuel M., Capt.
Dennany, James Eugene, Maj.
Derrickson, Thomas G., II, Capt.
DeSoto, Ernest L., Maj.
Dewispelaere, Rex F., SSgt.
Dexter, Bennie Lee, Sgt.
Di Tommaso, Robert Joseph, Capt.
Diamond, Stephen Whitman, Capt.
Diehl, William Calvin, Jr., Maj.
Doby, Herb, Maj.
Dodge, Ward Kent, Lt. Col. **
Donahue, Morgan Jefferson, 1st Lt.
Donald, Myren Lee, Capt.
Dotson, Jefferson S., 1st Lt.
Doughty, Daniel James, Maj.
Dove, Jack Paris, Sr., Capt.
Downing, Donald William, Maj.
Dramesi, John Arthur, Maj.
Driscoll, Jerry Donald, Capt. *
Duart, David Henry, Maj. *
Ducat, Bruce Chalmers, Capt.
Dudash, John Francis, Maj.
Duffy, John E., 1st Lt.
Dugan, Thomas Wayne, Maj.
Dusing, Charles Gale, TSgt.
Dutton, Richard Allen, Maj. *
Duvall, Dean Arnold, SSgt.
Dyczkowski, Robert Raymond, Maj.

Earll, David John, Capt.
Eaton, Curtis Abbot, Maj.
Eaton, Norman Dale, Lt. Col.
Echanis, Joseph Yagnacio, Capt.
Eckley, Wayne Alvin, TSgt.
Edgar, Robert John, Capt.
Edmondson, William Rothrock, Capt.
Edmunds, Robert Clifton, Jr., Capt.
Eilers, Dennis Lee, Capt.
Elliot, Robert Malcolm, Maj.
Ellis, Jeffrey Thomas, Capt. *
Ellis, Leon Francis, Jr., Capt.
Elzinga, Richard G., Capt.
Engelhard, Erich Carl, Maj.
Espensied, John Lee, Maj.
Everson, David, Maj.
Evert, Lawrence Gerald, Capt.

Fallon, Patrick Martin, Col.
Fanning, Joseph Peter, 1st Lt.
Featherston, Fielding W., Capt.
Fellenz, Charles R., TSgt.
Fellows, Allen Eugene, Maj.
Fer, John, Capt.
Ferguson, Douglas, 1st Lt.
Fieszel, Clifford Wayne, Capt.
Finlay, John Sewart, III, Lt. Col. *
Finney, Arthur Thomas, Lt. Col.
Fisher, Donald Ellis, Lt. Col.
Fisher, Donald G., Maj.
Fisher, Kenneth, Maj.
Fitton, Crosley James, Jr., Maj.
Fleenor, Kenneth Raymond, Lt. Col. *
Flesher, Hubert Kelly, Maj. *
Flom, Fredric Russell, Capt. *
Flynn, John Peter, Col. *
Fobair, Roscoe Henry, Maj.
Foley, Brendan Patrick, Maj.
Forby, Willis Ellis, Maj.
Ford, David Edward, Capt. *
Foster, Paul Leonard, SSgt.
Fowler, Henry Pope, Jr., Capt. *
Francisco, San Dewayne, Capt.
Franklin, Charles Edward, Maj.
Frederick, Peter Joseph, Lt. Col.
Frederick, William V., Maj.
Fullam, Wayne Eugene, Maj.
Fuller, William Otis, Maj.

Gaddis, Norman Carl, Col. *
Galbraith, Russell Dale, Capt.
Ganley, Richard O., Capt.
Gerndt, Gerald Lee, Capt.
Getchell, Paul Everett, Capt.
Gideon, Willard Selleck, Maj.
Gilchrist, Robert Michael, Capt.
Gillen, Thomas E., Maj.
Gist, Tommy Emerson, Capt.
Glover, Calvin Charles, TSgt.
Golberg, Lawrence Herbert, Maj.
Gomez, Robert A., 1st Lt.
Goodrich, Edwin Riley, Jr., Maj.
Goss, Bernard Joseph, Maj.
Gourley, Laurent L., Capt.
Govan, Robert Allen, Maj.
Grace, James William, Capt.
Graham, Dennis Lee, Capt.
Gray, David Fletcher, Jr., Capt. *
Gray, James A., Capt.
Green, Norman Morgan, Col.
Greene, Charles Edward, Jr., Maj.
Gregory, Robert Raymond, Maj.
Grenzebach, Earl W., Jr., Maj.
Grewell, Larry, TSgt.
Grubb, Peter Arthur, Capt.
Grubb, Wilmer Newlin, Maj.
Gruters, Guy Dennis, Capt.
Guarino, Lawrence Nicholas, Lt. Col. *
Guillermin, Louis Fulda, Capt.
Guillet, Andre Roland, SSgt.
Guttersen, Laird, Maj. *
Guy, Theodore Wilson, Col.

Hackett, Harley B., III, Capt.
Hagerman, Robert Warren, Lt. Col.
Hail, William Warren, Maj.
Hall, Donald Joe, TSgt.
Hall, Fredrick M., 1st Lt.
Hall, George Robert, Maj. *
Hall, James Shreve, TSgt.
Hall, Keith Norman, Maj. *
Hamilton, Eugene David, Maj.
Hamilton, John Smith, Lt. Col.
Hamm, James Edward, Capt.
Hanley, Larry James, Capt.
Hanson, Thomas Patterson, Capt.
Hardy, John Kay, Jr., 1st Lt.
Harley, Lee Dufford, Capt.
Harris, Carlyle Smith, Maj. *
Harris, Cleveland Scott, Capt.
Harris, Stephen W., SSgt.
Harrold, Patrick K., 1st Lt.
Hartness, Gregg, Capt.
Hartney, James Cuthbert, Lt. Col.
Harworth, Elroy Edwin, TSgt.
Hassenger, Arden Keith, MSgt.
Hatcher, David Burnett, Maj.*
Hauer, Leslie John, Lt. Col.
Hawkins, Edgar Lee, Capt.
Heiliger, Donald Lester, Maj.
Heiskell, Lucius Lamar, Capt.
Held, John Wayne, Maj.
Helmich, Gerald Robert, Maj.
Helwig, Roger D., Capt.
Henninger, Howard William, Maj.
Hensley, Ronnie L., SSgt.
Hensley, Thomas Truett, Capt.
Herrick, James Wayne, Jr., 1st Lt.
Herrold, Ned Raymond, Capt.
Hesford, Peter Dean, Capt.

Hess, Frederick W., Jr., Capt.
Hess, Jay Criddle, Maj.
Hestle, Roosevelt, Jr., Lt. Col.
Hicks, Terrin Dinsmore, Maj.
Hill, Howard John, Capt.
Hill, Robert Laverne, MSgt.
Hinckley, Robert Bruce, Capt.
Hiteshew, James Edward, Lt. Col. *
Hivner, James Otis, Maj.
Hoff, Sammie Don, Capt.
Hoffson, Arthur Thomas, Capt. *
Holland, Lawrence Thomas, Maj.
Holley, Tilden Stewart, Maj.
Holmes, David Hugh, Capt.
Holmes, Lester Evan, Lt. Col.
Holton, Robert Edwin, Capt.
Hopper, Earl Pearson, Jr., Capt.
Horinek, Ramon Anton, Maj. *
Horne, Stanley Henry, Maj.
Hoskinson, Robert Eugene, Maj.
Hrdlicka, David Louis, Maj.
Hubbard, Edward Lee, Capt. *
Hughes, James Lindberg, Lt. Col. *
Hughey, Kenneth Raymond, Maj.
Huneycutt, Charles J., Jr., Capt.
Hunter, Russell Palmer, Jr., Maj.

Ingvalson, Roger Dean, Lt. Col. *
Ireland, Robert N., SMSgt.
Irsch, Wayne Charles, Capt.

James, Gobel Dale, Maj. *
Jarvis, Jeremy Michael, Capt.
Jayroe, Julius Skinner, Maj. *
Jefferson, James Milton, Capt.
Jefferson, Perry Henry, Capt.
Jeffords, Derrell Blackburn, Lt. Col.
Jeffrey, Robert Duncan, Capt. *
Jensen, George William, Lt. Col.
Jensen, Jay Roger, Maj. *
Jewell, Eugene Millard, Capt.
Johns, Paul Frederick, Maj.
Johnson, Harold Eugene, Capt. *
Johnson, Samuel Robert, Lt. Col. *
Jones, Louis Farr, Lt. Col.
Jones, Murphy Neal, Capt. *
Jones, Robert Campbell, Capt. *
Jones, William Eugene, Capt.
Jourdenais, George Henry, Capt.

Kahler, Harold, Lt. Col.
Kari, Paul Anthony, Maj. *
Karins, Joseph John, Jr., Capt.
Karst, Carl Frederick, Lt. Col.
Kasler, James Helms, Lt. Col. *
Kearns, Joseph Thomas, Jr., Maj.
Keirn, Richard Paul, Maj. *
Keller, Wendell Richard, Maj.
Kemmerer, Donald Richard, Capt.
Kerr, Everett Oscar, Capt.
Kerr, John C. G., Maj.
Kerr, Michael Scott, Capt. *
Ketterer, James Alan, Capt.
Kibbey, Richard Abbott, Maj.
Kiefel, Ernest Philip, Jr., Maj.
Kilcullen, Thomas Michael, Capt.
Killian, Melvin Joseph, Col.
King, Charles Douglas, Sgt.
King, Donald Lewis, Maj.
Kinkade, William Louis, Capt.
Kirk, Thomas Henry, Jr., Lt. Col.
Klein, Russell L., MSgt.
Klemm, Donald Martin, Maj.
Klenda, Dean Albert, Capt.
Klinck, Herrison Hoyt, Maj.
Kline, Robert Earl, Lt. Col.
Klingner, Michael, 1st Lt.
Knapp, Herman Ludwig, Lt. Col.
Knebel, Thomas Edward, SSgt.
Knight, Larry Dale, Capt.
Knight, Roy Abner, Jr., Maj.
Kommendant, Aado, Capt.
Koonce, Terry Treloar, Capt.
Kosko, Walter, Capt.
Kramer, Galand Dwight, Capt.
Kryszak, Theodore Eugene, Maj.
Kwortnik, John Charles, Maj.

Ladewig, Melvin Earl, Capt.
Lamar, James Lasley, Lt. Col.
Lane, Charles, Jr., Capt.
Lane, Michael Christopher, Capt. *
Lane, Mitchell Sim, Capt.
Larson, Gordon Albert, Lt. Col. *
Lasiter, Carl William, Maj.
Lawrence, Bruce Edward, Capt.
Lebert, Ronald Merl, 1st Lt. *
Leetun, Darel Dean, Maj.
Lefever, Douglas Paul, Capt.
Lehnhoff, Edward W., Jr., Capt.
Lengyel, Lauren Robert, Capt. *
Leonard, Edward Watson, Jr., Capt.
Lewis, James Wimberley, Maj.
Lewis, Merrill Raymond, Jr., Maj.
Ligon, Vernon Peyton, Jr., Col.
Lillund, William Allan, Capt.
Lilly, Warren Robert, Maj. *
Lindsey, Marvin Nelson, Maj.
Lindstrom, Ronnie, 1st Lt.
Lint, Donald M., Sgt.
Lockhart, Hayden James, Jr., Capt. *
Long, John Henry Sothorn, Capt.
Long, Stephen Glen, 1st Lt.
Lucki, Albin E., Capt.
Luna, Carter Purvis, Lt. Col.
Luna, Donald A., Capt.
Luna, Jose David, Capt. *
Lunsford, Herbert Lamar, Lt. Col.
Lurie, Alan Pierce, Maj.
Lyon, Donavan Loren, Maj.

MacCann, Henry Elmer, Maj.
Macko, Charles, Maj.
Maddox, Notley Gwynn, Lt. Col.
Madison, Thomas Mack, Lt. Col.
Madison, William Louis, TSgt.
Magnusson, James A., Jr., Maj.
Mahan, Douglas F., Capt.
Makowski, Louis Frank, Lt. Col. *
Mallon, Richard J., Capt.
Mamiya, John Michio, MSgt.
Martin, John Murray, Maj.
Martin, Larry Eugene, Capt.
Martin, Russell Dean, Capt.
Mascari, Phillip Louis, 1st Lt.
Mason, William Henderson, Lt Col.
Massucci, Martin John, Capt.
Masterson, Michael John, Capt.
Mastin, Ronald Lambert, Capt. *
Matthes, Peter R., 1st Lt.
Mauterer, Oscar, Lt. Col.
Maxwell, Samuel Chapman, Maj.
Mayercik, Ronald Michael, Capt.
McCleary, George Carlton, Col.
McCrary, Jack, MSgt.
McCubbin, Glenn Dewayne, Capt.
McCuistion, Michael K., Capt. *
McDaniel, Morris L., Jr., Maj.
McDaniel, Norman Alexander, Capt. *
McDonald, Emmett Raymond, Capt.
McDonald, Kurt Casey, Maj.
McElhanon, Michael Owen, Maj.
McGouldrick, Francis J., Jr., Maj.
McKenney, Kenneth Dewey, SSgt.
McKnight, George Grigsby, Maj.
McManus, Kevin Joseph, Capt.
McNish, Thomas Mitchell, Capt. *
McPhail, William Thomas, Capt.
Meadows, Eugene Thomas, Capt.
Means, William Harley, Jr., Maj.
Mearns, Arthur Stewart, Lt. Col. * *
Mechenbier, Edward John, Capt. *
Mellor, Fredric Moore, Maj.
Menges, George Bruce, Capt.
Meroney, Virgil Kersh, III, 1st Lt.
Merritt, Raymond James, Lt. Col.
Metz, James Hardin, Lt. Col.
Meyer, Alton Benno, Capt.
Meyer, William Michael, Maj.
Midnight, Francis Barnes, Capt.
Milikin, Richard M., III, Capt.
Miller, Carl Dean, Maj.
Milligan, Joseph Edward, Capt.
Mims, George Ivison, Jr., Capt.
Mitchell, Albert Cook, Maj.
Mitchell, Thomas Barry, Capt.
Moe, Thomas Nelson, Capt. *
Monlux, Harold Deloss, 1st Lt. *
Moore, Herbert William, Jr., Capt.
Moore, Thomas, MSgt.
Morgan, Burke Henderson, Capt.
Morgan, Charles Elzy, Maj.
Morgan, Edwin Everton, MSgt.
Morgan, Herschel Scott, Maj.
Morgan, James Sheppard, Maj.
Morgan, Thomas Raymond, Maj.
Morley, Charles F., 1st Lt.
Morrill, Merwin Lamphrey, Maj.
Morrison, Glenn Raymond, Jr., Capt.
Morrison, Joseph Castleman, Maj.
Mullins, Harold Eugene, MSgt.
Mundt, Henry Gerald, II, 1st Lt.
Myers, Armand Jesse, Maj. *
Myers, Glenn Leo, Capt. *

Nasmyth, John Heber, Jr., Capt. *
Need, Bobby Gene, Lt. Col.
Nellans, William Lee, Capt.
Nelson, William Humphrey, Col.
Neuens, Martin James, Capt. *
Newcomb, Wallace Grant, Capt.
Newsom, Benjamin Byrd, Lt. Col.
Nichols, Hubert C., Jr., Lt. Col.
Nix, Cowan Glenn, Maj. *
Nobert, Graig Roland, Capt.
Norris, Thomas Elmer, Maj.
North, Kenneth Walter, Maj.

O'Grady, John Francis, Lt. Col.
Odell, Donald Eugene, Maj. *
Olds, Ernest Arthur, Maj.
Olson, Gerald Everett, Capt.
Ortiz, Jose H., 1st Lt.
Osborne, Edwin Nelms, Jr., Maj.
Overlock, John Francis, Maj.
Owens, Joy Leonard, Lt. Col.

Pabst, Eugene Matthew, Capt.
Packard, Ronald Lyle, Capt.
Page, Albert Linwood, Jr., Capt.
Page, Gordon Lee, Maj.
Palmer, Gilbert Swain, Maj.
Palmgren, Edwin David, Col.
Panek, Robert J., Sr., Capt.
Parker, Frank C., III, Capt.
Parker, Woodrow Wilson, II, Capt.
Parrott, Thomas Vance, Capt. *
Parsley, Edward Milton, TSgt.
Pasekoff, Robert Edward, Maj.
Pate, Gary, SSgt.
Pauley, Marshall Irvin, TSgt.
Paxton, Donald Elmer, Lt. Col.
Pearson, Robert Harvey, Capt.
Pearson, Wayne Edward, Capt.
Peel, Robert Delayney, Capt. *
Pemberton, Gene Thomas, Lt. Col.
Perkins, Glendon William, Maj. *
Perrine, Elton Lawrence, Maj.
Petersen, Gaylord Dean, Capt.
Peterson, Delbert Ray, Capt.
Peterson, Douglas Brian, Maj. *
Pietsch, Robert Edward, Capt.
Pike, Peter X., Capt.
Pitchford, John Joseph, Jr., Maj. *
Pitman, Peter Potter, Capt.
Pittmann, Alan Dale, SSgt.
Pogreba, Dean Andrew, Col.
Pollack, Melvin, Capt. *
Pollard, Ben Marksbury, Maj.
Pollin, George John, Capt.
Polster, Harmon, 1st Lt.
Poor, Russell Arden, Maj.
Potter, William Tod, Capt.
Powell, Lynn Kesler, Capt.
Powell, William Elmo, Capt.
Preston, James Arthur, TSgt.
Pugh, Dennis G., 1st Lt.
Purcell, Robert Baldwin, Maj. *
Pyle, Darrell Edwin, Capt. *
Pyle, Thomas Shaw, II, Capt. *
Pyles, Harley Boyd, Maj.

Rackley, Inzar William, Jr., Maj.
Ragland, Dayton William, Lt. Col.
Ralston, Frank Delzell, III, Capt.
Rash, Melvin Douglas, Sgt.
Rausch, Robert E., Capt.
Ray, James Edwin, Capt. *
Raymond, Paul Darwin, Capt.
Read, Charles H. W., Jr., Lt. Col.
Reilly, Lavern George, Lt. Col.
Reitmann, Thomas Edward, Maj.
Renelt, Walter A., Lt. Col.
Rex, Robert Alan, 1st Lt.
Rexroad, Ronald Reuel, Capt.
Reynolds, Jon Anzuena, Capt. *
Richardson, Floyd Whitley, Lt. Col.
Rickel, David J., Capt.
Ringsdorf, Herbert Benjamin, Capt. *
Risner, Robinson, Col. *
Robertson, John Leighton, Maj.
Robinson, Kenneth Dale, Maj.
Robinson, William Andrew, TSgt. *
Roby, Charles Donald, Lt. Col.
Rocket, Alton C., Jr., Capt.
Rodriguez, Albert Eduardo, Capt.
Romero, Victor, Sgt.
Rose, Luther Lee, MSgt.
Rosenbach, Robert, Capt.
Ross, Joseph Shaw, Capt.
Rowley, Charles S., Lt. Col.
Ruhling, Mark John, Capt. *
Runyan, Albert Edward, Lt. Col. *
Russell, Donald M., Maj.

Sale, Harold Reeves, Jr., Capt.
Salzarulo, Raymond Paul, Jr., Capt.
Sandvick, Robert James, Maj.
Sawhill, Robert Ralston, Jr., Lt. Col. *
Scharf, Charles Joseph, Maj.
Schierman, Wesley Duane, Maj.
Schmidt, Norman, Lt. Col.
Schuler, Robert Harry, Jr., Capt.
Scott, Martin Ronald, Maj.
Scungio, Vincent Anthony, Capt.
Seagroves, Michael Anthony, 1st Lt.
Seeber, Bruce Gibson, Maj. *
Sehorn, James Eldon, Capt.
Setterquist, Francis Leslie, Capt.
Shanahan, Joseph Francis, Capt. *
Shattuck, Lewis Wiley, Maj.
Shelton, Charles Ervin, Maj.
Shingledecker, Armon D., Capt.
Shively, James Richard, Capt. *
Shoneck, John Reginald, TSgt.
Sigler, Gary Richard, 1st Lt. *
Sijan, Lance Peter, Capt.
Silva, Claude Arnold, Capt.
Silver, Edward Dean, Maj.
Sima, Thomas William, Maj. *
Simonet, Kenneth Adrian, Lt. Col.
Singer, Donald Maurice, Lt. Col. * *
Singleton, Daniel Everett, Capt.
Singleton, Jerry Allen, Capt.
Sittner, Ronald Nicholas, Capt.
Smith, Dewey Lee, Maj.
Smith, George Craig, Capt.
Smith, Hallie William, Capt.
Smith, Harding Eugene, Sr., Lt. Col.
Smith, Harold Victor, Maj.
Smith, Harry Winfield, Capt.
Smith, Herbert Eugene, MSgt.
Smith, Howard Horton, Lt. Col.
Smith, Lewis Philip, II, Capt.
Smith, Phillip E., Maj.
Smith, Richard Dean, Capt.
Smith, Richard Eugene, Jr., Maj.
Smith, Victor A., Capt.
Smith, Warren Parker, Jr., Maj.
Smith, Wayne Ogden, Capt. *
Spilman, Dyke Augustus, Capt.
Spoon, Donald Ray, Capt.
Springston, Theodore, Jr., Maj.
Squire, Boyd Edwin, Maj.
St. Pierre, Dean Paul, Capt.
Stanley, Robert William, 1st Lt.
Stavast, John Edward, Lt. Col.
Stearns, Roger H., Capt.
Steen, Martin William, Maj.
Stephensen, Mark Lane, Maj.
Sterling, Thomas James, Maj. *
Stewart, Peter Joseph, Col.
Stewart, Robert Allan, Maj.
Stickney, Phillip Joseph, TSgt.
Stine, Joseph Millard, Maj.
Stirm, Robert Lewis, Maj. *
Stischer, Walter Morris, Maj.
Stockman, Hervey Studdie, Lt. Col.
Stonebraker, Kenneth Arnold, Capt.
Storey, Thomas Gordon, Maj. *
Storz, Ronald Edward, Maj.
Stowers, Aubrey Eugene, Jr., Capt.
Stroven, William Harry, Capt.
Stubberfield, Robert Austin, Maj.
Stutz, Leroy William, Capt.
Sullivan, Dwight Everett, Maj. *
Sullivan, John Bernard, III, Capt.
Sumpter, Thomas Wrenne, Jr., Maj.
Suprenant, Charles, 1st Lt.
Swanson, John Willard, Jr., Capt.
Swords, Smith, III, Maj.

Talley, Bernard Leo, Jr., Capt.
Tapp, Marshall Landis, Maj.
Tatum, Lawrence Byron, Lt. Col.
Temperley, Russell Edward, Maj. *
Terrell, Irby David, Jr., Maj. *
Thomas, Kenneth Deane, Jr., Capt.
Thompson, George Winton, Capt.
Thompson, William James, Maj.
Thornton, Larry C., MSgt.
Thorsness, Leo Keith, Maj. *
Tiffin, Rainford, Capt.
Tipping, Henry Albert, Maj.
Tomes, Jack H., Maj. *
Torkelson, Loren Harvey, Capt. *
Towle, John C., 1st Lt.
Train, Steve W., 1st Lt.
Trautman, Konrad Wigand, Maj. *
Treece, James Allen, Maj.
Trier, Robert Douglas, Capt.
Tucci, Robert Leon, Capt.
Tucker, James Hale, Capt.
Tyler, Charles Robert, Maj.
Tyler, George Edward, Maj.

Underwood, Paul Gerard, Lt. Col.
Utley, Russel Keith, Maj.
Uyeyama, Terry Jun, Maj.

Van Buren, Gerald Gordon, Capt.
Van Dyke, Richard Haven, Capt.
Van Loan, Jack Linwood, Maj.
Venanzi, Gerald Santo, Capt. *
Vinson, Bobby Gene, Col.
Vissotzky, Raymond Walter, Maj. *
Vogel, Richard Dale, Maj. *

Waddell, Dewey Wayne, Maj. *
Waggoner, Robert Frost, Maj. *
Walker, Herbert C., Jr., Capt.
Walker, Michael Stephen, Capt.
Walker, Samuel Franklin, Jr., TSgt.
Waller, Therman Morris, TSgt.
Walling, Charles Milton, Capt.
Walsh, Richard Ambrose, III, Lt. Col.
Waltman, Donald Glenn, Maj. *
Ward, Neal Clinton, 1st Lt.
Warren, Arthur Leonard, Capt.
Warren, Eryin, TSgt.
Warren, Gray Dawson, Capt.
Waters, Samuel Edwin, Jr., Capt.
Webb, Ronald John, Capt. *
Weissmueller, Courtney Edward, Maj.
Welch, Robert John, Maj.
Wells, Norman Louross, Maj. *
Welshan, John Thomas, Capt.
Wenaas, Gordon James, Maj.
Wendell, John Henry, Jr., Maj. *
Weskamp, Robert Larry, Capt.
West, John T., Capt.
Westbrook, Donald Elliot, Maj.
White, James B., Capt.
Whitford, Lawrence W., Jr., Lt. Col.
Widdis, James Wesley, Jr., Capt.
Wiggins, Wallace Luttrell, Capt.
Wilburn, Woodrow Hoover, Lt. Col.
Wilke, Robert Frederick, Col.
Willett, Robert Vincent, Jr., 1st Lt.
Williams, David Richard, Lt. Col.
Williams, Howard Keith, Maj.
Williams, James Ellis, TSgt.
Williams, James Randall, SSgt.
Williamson, Don Ira, Maj.
Wilson, Glenn Hubert, Maj. *
Wilson, Gordon Scott, Capt.
Winn, David William, Col.
Winston, Charles C., III, Capt.
Wistrand, Robert Carl, Lt. Col.
Wolfkeil, Wayne Benjamin, Maj.
Wood, Don Charles, Maj.
Wood, Patrick Hardy, Maj.
Wortham, Murray Lamar, Capt.
Wozniak, Frederick Joseph, Capt.
Wright, Donald L., TSgt.
Wright, Gary Gene, Lt. Col.
Wright, Jerdy Albert, Jr., Maj.
Wright, Thomas Thawson, Maj.
Writer, Lawrence Daniel, Capt. *
Wrye, Blair Charlton, Maj.
Wynne, Patrick Edward, Capt.

Young, James Faulds, Maj. *

Zook, David Hartzler, Jr., Maj.
Zook, Harold Jacob, Capt.
Zukowski, Robert John, Capt.

Speaking of POWs . . .

The Red River Valley Fighter Pilots Association—or River Rats—was born in combat over North Vietnam. Now the members of this interservice organization support their comrades who are POWs, or are missing, by . . .

Serving Those Who Sit At Home and Wait

In May 1967, the air campaign against targets in North Vietnam's Red River Valley was going full bore. By that time, the Valley—particularly the part known as Route Packages VI and VI-A, which included Hanoi and Haiphong—had become the most heavily defended area in the history of air warfare.

Almost daily, Air Force F-105s, F-4s, and RF-4s flew north against military targets in RP VI. It probably was the most dangerous—certainly the most complex—sustained campaign ever conducted by the Air Force. And it was teamwork all the way.

Col. Howard "Scrappy" Johnson, then Deputy Commander for Operations of the 388th Tactical Fighter Wing at Korat Air Base, Thailand, thought the aircrews of the wings that were working together in the Red River Valley should get to know each other. So on May 22, 1967, the 388th hosted a meeting at Korat for that purpose, and also to exchange ideas on tactics. And also to indulge in some of the kinds of relaxation that fighter crews most enjoy.

Out of that meeting grew the Red River Valley Fighter Pilots Association. Today it's a worldwide organization with more than forty local chapters—or Forces, as they are called. Its membership has been expanded to include Navy and Marine aircrews who flew missions in the Red River Valley, the crews of the Jolly Green Giant choppers that picked up a lot of downed airmen in the Valley, their A-1 escort pilots, and other airmen who were in combat over the Valley. The members, now some 1,400 strong, call themselves the Red River Rats—or just River Rats for short.

The River Rats held their first Stateside reunion at Wichita, Kan., in April 1969. Colonel Johnson (now stationed at Nellis AFB, Nev.), was elected Head Rat, with several Navy and Marine fighter pilots and other Air Force types filling out the roster of Association officers.

One very important group was absent from Wichita and from the Association's second annual reunion at San Antonio, Tex., last month. That group is the Red River Valley veterans who now are POWs or are missing in action. All have been named life members, and it is to them—directly and indirectly—that the work of the River Rats is largely dedicated.

During the Korean War, an enemy pilot, complete with MIG-15, surrendered to the USAF. His reason: He had noticed that whenever an American fighter pilot was in trouble, all other aircraft in the area came to the assistance of the stricken pilot. That, he said, wasn't true in his air force. The USAF looked like a pretty good team to him.

Well, things haven't changed in that respect for the USAF or for the air arm of any other US service. River Rats proved it in combat all over Southeast Asia—perhaps most dramatically over the Red River Valley. Now they are proving it in a different way through their support of efforts to get our POWs back. The day that happens, a bronze bell, which has become symbolic of the River Rats' continuing mission, will be rung for the first time, and the name of every returning Rat is to be engraved on its surface.

At Wichita, the River Rats decided there was something else—tangible, immediate, and important—to be done for their missing comrades. Working through Personal Services offices of the Air Force, Navy, and Marine Corps, each local Force of the Red River Valley Fighter Pilots Association has contacted families of POWs and MIAs in its area to offer assistance that is beyond the capability or authority of the military services.

Some of the wives and families of aircrew members who are "still out" live with relatives or, for other reasons, need no assistance. But to many families, the River Rats have become a very present help in time of need. To each of those families, a River Rat and his wife are assigned as sponsors. The sponsors—for that matter, the entire local Force—are always there, day or night, to lend a helping hand in domestic emergencies. They have fixed cars, repaired washing machines, driven sick children to the hospital, escorted POW/MIA wives to social events, taken the kids to ball games, and generally helped buck up morale on the home front. Sometimes just being an understanding listener is the greatest of all services.

The River Rats have worked quietly, without publicity. But word gets around. Several aerospace companies have volunteered support, in efforts to speed the repatriation of POW members, and in the work the Rats do with families of missing airmen. The Aerospace Optical Division of International Tel and Tel, for example, has established a scholarship fund, to be administered by the River Rats, for children of Red River Valley veterans who are prisoners, missing, or who were killed in action. Part of the annual dues of each member goes to the fund, which, it is hoped, will be built up by additional contributions from other individuals and groups.

The Air Force Association joins the Red River Rats and the families of missing members in their hope that the bronze bell soon will ring out for the first time. Like the River Rats, AFA is dedicated to that goal—the return of our imprisoned airmen.

The River Rats can be proud of the campaign they conducted in the Red River Valley. That is behind them now, and probably most would as soon forget the MIGs and the ground fire. But they haven't forgotten, and they won't forget, the teammates who were left behind or the families that wait at home alone. The helping hand that River Rats have extended to these families is typical of the loyalty, courage, and compassion of American airmen.

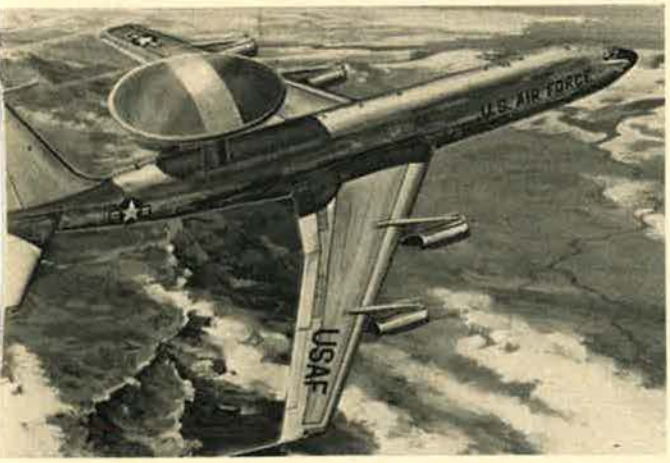
There is a lesson here for all Americans.

—JOHN L. FRISBEE

USAF has at least one new system that is neither provocative nor escalatory. It is a manned radar station and flying base for computer and communication equipment, called the Airborne Warning and Control System. Emphasis, so far, has been on its utility in defending the North American continent. But it has other wider and more utilitarian uses in an era of brushfire wars . . .

AWACS— Fast, Mobile, and Versatile

By Claude Witze
SENIOR EDITOR, AIR FORCE/SPACE DIGEST



This is an artist's concept of the AWACS system flying on a mission. The basic airplane will be either the 707 built by Boeing or the McDonnell Douglas DC-8 transport.

YOU CAN look at Indochina, or the Middle East, or Korea, or even Florida, for that matter, and it is impossible to escape the requirement for an Airborne Warning and Control System. The acronym is AWACS. It's pronounced "A-Wax."

AWACS is high on the US Air Force shopping list, but it seems to be getting a minimum of public attention, largely because it is not a weapon system in itself. Nobody calls it provocative or escalatory. The Russians are working hard to develop their own AWACS, and pictures of the Soviet prototype recently appeared in this country. The pictures did not evoke the kind of comment that comes from the disclosure of a new Soviet missile, an ABM system, or a faster fighter. Photos of a new Russian missile would have been printed in all our daily newspapers and there would have been ample comment. But the photos of the Russian AWACS have appeared only in the technical press.

One of the reasons for this lack of public appreciation for the AWACS concept appears to be the emphasis put on its air defense role. It is clear from what the Department of Defense and the Congress have decreed in their retrenchment efforts of the past several months that defense against the manned-bomber threat lacks the priority of some other military systems. Defense against ballistic missiles—the ABM issue—and the continued superiority of our strategic offensive stature—the MIRV issue—have priority. Yet the need for AWACS is arbitrarily limited if we view it primarily as part of a defensive system against manned bombers. If a Defense Secretary or a congressional committee does not believe a potential enemy has the capability to attack this country with manned bombers, they are not likely to view AWACS, in its air defense role, as a highly essential USAF system.

The truth is that the Tactical Air Command has a bigger requirement for AWACS than does the Aerospace Defense Command. Furthermore, it is a requirement that is current and easily recognized, one that cannot be brushed aside by military or civilian skeptics.

The trend of military activity since World War II, with its brushfire wars and more serious conflicts that started as brushfires, makes AWACS an essential tool for mobile, flexible, and versatile tactical air forces.

Basic to the AWACS concept is the idea that an airborne radar platform can overcome most of the de-

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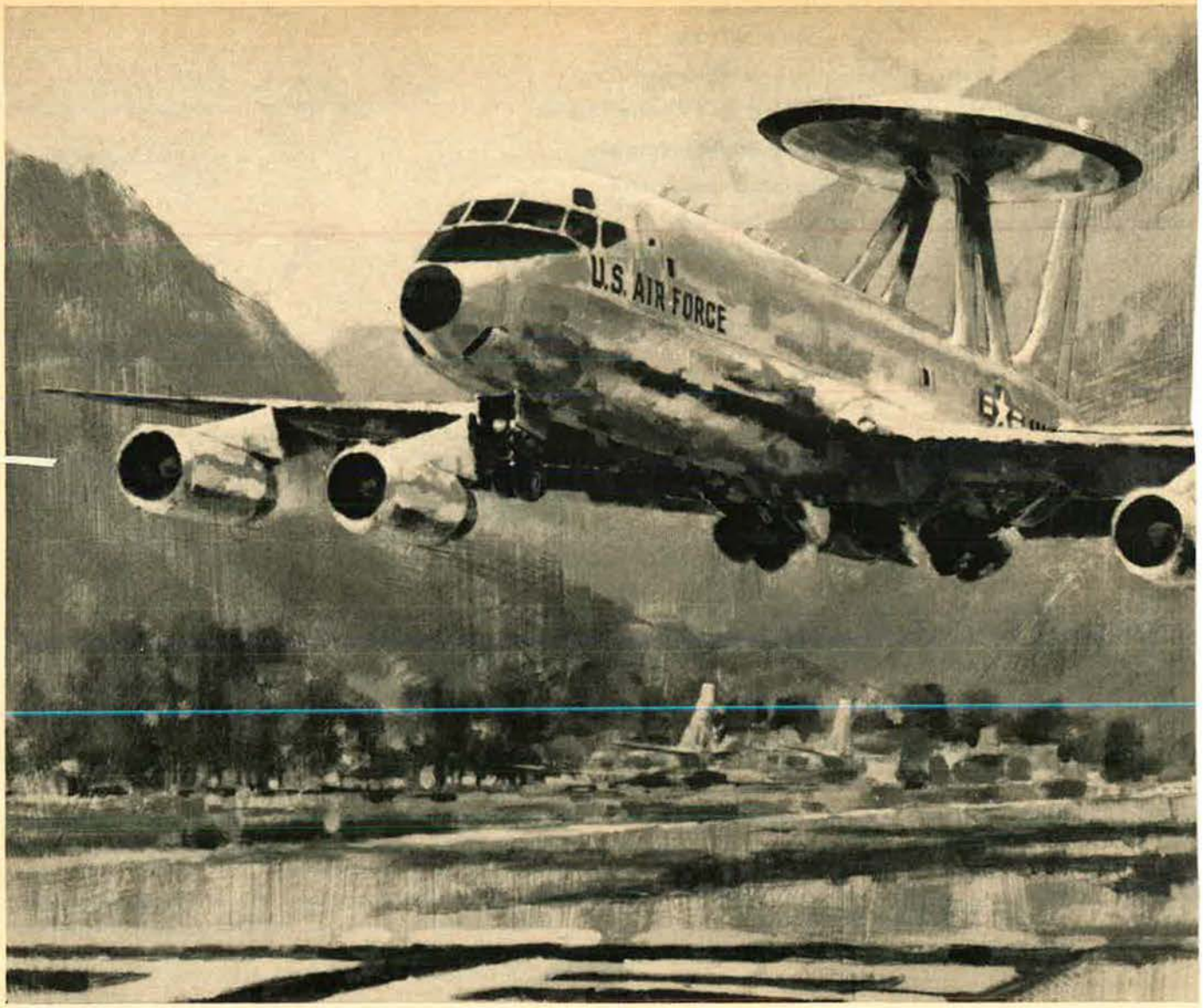


At an earlier stage in its development, AWACS was shown with the four-engine configuration, since doubled to put two engines in each pod. The radar, a huge disc placed high above the fuselage, will have a range double that

ficiencies of a land-based radar platform. Late in 1967, USAF concluded that the Overland Radar Technology (*see page 46*) had progressed to the point where the AWACS application became practical. It is interesting that this conclusion was reached within months of the time that the United Arab Republic discovered that its ground-based radar screen was fully frustrated by an Israeli Air Force that came in on the deck and won a war in a matter of hours. Ground radar cannot spot a low-level attack. Because the beam does not follow the curvature of the earth, range is limited to about 200 miles. AWACS takes its radar to something in excess of 30,000 feet altitude and will cover the sky from the ground to about 60,000 feet, with a range double that of the ground-based equipment.

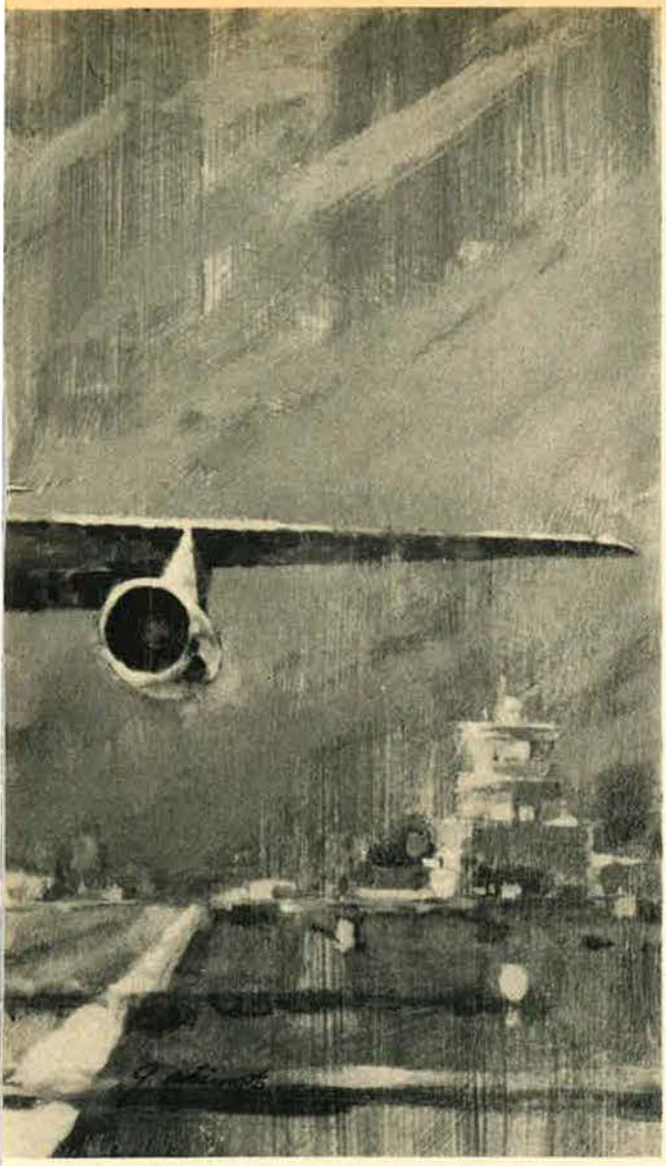
There are two other critical advantages. The airborne system is not in a fixed and soft location. Its speed and mobility, once it is mounted in a modern jet transport, make it relatively invulnerable as it cruises over friendly territory. Also, its computer capability is airborne in company with both the radar and the commander. On the ground, communications are more critical and as fully vulnerable to attack as the radar itself.

With airborne radar aloft, along with the command and control capability, TAC will have a unit that can accompany a strike force to any theater in the world. Both the ferry range and the time-on-station can be extended, with air-to-air refueling, to a limit set primarily by crew endurance. To get on station, it needs only an air base in friendly territory.

Over enemy territory AWACS is, of course, vulnerable to surface-to-air missiles (SAM) or hostile aircraft. On the other hand, part of the AWACS mission is to defend friendly forces wherever it is, and the airborne radar station itself is part of the area. This is made clear when we consider the kind of coverage made possible by the TAC version of AWACS. It will provide eyes and decision-making capability to ensure:

1. **Air defense of the entire theater.** It will be able to see enemy interceptors at any altitude and direct friendly air-superiority fighters to their target.

2. **Control and protection of interdiction strikes.**



of ground-based equipment. Just as important, it is not a fixed, soft target, vulnerable to missile or bomb attack.

In the kind of situation that prevailed in Vietnam, a forward air controller (FAC) or ground unit would communicate with AWACS instead of a ground station to call for strikes. AWACS would have the ability to direct the strike and watch for the threat of interception by enemy aircraft.

3. **Continuous close air support.** An airborne TAC commander, with the look-down radar capability, can maintain continuous surveillance of the ground battle area. He can control close air support strikes as well as interdiction, and detect enemy air attackers, even on low-level approaches.

4. **The ability to coordinate and direct rescue operations over any kind of terrain.**

5. **Control of air traffic, particularly over hostile territory.** The cost-effectiveness of an AWACS-based air traffic controller over friendly territory is not attractive, but there could be emergency situations where it would be effective.

6. **A reliable and mobile communications relay station.** Such a station can be derived from AWACS. This is a role AWACS can play at home, as well as in foreign theaters, in case of an attack on ground-based communications centers.

At L. G. Hanscom Field in Massachusetts, home of the Electronic Systems Division of the Air Force Systems Command, where the AWACS program is managed, emphasis is placed on the real significance of low-altitude attack techniques. This is of importance to both the TAC and ADC missions of AWACS. We have spent vast amounts of money to improve our air-to-air missile capability, but the fact remains that a pilot has to be virtually eyeball-to-eyeball with his adversary in order to use the missile if the enemy is at treetop level and the interception is directed by a ground-based station. Full benefit of the new air-to-air technology can be realized only if the interception is directed by an airborne radar and command post.

In the tactical operation, it is pointed out that we continue to press the technology to produce weapons with new target-seeking sensors. This, in the long run, is part of the effort to make tactical air operations more exact, to introduce the kind of surgical accuracy most essential in battlefields such as those in Vietnam. To get the full benefit of these improvements, AWACS will provide a degree of control over the pilot not previously possible. AWACS can help the pilot navigate to the best launching position, make sure he gets the right target, and even tell him when to fire. Equally important, it can withhold the fire if that is required, without calling on the pilot to make a flash decision.

In addition to defeating the tactic of enemy low-level flight to avoid surveillance, AWACS will let our own pilots extend their low-altitude capability deep into international or unfriendly areas, a job that can be done now only with the deployment of large numbers of ground radars, all with short range and great vulnerability.

In Southeast Asia, USAF has been forced to improvise in order to achieve a degree of airborne tactical air control. This has involved a number of different types of aircraft, and the entire mix can be eliminated when AWACS is available.

The mobility and high speed of any jet aircraft give it an advantage over ground-based systems under enemy attack. In addition, in a tactical situation AWACS will always operate in the center of the area over which it has surveillance. Within that area, without having to worry about range limitations or obstructions, it can detect, identify, and monitor all threats to itself or friendly forces in the air or on the ground. It will have maximum possible time to react to threats, either by withdrawing or by directing defensive weapons to the hostile target.

Consider the fact that AWACS can be used, anywhere in the world, to set up surveillance and inspection stations over friendly, unfriendly, or neutral territory. It could be used to monitor enemy operations in places like Cambodia, Vietnam, Czechoslovakia, the Middle East, or Korea. It would be an arm of our intelligence capability. At this writing, there is a vital need for intelligence at several spots in Indochina.

Not even the Israelis know exactly what Russian

(Continued on following page)

Douglas DC-8 Super 61 is one of the commercial transports on which AWACS may depend for a platform. This aircraft has been in airline service since 1967 and is a proved performer. The Super 61 made the first nonstop flight by a commercial jet from Southern California to Tokyo, covering the 5,630 miles in eleven hours, thirty-two minutes.

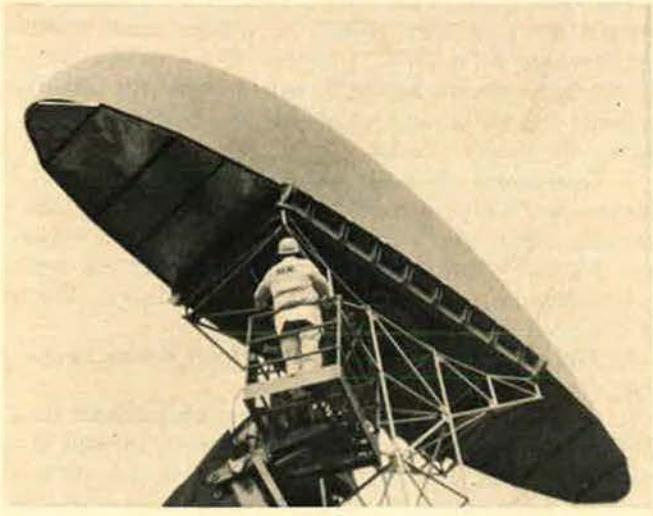
pilots are doing in Egypt. AWACS patrols could serve an essential part in monitoring such activities. Its communications ability would ensure instant delivery of information from the scene to the top command. When a Navy EC-121 reconnaissance aircraft was shot down off Korea a little more than a year ago, it took an hour and seven minutes for word to reach the Pentagon. It took two hours and thirty-four minutes for first word of the plight of the USS *Pueblo* to reach the Pentagon back in January 1968.

There are other examples. An AWACS over Munich could have been NATO's eyes and ears and communications center during the Czech crisis. It could have provided air traffic control for the Congo Airlift or, years earlier, for the Berlin Airlift, both of these operations over terrain that was either hostile or devoid of air navigation facilities. In the Middle East situation, now beyond the simmer and starting to boil, an AWACS post, based perhaps in Greece or Turkey, would be highly desirable. In June of 1967 an AWACS could have tracked both Arab and Israeli air activity and might have warned the USS *Liberty* of the approach of the Israeli aircraft and motor torpedo boats, possibly making contact with that nation to stop the attack.

In today's political atmosphere, it is not likely that the US will post forces in remote parts of the world as they heat up with tensions. After the experience in Vietnam, more reliance on airpower and less on ground forces is to be expected. Systems and weapons will be favored only if they do not demand the presence of large numbers of troops. Without ground-based surveillance, airborne warning and control will achieve new importance. AWACS can provide this, operating from a secure base out of the area of conflict. The application of airpower, when it is needed, will depend on the surveillance and control of AWACS.

In the event of a real conflict, the difference in performance levels of competing aircraft will not be great, especially with the continued supply of sophisticated weapons to less-developed nations. In the long run, the combat advantage will go to the force that is best able to exploit the advantages of modern long-range air-to-air missiles. To date, these weapons have been restricted in large measure by the simple fact that positive target-identification is difficult to obtain. A primitive example of this was in the Battle of Britain, where the earliest radars made it possible for a small band of interceptors to defend the islands. And, it cannot be forgotten, the weakness of the radar was in its low-altitude coverage, which the Germans exploited.

This brings up the ADC mission, where AWACS will use its sensor equipment to detect, track, and identify airborne targets. Last October, a MIG-17 flew from Cuba to Florida, only thirty feet above the ocean,



Development and testing of the AWACS radar has been a long and painstaking process. Here a component is given a workout on a test stand at the Boeing plant in Seattle. Hughes or Westinghouse will be contractors for the radar.

avoiding detection by US surveillance radars based on the ground at Homestead AFB, Fla., and at Key Wes . More recently, in late April, Russian intercontinental bombers flew into the Caribbean for the first time. At least two flights (not two airplanes) of TU-95 Bears, equipped for reconnaissance, landed in Cuba and refueled before flying back to Russia. The flights from Russia to Cuba took about fifteen hours and are within the unrefueled range of the aircraft.

Both of these Bear flights were picked up and identified by USAF interceptors as they passed near Iceland, and presumably the trip was monitored closely. USAF does not know whether or not Russia plans to use Cuba as a base for long-range bomber and reconnaissance operations, but the flights did demonstrate the capability. If they use Cuba for this purpose, it will give them the first such experience in the Western Hemisphere. Increased Soviet air activity in the Caribbean now is expected by many intelligence officers.

In the face of this threat, AWACS has advantages over the ground-based SAGE and BUIC radar and control systems to find, identify, and intercept attacking bombers (*see page 46*). In addition to their vulnerability to enemy attack and the line-of-sight restriction on what the radar can see, they must be operated from friendly territory and they lack mobility.

The AWACS system, on the other hand, can be kept on ground alert in peacetime or on airborne alert in times of tension. Its chances of survival are good. It can react swiftly and be operated anywhere in the world, not only in the continental United States (CONUS).

The Russians have not reduced their bomber strength in recent years, as the US has done, and their heavy planes are capable of a low-level penetration. They also are capable of launching standoff air-to-surface missiles against CONUS. The best description of how AWACS would help meet this threat was given before the House Armed Services Committee last year by Lt. Gen. Marvin L. McNickle, who was then USAF Deputy Chief of Staff for Research and Development. He said the initial alarm would be given by the newly developed over-the-horizon, backscatter radar (OTH-B). Then:

"Once alerted to an impending attack . . . a portion of the force would proceed to AWACS orbit points. There, AWACS, with a capability of detecting and tracking high- and low-flying aircraft over both land and water, would provide command and control for the interceptor force and would engage enemy bombers before they reached air-to-surface missile launch points.

"The net result of modernization would be to create an improved, survivable air defense system with long-range radar coverage at both high and low altitudes, over land and water, with capability to engage attacking bombers hundreds of miles from the CONUS borders."

The General then mentioned economy. This program, he said, will result in a saving estimated at $500 million a year in operation and maintenance costs. It will require fewer interceptors, and an end to long-range ground radars and other ground-based elements of the air defense system. At this point, an improved manned interceptor (IMI) is not considered essential. AWACS will contribute to increased utility of existing interceptors such as the F-102 and F-106, as well as other type aircraft such as the F-4, F-105, F-111, and the upcoming F-15. It can make any high-performance aircraft more efficient.

At the Boeing Space Center, Kent, Wash., an AWACS radar antenna, probably the largest ever built in a single piece, rotates atop a sixty-five-foot tower in test runs.

Built into the configuration of either the Boeing 707 or Douglas DC-8, USAF calculates that the AWACS, riding this subsonic but efficient platform, will have an operational life reaching into the late 1990s, a factor that contributes to its cost-effectiveness. At the start, the system will have a built-in growth potential carrying the extra electric power and cooling capacity required for an expansion of the highly complex electronic system (*see page 46*).

In this year's testimony before the Senate Armed Services Committee, presented in early March, AWACS was tagged as the top-priority requirement in our air defense program. The classification came from both USAF Secretary Robert C. Seamans, Jr., and Gen. John D. Ryan, the Chief of Staff.

So far, there has not been equal emphasis on the requirement for AWACS in tactical air warfare. A close look at the problems ahead, from the Middle East to Indochina and back to the Caribbean and South America, makes AWACS appear one of the best bets since Frank Whittle came up with the jet engine.—END

A combination of caution and frugal ingenuity marks both the approach philosophy and contract structure of AWACS, the Air Force's badly needed Airborne Warning and Control System. Designed to fill a glaring vacuum in the tactical as well as the air defense posture of the United States, AWACS is an electronic eye in the sky which surveys, controls, and communicates in a manner and over distances well beyond the capabilities of present systems. Because the development program avoids fiscal as well as technical risks to the greatest degree possible, Air Force and Department of Defense planners already term

AWACS

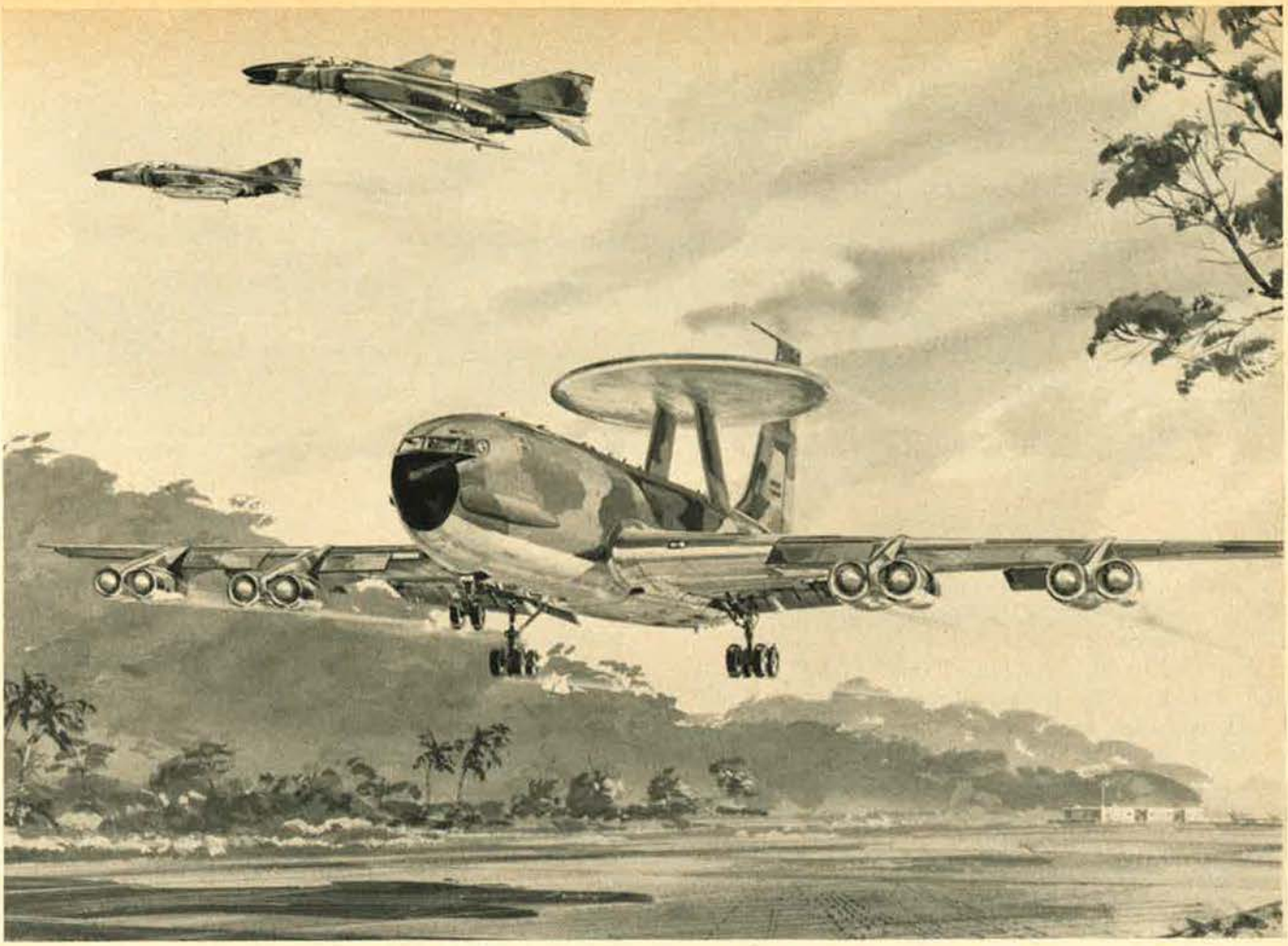
A Model for Efficient Contract Management

By Edgar E. Ulsamer
ASSOCIATE EDITOR, AIR FORCE/SPACE DIGEST

THE Air Force's Airborne Warning and Control System (AWACS), which was recommitted to source selection last month, is one of the most cautiously structured military development and acquisition programs ever undertaken. It is an austere approach that moves gingerly step by step toward full deployment, committing only a minimum of funds and new hardware to each phase. Initially conceived on a fixed-price-plus-incentive-fee contract basis, it was revised to include a cost-plus-incentive-fee phase covering development and test of the system. Award of the prime contract (airframe and system integration) to either the Boeing Co. or McDonnell Douglas Corp. is expected sometime this summer.

AWACS is to furnish long-range airborne surveillance and associated command, control, and communication functions premised on automatic detection and tracking of all aircraft—and some missile targets—operating at any altitude over land and water. Once airborne, AWACS will not be vulnerable to ballistic missile attacks. Total cost of the program is expected to be about $2.1 billion, based on 1969 values.

The AWACS contract is divided into three consecutive program phases. The Air Force has an explicit option to terminate the program if the most critical component, the down-looking radar, should fail to meet



Artist's conception depicts eight-engine AWACS on an air defense mission. In such a role AWACS functions as a survivable early-warning airborne command and control center of NORAD forces and for tracking airborne enemy forces.

minimum performance standards. The prime contract will contain two further options, to be exercised by the Air Force later on; one uses a Westinghouse radar system while the other option involves a Hughes system.

The AWACS fleet, eventually to consist of about forty commercial jetliners (either Boeing 707-320s or McDonnell Douglas DC-8-60s) modified to accommodate a massive radome, electronic gear including a computerized data processor, and a crew of seventeen, will be designed from the outset to function in both tactical and air defense missions. (Air Force planners expect, however, that somewhat different avionics packages will evolve for the two missions.)

AWACS' pivotal feature is to be its ability to pick out, and track, low-flying aircraft in ground clutter hundreds of miles away, thereby extending the CONUS defense perimeter between 500 miles and 800 miles beyond the present limits set by ground-based radar ranges, and substantially beyond the range of air-launched enemy missiles.

AWACS does not need new interceptors to justify its development, but US air defense capability would be enhanced substantially if AWACS could be teamed with an improved interceptor (either a derivative of the F-14B or the F-15 is likely to be formally proposed by the Air Force in Fiscal Year 1972) and with the over-the-horizon, backscatter (OTH-B) radar for which the Air Force has already requested development funding.

OTH-B augments AWACS by providing long-range bomber detection, thus giving AWACS sufficient time to reach combat positions from ground alert. AWACS then provides precise intercept direction and, being airborne and protected by interceptors, is essentially impervious to nuclear bursts. On a high alert status, AWACS can function without OTH-B, but keeping a large portion of the AWACS fleet on station at all times is considered uneconomical and impractical.

The present air defense system relies on fixed ground-based radars and control centers of the SAGE (Semi-Automatic Ground Environment) system, BUIC (Back-up Interceptor Control), and a limited force of EC-121 radar picket aircraft. This patchwork system is vulnerable to low-altitude penetration and has little survivability in case of nuclear attack. These deficiencies of an essentially ground-based system enable the Soviets to use their increasing bomber force, not only as a second-strike deterrent, but also as an augmentation of their first-strike potential.

The tactical role of AWACS is, in the eyes of Air Force planners, as urgent and critical as is the AWACS defense mission. The tactical mission is to monitor enemy air activity well beyond the forward edge of the

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McDonnell Douglas Corp.'s DC-8 Series 60 "stretched" jetliner, adapted to use TF33 Pratt & Whitney military engines, is one of the two competing aircraft for AWACS installation, an eight-engine Boeing 707 being the other.

battle area. At the same time it provides surveillance and control of USAF tactical aircraft at ranges far beyond the current reach of the largely ground-based Tactical Air Control System.

According to Lt. Gen. Otto Glasser, USAF Deputy Chief of Staff for Research and Development, AWACS is "uniquely capable of serving as a tactical force control center [because of a] variety of sensors for surveillance, its data-processing and display equipment, its extended communications capability, and delegated decision authority on board."

General Glasser sees AWACS' tactical benefits as including reduced aircraft losses and increased kills of enemy aircraft, achieved by more precise tracking of hostiles and better control of friendly fighters. AWACS' tactical utility also extends to control of refueling and resupply operations.

A makeshift combination of twenty-three aircraft presently performs portions of AWACS' tactical mission, but without its "down-looking" radar capability and with nowhere near its range.

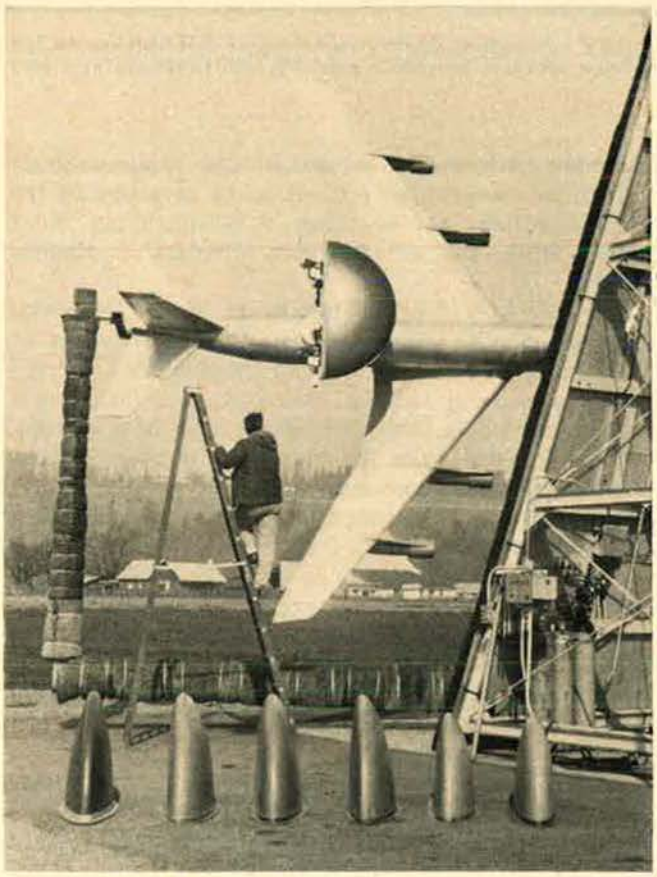
The Origin of AWACS

Under study since the early 1960s, the AWACS program received its first impetus from the Air Force's Overland Radar Technology (ORT) program, which was completed in 1967. That program established the feasibility of an overland (as opposed to the much less challenging overwater or even over-desert) radar system that can both detect and precisely track aircraft operating in the ground clutter (the residual electronic noise emanating from the earth's surface influenced by ground cover and terrain features). The ORT effort rated two basic radar techniques capable of rejecting clutter for overland surveillance. Both were pulse Doppler, one using high pulse repetition rate and the other medium repetition rate. (Exactly how each works is classified.)

As a result, the Air Force prepared a Concept Formulation Package for the AWACS program in November 1967. Allowing for the air defense requirements anticipated for the 1975–1985 time period, the Department of Defense approved AWACS as a replacement for SAGE late in 1967. In 1968 DoD authorized contract definition, stipulating full-scale radar demonstration. On the strength of subsequent findings, the Air Force decided to build the operational system, including the full complement of aircraft, in a so-called "core configuration," from which optimized tactical and air defense versions could evolve by adding modular avionics packages.

The 'Brassboarding' Phase

About three years after award of the prime contract, Hughes Aircraft Co. and Westinghouse Electric Corp.



Distinguishing feature, and most critical component of AWACS, is 30-foot-diameter, externally mounted radome, housing down-looking radar to find and track enemy planes.

are to demonstrate in flyoff tests that their respective radar systems are capable, first, of detecting low-flying aircraft in the ground clutter and, second, of precisely tracking them, within the minimum range and other performance parameters specified by the Air Force. This radar performance is viewed as AWACS' most critical milestone and therefore is being approached with great caution.

Two test aircraft (either 707-320s or DC-8-60 series jetliners) will be "brassboarded," *i.e.*, equipped with off-the-shelf electronics necessary to flight test the two competing radar systems. (Both employ the pulse Doppler method, which the manufacturers as well as the Air Force consider more cost-effective and less risky than the phase-array approach. The latter is believed to be favored by some members of DoD's DDR&E, however.) The two test aircraft (either leased or R&D models) will be equipped with a thirty-foot-diameter radome. One will be used to test the Hughes and the other the Westinghouse down-looking radar system.

A winning radar manufacturer will be selected following the flyoff competition, and will function as a subcontractor. Hence, the prime contractor must design the overall AWACS so that it can accommodate either radar system. Because the Air Force and the industries involved have taken elaborate precautions on AWACS' radar development, there is "high confidence" that all performance requirements can and will be met within the thirty-six-month brassboarding period.

If this timetable holds, the AWACS program will enter into full development, test, and engineering (DT&E) three years from award of the prime contract, or mid-1973.

The Single-Thread Phase

The second critical milestone involves full-scale demonstration of the entire system in an operational environment. This is to include "one of each kind" of all systems and components, installed and in working order. This phase, termed the "single thread" because it ties one of each subsystem and component together in an operational test, is to be completed in about fifty-four months from the time that the prime contract is awarded.

Only one aircraft is to be used for the complete system demonstration because the second AWACS aircraft will still have the "losing" radar installed. Among the major components involved in the full system test is the central processor, a highly advanced digital computer. This could be either an IBM system initially designed for the now defunct MOL (Manned Orbiting Laboratory) program or a Litton Industries, Inc., 3050 Series model. The two competing prime contractors have assembled separate avionics teams. Boeing is working with IBM, Electronic Communications, Inc., and Hazeltine Corp., while McDonnell Douglas has selected Litton, Collins Radio Co., Sylvania Electric Products, Inc., and Systems Development Corp.

AWACS' communications system will be the greatest concentration of high-powered transmitters and sensitive receivers ever carried aloft. Several dozen transmitters are required for AWACS' role as a command and control post capable of coordinating air, ground, and sea action. Each system must be able to function in a variety of modes, such as digital data, voice, teletype, and multiplex.

The communications system alone requires about seventy kilowatts of power or more than seventy times the wattage of modern jet transports. Almost seventy-five specialized antennas alone are required for the command and control function. Other specialized AWACS installations on the single-thread aircraft will include electronic countermeasures (ECM), electronic counter-countermeasures (ECCM devices that negate or hinder the enemy's ECM), three or four display consoles (digital TV among them), a sophisticated navigation system, IFF (identifying aircraft under surveillance as friend or foe), and infrared detection.

The Core System

Subject to successful completion of the single-thread-system test, and in accord with the Air Force's "fly-before-you-buy principle," an austere AWACS system, called the core version, could enter into actual production about fifty-four months from the award of the prime contract. The core configuration is limited to equipment viewed as absolutely essential for the air defense and tactical missions. It is designed for growth so that future requirements can be accommodated economically and quickly. The two competing aircraft types have ample "reserves" in terms of cube space and payload to accommodate additional avionics.

The development of new hardware is to be avoided

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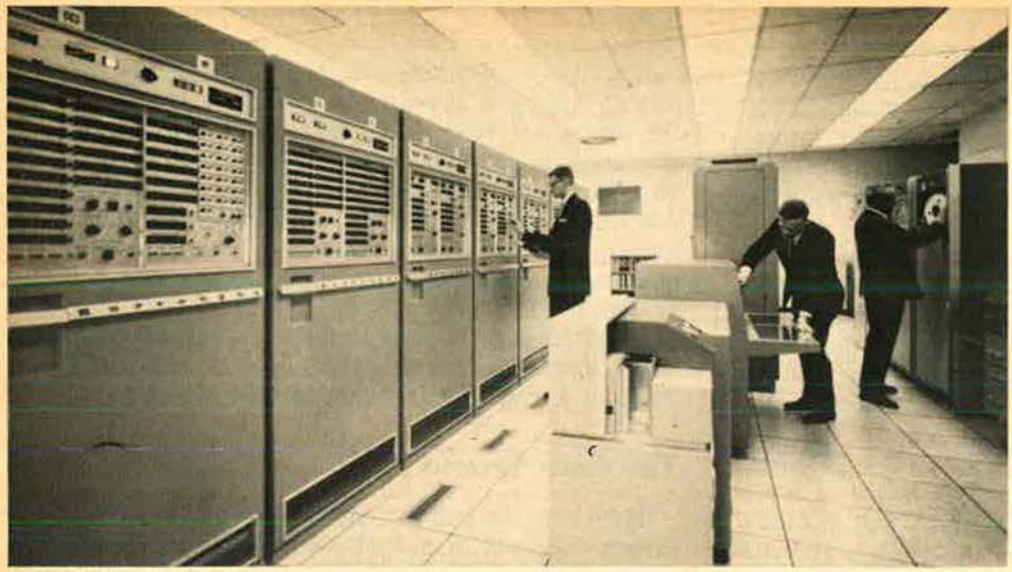
AWACS model moving on a mobile test tower at Boeing's Seattle Radome Laboratory. AWACS's complex antenna system requires seventy-five high-powered antennas.



Burroughs D825 Data Processing System is core of the present, ground-based Backup Interceptor Control (BUIC) system which performs part of the continental air defense mission. Present CONUS air defense system relies on fixed ground-based radars and control centers of SAGE, BUIC, and a limited force of EC-121s equipped as radar picket aircraft.

wherever existing systems and components, such as computers, have what the Air Force calls "minimally acceptable capability." To avoid the risk of costly retrofits later on, the core configuration omits "nothing in kind but only in degree" of the essentials that would constitute an ideal system. According to present schedules, AWACS is to attain its initial operational capability (IOC) by 1976.

No timetable exists for the potential, full-scale system, which may branch out into specialized tactical and air defense AWACS.

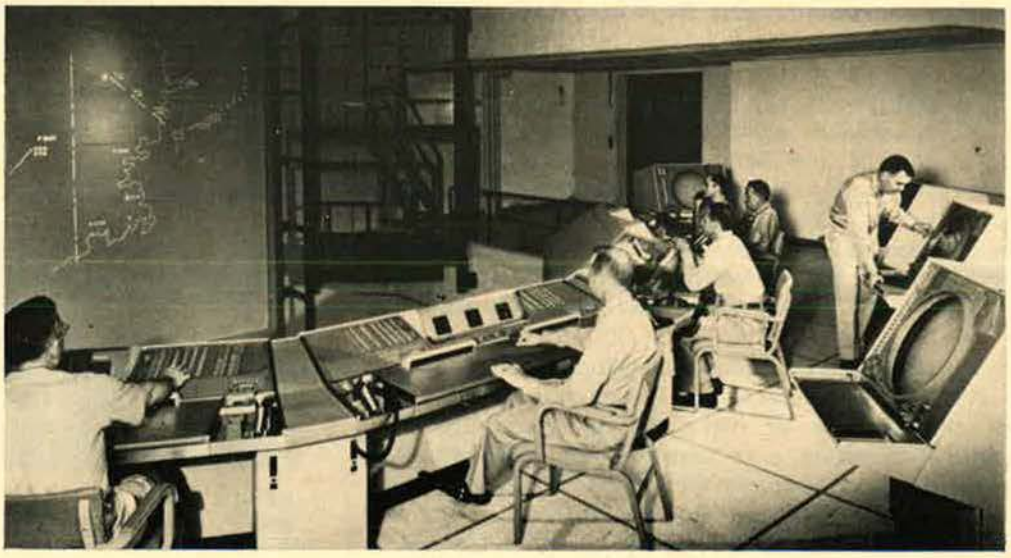
The Two Competing Aircraft

The aircraft eventually selected for the AWACS mission, be that the Boeing 707-320 or the McDonnell Douglas DC-8-60 Series (stretched) jetliner, will undergo substantial change from the civilian configuration. Most conspicuous will be the huge radome installation mounted atop the fuselage, and a bristling array of antennas. Further, the engines of both AWACS aircraft competitors are different from those of the commercial version.

In the Boeing design, the aircraft will be fitted with eight advanced-technology General Electric TF34 engines featuring a high bypass ratio and low fuel consumption. The TF34's thrust rating is believed to be about 9,000 pounds. It is a 6.2 bypass ratio engine specifically designed for the Navy's S-3A antisubmarine warfare aircraft, requiring low fuel consumption and with extended loiter capability. This engine is a small-scale derivative of the company's TF39 engine, powerplant of the C-5 Galaxy.

The DC-8 AWACS candidate retains its four-engine configuration but uses TF33 turbofan engines of 21,000 pounds of thrust, power source of the B-52H, the C-135B, the KC-135B, and the C-141.

Because of the "shoestring" approach taken during the development phase of the AWACS program, the Air Force believes that its current funding request (FY 1971) of $87 million will be sufficient to initiate installation and flight testing of the candidate radars in the testbed aircraft. With a crying need for such a capability in both the air defense and the tactical mission areas, this would appear to be a reasonable price. —END



SAGE (Semi-Automatic Ground Environment) system, whose command post is shown here, is to be replaced by AWACS for the 1975–1985 time period. SAGE is vulnerable to low-altitude penetration and has little survivability in case of nuclear attack. As a result, the Soviet bomber force is acquiring the status of a second-strike deterrent as well as first-strike augmentations.

"Know thine enemy" has been a fundamental principle of military theorists since time immemorial. But at no time in history has it held such absolute relevancy as today, when the potential acts of nations and their leaders could be both catastrophic and universal. In this article, prepared from testimony requested by the US Senate's Special Subcommittee on Strategic Arms Limitation Talks, the author explores the balanced relationship between the Russian people and that nation's political and military elite, the historic factors that have produced the Soviet attitudes all too prevalent in current world crises, and the composite set of motivations that indicate . . .

WHY THE RUSSIANS ACT LIKE RUSSIANS

By Prof. Richard E. Pipes

THE desire to seek explanation of a country's conduct in its history is a natural and justifiable one, since clearly every nation's outlook and behavior are in some measure influenced by its past experience. But the procedure is always fraught with danger. It is all too easy to fashion an image of another people's national character, to assume that it is eternal and immutable, and from this assumption to draw completely false deductions.

In reality, "national character" is an elusive and transient thing. In the seventeenth and eighteenth centuries, for example, the French were generally regarded as the most aggressive nation on the European continent, whereas the Germans were viewed as impractical dreamers, sovereigns of the "realm of clouds," as Voltaire called them. Then, in the second half of the nineteenth century the roles were neatly reversed, and the Germans, descending from their clouds, turned into a nation of Huns.

The Japanese, who were once thought to have inherited from their samurai ancestors an unquenchable thirst for blood, have recently become a nation of frenetic businessmen, at the same time that the Jews, whose unfitness for warfare had been proverbial, created in Israel a military machine of unsurpassed efficiency. Such examples could be multiplied many times over.

As every historian knows, that which is loosely called "national character" represents the spirit not of an entire nation, but only of that social group which at a given time happens to control the instruments of power and the organs of opinion, and manifests itself only as long as that group enjoys this control. The problem, therefore, is one of identifying the elite and ascertaining its particular experiences, interests, and expectations. Such knowledge is particularly useful in dealing with countries that have authoritative forms of government because there the ruling elite is relatively immune to public pressures.

In considering the elite that rules today's Russia and its possessions, four facts relevant to its conduct of foreign policy demand emphasis—its cultural background, the nature of its claim to authority, its class

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interests, and its colonial experience. Only when all four of these factors have been taken into account is it possible to understand something of that peculiar mixture of aggressiveness and caution that has distinguished Soviet foreign policy since 1917.

Cultural Background

The Soviet elite is not the same one that had ruled Russia in the Imperial period—that is, from the accession of Peter the Great in 1689 to the Revolution. The Imperial elite, composed largely of landed and service gentry, was thoroughly Westernized: it considered itself part of Europe and in its majority emulated European models. This class was overthrown in 1917, and replaced by a new elite formed of elements that had never been much exposed to Westernization: the lower bureaucracy, small tradesmen, provincial intelligentsia, clergy, skilled labor, and peasantry. The cultural roots of these groups lay not in the Westernized Russia of Peter and his successors, but in the pre-Petrine culture of old Moscow, and even beyond it, in Byzantium and the Turkic tribes of the steppe.

The problem, therefore, is one of identifying the elite and ascertaining its particular experiences, interests, and expectations.

In Imperial Russia, the ancestors of the Soviet elite had been kept out of the chambers of power. They always viewed the Western culture of the St. Petersburg court and of its gentry with distaste and suspicion. Though not averse to borrowing Western technology, especially of a military nature, they rejected the spiritual foundations on which this technology had grown. Their whole attitude toward the external world was decisively influenced by the teachings of the Orthodox Church, which more than any other Christian establishment resisted innovation and persecuted heresy. The xenophobia this Orthodox Church inculcated in its flock impressed itself very deeply on the mind of the Russian lower classes; and so did the belief that the Orthodox alone are pure and fit for salvation. This faith, in a secularized form, has remained very much part of the outlook of the Soviet elite; for although this elite professes militant atheism, it has no other culture to fall back on than the xenophobic, anti-Western culture of old Moscow.

[The Czarist elite] was overthrown in 1917, and replaced by a new elite formed of elements that had never been exposed to Westernization...

The practical consequences of this fact are considerable. The group ruling the Soviet Union is not predisposed by its cultural background to regard itself as part of a broader international community; nor does it tend to think in terms of a stable world order that accords every nation a rightful place. Such an outlook is widespread in communities with a Protestant and a commercial culture, but it is rather rare elsewhere. The Soviet elite tends to think in terms of a perpetual conflict pitting right against wrong, from which only one side can emerge victorious. Needless to elaborate, Communist ideology with its stress on class warfare culminating in a vast revolutionary cataclysm neatly reinforces this inherited religiously inspired outlook.

The Question of Legitimacy

The elite that rules Soviet Russia lacks a legitimate claim to authority, and this fact has critical bearing on its conduct of both domestic and foreign policy. Lenin, Trotsky, and their associates seized power by force, overthrowing an ineffective but democratic government. The government they founded, in other words, derives from a violent act carried out by a tiny minority. Furthermore, this power seizure was carried out under false pretenses. The coup d'etat of October 1917 was accomplished not on behalf of the Bolshevik party but on behalf of the soviets—a fact that survives today mainly in the name "Soviet Union." The soviets were representative bodies of soldiers, workers, and peasants, which, for all their structural looseness and lack of regular procedure, did in a fashion express the will of the people.

The group ruling the Soviet Union is not predisposed by its cultural background to regard itself as part of a broader international community; nor does it tend to think in terms of a stable world order that accords every nation a rightful place.

But although the Bolsheviks claimed to overthrow the Provisional Government in order to transfer power to these soviets, in reality they used them from the beginning as a facade behind which to consolidate their own authority, and the transfer was never accomplished. And, finally, the Soviet government has never dared to seek a mandate from its population. The one and only post-1917 election in which the Bolsheviks ran in competition with other parties—the election for the Constituent Assembly held in the winter of 1917–1918—gave them a quarter of the national vote, whereupon they ordered it dissolved. No elections giving the voter a choice even from among Communist candidates have been held since that disagreeable experience.

Now it is sometimes said by friends of the Soviet Union abroad that one must not apply to its government standards of democracy derived from the West. And, indeed, it is perfectly possible to exercise authority without recourse to the Western idea of popular sovereignty or by twisting it out of all semblance as Hitler had done when he claimed that the will of 80,000,000 Germans fused and became one with his own. But as a matter of record, the Soviet government makes no such claim on its own behalf: Its constitution and legal

system claim to rest on democratic principles indistinguishable from our own, and hence it cannot escape being judged by them. A government that came to power by force in the name of slogans it did not honor and had no intention of honoring, and which has never dared to seek popular sanction, such a government cannot be said to be democratic no matter how broadly the term is defined. And herein lies its tragedy and insoluble inner contradiction. The yawning gap between constitutional promise and political reality stares in the eye of all but the most obtuse or cynical of Soviet citizens.

Legitimacy of some kind is essential to every political authority to justify the right of some men to order others about. The Soviet government is no exception. Unable to obtain a popular mandate, it seeks to obtain it in a variety of other ways, of which nationalism is the handiest. By appearing as the protector of Russian national interests from internal and external enemies, the regime can identify itself with the people. But to be able to do so, it must have enemies; and it conjures them up as the need arises. The atmosphere of a crisis is essential to the Soviet elite and can be counted on to remain an instrument of Soviet policy as long as the present elite remains in power.

In the 1930s and 1940s it was often said that Soviet behavior was motivated by fear. This is correct as far as it goes—only the fear is not of other peoples but of its own, and for that reason it is incapable of being allayed by concessions. Fear breeds insecurity, which in turn expresses itself, in nations as in individuals, in aggressive behavior. (It may be noted parenthetically, that the one time the Soviet Union confronted a genuine menace rather than one of its own making, namely Nazi Germany, it reacted by appeasing; its most determined reactions have always been reserved for imaginary enemies.)

Class Interests

All elites have vested interests, or they would not be elites. But as a rule, the disparity between the interests of the elite and of the rest of the citizenry is wider in poor countries than in rich ones, and the dread of losing status is proportionately more acute. And Russia is still a desperately poor country, with a standard of living below that of some countries in the pre-industrial state of development. The bulk of the wealth created by Soviet industry since the inauguration of the first Five Year Plan in 1928 has gone into armaments and those branches of the economy of greatest direct benefit to the military. Agriculture has been ruined to pay for this most up-to-date military machine; and the consumer industry has been forced to operate on a shoestring.

This situation has not significantly changed since the death of Stalin, periodic promises of a vast outpouring of consumer goods notwithstanding (*e.g.*, Khrushchev's confident boast that by 1970 the Soviet Union would exceed the United States in the production of meat and milk). The Soviet citizen today is poor not only in comparison with his counterpart in other European countries, but also in comparison with his own grandfather. In terms of essentials—food, clothing, and housing—the Soviet population as a whole is worse off than it was before the Revolution and in the 1920s. If one considers such intangibles as access to information and the right to travel as elements of the standard of living (as they should be), then the Soviet citizenry is positively destitute.

This cannot be said of the Soviet elite, which enjoys a fairly decent standard of life. The closer a member of this group stands to the inner sancta of the bureaucratic-military-police establishment, the readier his access to the country's very limited store of goods and services, to the sources of objective information, to a passport authorizing travel abroad. No wonder, therefore, that the Soviet elite vigorously protects its privileged position and the political system which makes it possible; that it dreads democracy which would inevitably sweep away its status and force it to share the indescribably drab life of the ordinary Soviet citizenry; that it supports the regime in its nationalism and crisis-mongering.

The Colonial Experience

The Moscow state emerged on the fringe of Asia. In order to create a national state, its founders had not only to impose their authority on rival Russian principalities, but also to repel, subdue, and integrate the Turco-Mongol and Finnic populations by which they were surrounded. As a consequence, in Russia the process of nation-building took place concurrently with that of empire-building, rather than before. The two processes, so distinct in the history of Western states, in the case of Russia cannot be readily separated either chronologically or geographically. In the second half of the sixteenth century Moscow already administered a sizable colonial population of Tatars and Finns. To these were added in the seventeenth century the natives of Siberia and the Cossacks; in the eighteenth the nomads of Central Asia, the Crimean Tatars, the Ukrainians, Belorussians, Poles, Jews, and Baltic peoples; and in the nineteenth, the Caucasians and Muslims of Turkestan.

As a result of these acquisitions, the Moscow government acquired early a great deal of expertise in handling foreigners; but this expertise it gained from

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administering subject peoples, Western and Oriental, not from dealing on equal terms with other sovereign states. The Office of Ambassadors in Moscow knew less, comparatively speaking, about foreigners than did the various administrative offices charged with responsibility for administering immense territories inhabited by peoples of different races and religions. In some measure this also held true of the Imperial government and of the Soviet government; for techniques of government tend to survive changes of elites.

The implications are not far to seek. A country whose governing apparatus has learned how to deal with foreign peoples from what are essentially colonial practices is not predisposed to think in terms of a stable international community or of a balance of power. Its natural instincts are to exert the maximum use of force, and to regard absorption as the only dependable way of settling relations with other states, especially those located along its own borders. There is little need here for theory, because the options are narrow, and concern tactics rather than objectives or strategy.

To anyone acquainted with the rich literature on the international relations of the Western powers, it must come as a surprise to learn that there is no definitive or even comprehensive history of Russian foreign relations. The literature on the theory of Russian foreign policy is so meager that it may be said not to exist. That Russians have felt no need to compile the record of their external relations or to investigate its principles is in itself a significant fact, illustrative of their general attitude toward the outside world.

The Russian people have no tradition of glorifying war, perhaps because they never had a feudal culture in the proper sense of the word. Its great medieval epic celebrates not the victory of Russian arms but their defeat. Neither in the folklore nor in the proverbs of Russia is there much trace of militarism.

The Character of the Russians

These four factors impel the elite which rules Soviet Russia to conduct a dynamic and inherently aggressive foreign policy, very different from that pursued by such predominantly commercial countries as the United States, whose main aim is international stability. If the Soviet elite were not inhibited by other factors, which it is helpless to change, the Soviet Union very likely would conduct a policy of reckless external expansion such as Germany and Japan pursued in the 1930s. But fortunately, such inhibiting factors do exist, and these must be taken into account to provide a rounded picture of Soviet foreign policy.

The most important of these is the spirit and mood of the ordinary people: not only the people of Great Russian stock but also those belonging to the numerous ethnic minorities inhabiting the Soviet Union.

The Russian people have no tradition of glorifying war, perhaps because they never had a feudal culture in the proper sense of the word. Its great medieval epic celebrates not the victory of Russian arms but their defeat. Neither in the folklore nor in the proverbs of Russia is there much trace of militarism. The common people have always viewed war as a desperate act to defend one's home; and Russian troops, so effective on their home soil, have never shown much skill in foreign campaigns. This general attitude deserves comment even in the case of a country that allows its citizenry no say in governmental affairs, because in the long run the quality of the human material has considerable bearing on a government's freedom of action.

Even more significant, however, is the fact that the people of the Soviet Union are utterly exhausted. The country had been mobilized in 1914 and except for brief respites has not been allowed since then to return to normal life. Having dropped out of the international war in 1917, Russia suffered for the next three years an even more devastating civil war, followed by two years of famine. It barely recovered from these disasters during the New Economic Policy era, when in 1928 it was reharnessed into state service to carry out the most ambitious program of industrialization ever attempted by a nation. To make this program economically feasible, a whole counterrevolution was inaugurated in the countryside, in the course of which the government confiscated, in the face of the peasantry's desperate resistance, its land, livestock, and implements. This tragedy was not even over when the regime launched a political massacre of nightmarish dimensions of actual, potential, or imaginary opponents.

And then came World War II. The losses in human lives which the population of the Soviet Union has suffered between 1914–1945 exceed those of any people in modern times including the Jews. They can be estimated at 2,000,000 casualties in World War I, 14,000,000 during the civil war and the famine, 10,000,000 during collectivization, 10,000,000 during the purges, and 20,000,000 during World War II, for a total of 56,000,000. The demographic pyramid of the Soviet population bears a visible scar from these stupendous losses showing a deep indentation in the age group between thirty-five and seventy, especially males.

After such exertions and bloodletting the inhabitants of the Soviet Union are simply incapable of being mobilized once again for any sustained national effort. Their fatigue is so profound that neither exhortations nor alarms can shake them from it. They require three things of which they have been deprived for the past half a century: peace, privacy, and prosperity, probably in this order. With a population in this state it is just not possible to launch ambitious drives of external expansion.

Consideration must also be given to the fact that approximately one-half of the population of the Soviet Union consists of peoples who are not of Russian nationality. This colonial population brought under Russian sovereignty by Imperial and Soviet conquest, not only shares the exhaustion of the Russians proper, but experiences a sense of national frustration as well. Neither blandishments nor prosecution have had much effect on the patriotic spirit among the ethnic minorities. They constitute a volatile and unreliable element.

Thus, a kind of dilemma arises before the Soviet elite: One of the principal factors inducing it to maintain an aggressive posture, namely lack of confidence in its popular support, also forces it to act cautiously. The Soviet government cannot risk a protracted war because such a war always makes the government dependent on its population. All the important concessions which the Imperial government had made were the consequence of long wars: the Crimean War, which compelled it to free the serfs and institute local self-government; the Japanese war, which forced it to grant a constitution; and World War I, which caused it to abdicate. These historic lessons have not been lost on the Soviet Union and in large measure account for the prudence which its rulers have always shown in the face of firm resistance by other powers.

If [Russia] nevertheless keeps on expanding it is precisely because its expansion is in large measure determined by internal rather than external factors.

The same factor explains the haste with which the Soviet elite exploits any opportunity abroad where serious opposition seems unlikely. Guided more by the prospect of success than by any consideration of "national interest," Russian expansion follows no discernible pattern. The whole concept of "national interest," in the sense in which the term is used in the West, is altogether alien to the Russian mind. Most writings on the subject come from the pens of foreigners who seek to locate behind Russian foreign policy patterns of a kind they are familiar with in their own countries. In Russian literature, pre-revolutionary and Soviet, hardly anything is said on the matter. As for Communist theory, it too provides no guidelines for the conduct of a rational foreign policy insofar as the whole assumption of communism is that the forces of "progress" and of "reaction" are split along class lines, not national ones.

By and large, Russian expansion tends to focus on targets of opportunity. Historians have long noted what may be called the "pendulum" effect in nineteenth-century Russian expansion, meaning rapid shifts from one area to another in response to encountered resistance. Thus, frustrated by its defeat in the Crimean War from subjugating the Ottoman Empire, the Imperial government promptly sent its forces into Central Asia, which it conquered in a series of rapid expeditions. But as soon as the British, alarmed for the security of India, threatened to stop Russian advances in that region, St. Petersburg shifted its attention to the Far East. Defeated in Korea and Manchuria by Japan, it returned to the Balkans.

Such pendular swings can also be detected in Soviet foreign policy: for instance, the shift in 1948 from expansion in Europe—where it was halted by determined US resistance—to East Asia. This evidence suggests that Russian expansion is motivated less by needs than by opportunities, less by what its elite wants than by what it can get. For this reason it is impossible to determine control over which areas would satisfy the Soviet government and induce it to assume a corporate international stance. Russia has all the territory and all the resources it needs; its external security is assured by its military power and by vast buffer zones separating it from potential enemies. If it nevertheless keeps on expanding it is precisely because its expansion is in large measure determined by internal rather than external factors, above all, by the tragic relationship of the government to its people.

Developments Since World War II

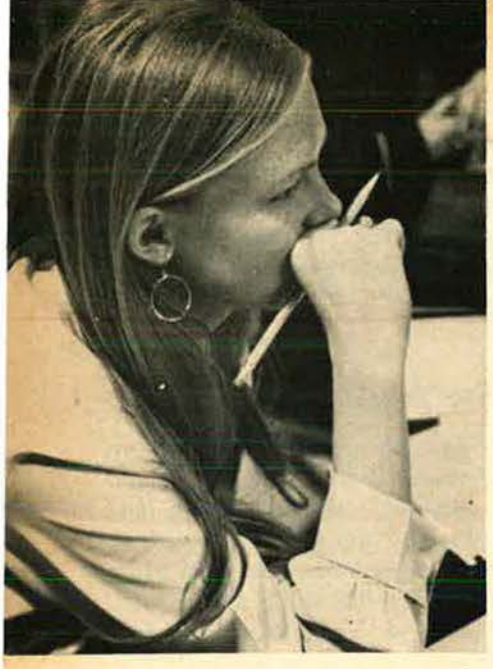
Developments which have occurred in military technology since the end of World War II, and particularly the emergence of a strategy based on rocketry and nuclear weapons, significantly affected the situation.

In some respects, the changes in warfare have had a positive effect on world peace. Scientific and technological warfare requires a large scientific and technical intelligentsia, whose outlook is bound to be very different from that of the traditional class of field or staff officers. That which has been learned of this intelligentsia through personal contacts during the past fifteen years suggests that it differs indeed from the rest of the Soviet elite of which it is a member by virtue of its privileged status. Soviet scientists and technicians think of themselves not only as Russians but also as citizens of the world, for they are better aware than administrators of common human problems. They are more objective and less emotional. Their whole temper is more liberal than that of the rest of the Soviet elite. Their emergence is undoubtedly a healthy phenomenon, good for Russia and the rest of the world.

In other respects, the development of highly technical warfare has had a very deleterious effect on the prospects of peace. If it is true, as argued above, that the principal deterrent to a recklessly aggressive Soviet foreign policy is the unreliability of the Soviet population, then clearly any development which frees the regime from dependence on its population reduces the effectiveness of the deterrent.

The more mechanized warfare becomes, the briefer and more devastating war tends to become, the less the Soviet elite needs to make allowance for the spirit of its population, the less it is afraid of war. The scientific-technical intelligentsia, of course, gains in status under these conditions; but its actual influence on government policy in Russia, as elsewhere, is questionable. It is a curious fact that the most liberal among American scientists, who have been so frustrated in their attempt to influence their own government on such issues as ABM, are most sanguine about the power of their Soviet counterparts. But if they tried and failed to exert political power in a country where it is possible to appeal over the head of the administration to the mass of citizens, how can the Soviet scientific elite succeed in a country where no such opportunity exists?

On balance, the development of modern military technology will probably intensify the expansionist tendencies of the Soviet elite. It is likely to increase its self-confidence and encourage it to pursue targets of opportunity wherever they present themselves with greater boldness than before.—END



For the visiting students at the Academy, the task was a search for solutions to the US urban crisis.

For a few intense days in April at the Air Force Academy, cadets and civilian students explored the crisis of the cities. They issued demands and recommendations that a few years ago might have been viewed as radical but which today amount to a statement of continuing faith in reform. However, there was no doubt that they saw the time left for peaceful societal reform as all too short . . .

Urban Crisis at the Air Force

Report on

THE Air Force Academy, set spectacularly against the Rampart Range of the Rocky Mountains, some sixty miles from the urban sprawl of its nearest big-city neighbor, Denver, Colo., might seem the last place on earth for a conference on the urban crisis.

The air is winy. Deer gambol through the vast and beautiful acres. The glass, steel, and marble buildings that house the cadets and Academy staff are almost shockingly clean. Even the nearest center of population, Greater Colorado Springs, with its population of more than 200,000, seems far, although it's only about fifteen miles away.

But for a few days in early April, in one corner of the Academy, the urban crisis was on everybody's mind. The air in conference rooms smoked with argument. There were urgent manifestos, eloquent appeals, and a running debate over "relevance"—that buzz-word of the hip generation.

The occasion was the 12th Air Force Academy Assembly. The participants were an unpredictable mix of Air Force Academy cadets, university students (mainly from the western US), and cadets and midshipmen from the other military academies, plus an array of politicians and uniformed and civilian academic observers on hand to lecture, listen, and learn.

Officially the subject was "The States and the Urban Crisis." Cadets and civilian students were primed by speeches on the urban crisis from such luminaries as Dr. Alan K. Campbell, Dean of Syracuse University's School of Citizenship and Public Affairs; Governor Dan Evans of Washington; Donald Rumsfeld, Director of the Office of Economic Opportunity; Lt. Gov. Paul Simon of Illinois; Mayor Richard Lugar of Indianapolis; Bill Matney, NBC urban affairs reporter; and ex-Mayor Jerome Cavanaugh of Detroit. Then, on their own hook, they were supposed to deliberate and come to a consensus on the role of state governments in the solution of the urban crisis.

But this formal purpose was the least important part of what happened. What was really impressive was the dedication, intensity, and purposefulness of the young people, in and out of uniform, who took part. Anyone who has given up on today's campus crop would have gone away from this meeting with new hope.

From the start, the Assembly took on a special dynamic of its own. In the very beginning came a kind of startled recognition by many of the civilian students, most of whom had never before set foot in a place like the Air Force Academy, that cadets are not only human but also even have minds of their own on burning public issues. It was not long before a "radical caucus" developed, including civilian students and some cadets. They questioned the basic validity of the conference, and suggested that the meeting was really a kind of an adult-inspired "put-on" in which everyone, including the two most outspoken radicals, duly long-haired and highly articulate, were expected to play out preconceived roles.

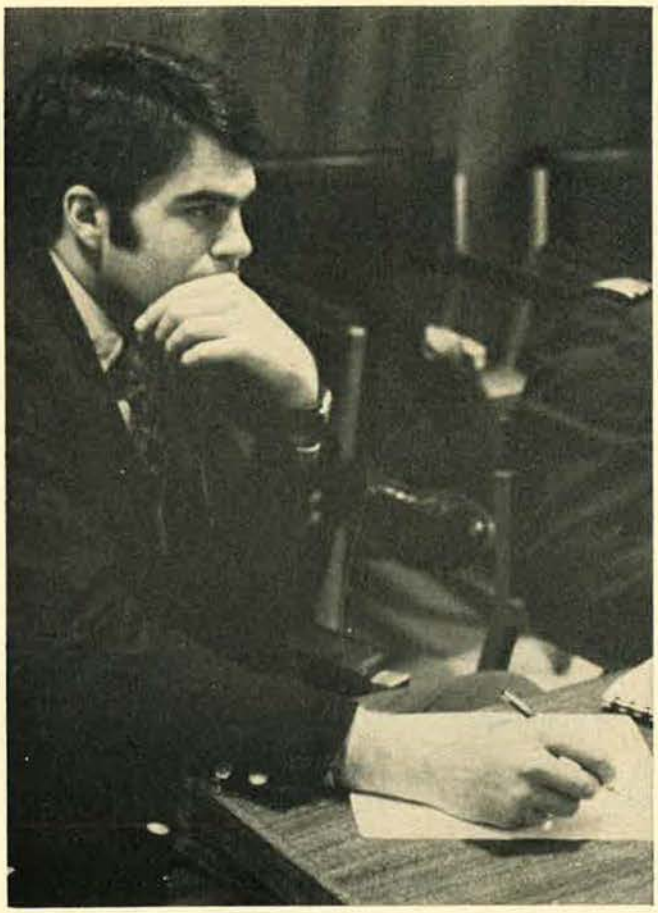
The radical caucus, small but vocal, demanded that the conference question some of the very basic ethics of the American system as presently operated. They—and others—also questioned the fitness of the participants to discuss the urban crisis, pointing out the scarcity of black students at the conference and the absence of even

The observers were there to learn. Youth did the talking.

And the talk ranged from new sexual mores to city planning.

Academy: Dialogue

BY WILLIAM LEAVITT
Senior Editor/Science and Education



A full-time job: taking notes on what the others talked about.

a spokesman for the urban poor. One delegate went to the trouble of compiling a "profile" of the conference. It was true; the poor, the black, and the other minorities were not meaningfully represented.

But what the delegates lacked in poverty credentials, they made up for in fervor. Their final report was a document hammered out in hours of very serious debate. It developed from a draft produced in an all-night session that followed a couple of days of round-table conferences. A few years ago the document might have been considered radical. But at this meeting, at the Air Force Academy, in April 1970, it actually amounted to a statement of faith by the majority of cadets and students at the Assembly that reform within the system was still possible, at least for a while.

"Conditions in American cities have degenerated to the point that, unless the strongest immediate measures are taken to eliminate those forces which are responsible for this degeneration, the conditions of all major urban areas—in which 175 million Americans now live —will be unbearable for all within a few years," the students declared.

"A number of other causes of the urban crisis can be isolated," the report said, "selfishness, runaway technology, inequitable distribution of resources, and underlying all of this, the continuing practice of racism, both conscious and unconscious. Further causes are rapid urbanization, brought on by an exploding population; government which is too frequently unresponsive, insensitive, and inept; corporate irresponsibility; failure of education to maintain relevance to urban culture; al-

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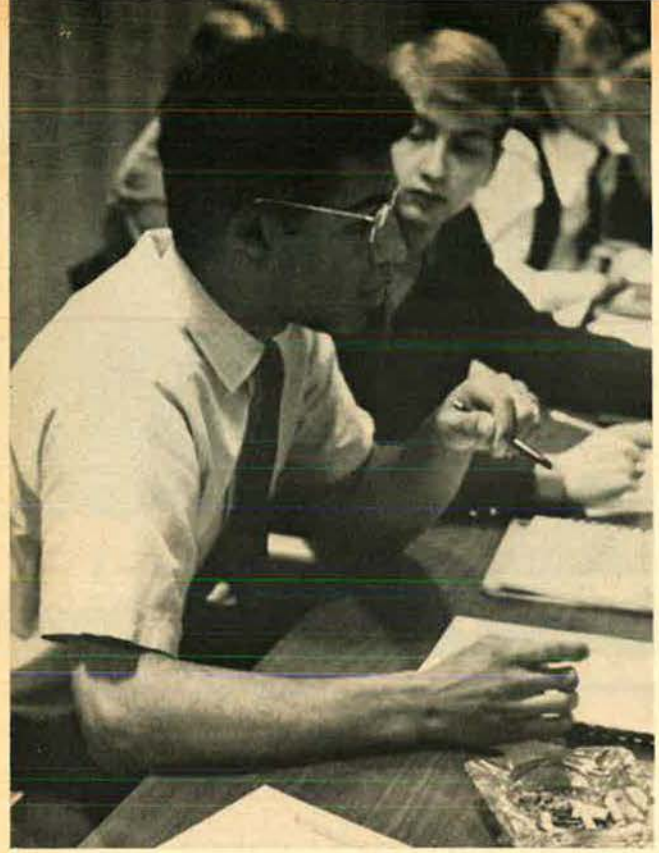


Some asked: Does America need to examine its basic ethic?

location of resources based on considerations other than need; governmental repression, both real and imagined; and an incredible and deplorable lack of moral leadership at all levels.

"Together," the students and cadets declared, "these conditions have created ghettos, intractable poverty, unwieldy bureaucracies, substandard public and social services, individual and collective violence, widespread hostility and alienation, ravaged and polluted environment, polarization of the races, and an authoritarian mentality on the part of the law enforcement agencies, leading to frequent malpractices."

The conferees called for a "drastic reordering of [national] priorities."

This, they said, "will require a shift in emphasis from defense spending to investment in domestic social projects."

They called, too, for the elimination of "unnecessary foreign commitments, including the immediate and total withdrawal of all American military forces from Southeast Asia."

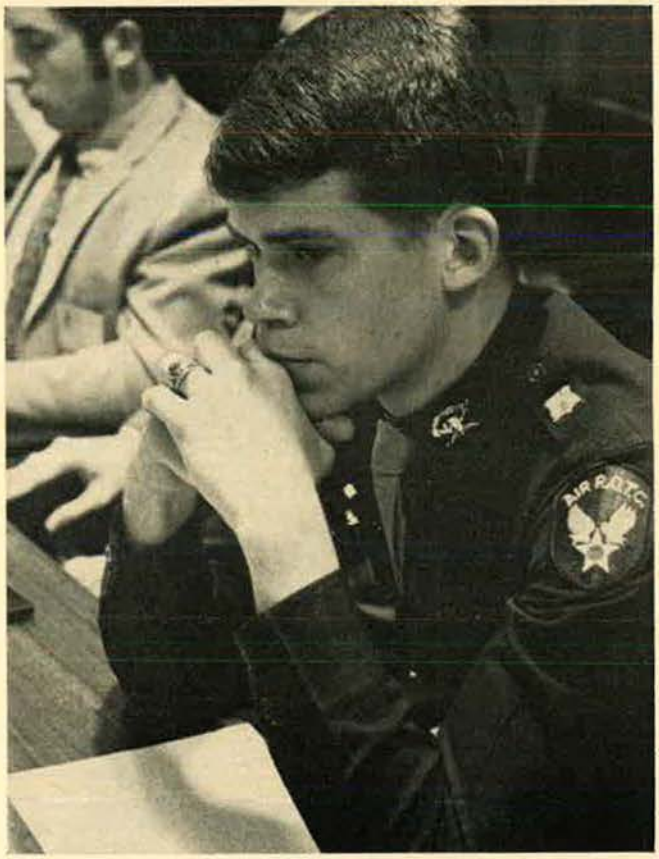
In that connection, it is worth noting—especially by those who like to blame the Vietnam War on the military—that it was an Air Force Academy cadet who insisted on the call for US withdrawal. The original language on Vietnam in the draft was softer.

The Assembly report called, too, for "the elimination of redundant weapon systems, surplus military bases, and inefficient utilization of manpower." The document demanded that the President issue a "call to action" to "mobilize the energy of all Americans in a dedicated effort to really solve the urban crisis."

"It must be our national goal," the students and cadets said, "to eradicate racism and rebuild our urban areas in a manner even more persistent than our effort to reach the moon and Mars. If man can walk with pride and safety on the lunar surface, then certainly he should be able to do the same on the streets of our cities."

As practical steps toward the solution of the urban crisis, the Assembly report called for:

- Revenue sharing by the federal government with states and cities, with substantial amounts earmarked for local governments.
- Capital funding to meet the nation's need for 26,000,000 new homes by 1980, especially for low- and moderate-income families.
- Setting of minimum federal standards for the education of all American children, the distribution of substantially more federal funds through the state governments on the basis of need, the upgrading of vocational and technical training, the expansion of educational research and development, and the provision of greater opportunities for minority and poor students.
- Federal assumption of financial and administrative responsibility for a national program of income maintenance.
- Caution as to passage of "probable cause" and "preventive detention" laws because of their bias against particular social groups and the danger such laws pose to the rights guaranteed by the First Amendment.
- The imposition of stringent federal standards on a national basis for clean air, water, and waste management.
- Assumption by the federal government of greater responsibility in the areas of overpopulation, research in family planning, and in planning for land use. ("This will require," the report said, "[a] national policy of zero



Civilian students found that uniformed youth have ideas.

population growth and a national policy for the use of land and natural resources.")

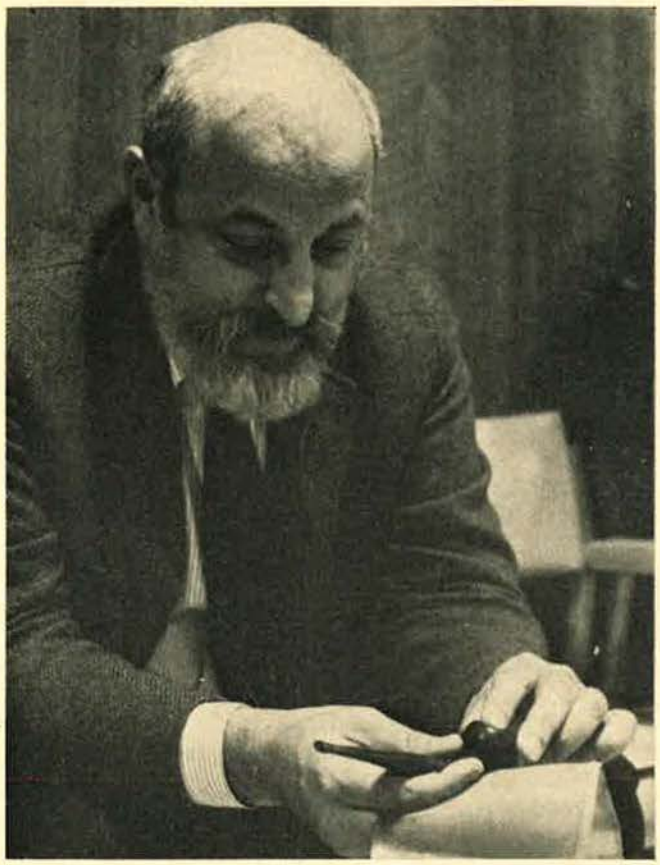
As to state governments, the students and cadets urged that state constitutions be altered to provide sufficient executive authority to deal with urban problems while at the same time giving local governments all powers not expressly reserved to the states. State governments need departments of urban affairs, the students declared. States must also provide sufficient funding for inner-city schools, facilitating local control "through separation of fund-allocation procedures from other policy-making."

The conferees called, too, for state enactment of progressive income taxes, and the elimination or reduction of the present emphasis on regressive taxation. They demanded state revenue-sharing with local governments, state planning for land use, the elimination of fragmented local governments, accountability by civil service employees, and the creation of environmental-quality commissions with teeth.

And more. They called for concentrated efforts by state governments to eliminate racism and discrimination against women. They urged, too, the streamlining of state legislatures, with annual meetings and higher salaries for legislators, also public funding of political campaigns.

To create greater responsiveness to the public, the students and cadets urged the appointment of state-level ombudsmen, who would serve, on appointment by the legislatures, as independent representatives of citizens petitioning government.

The Assembly participants did not ignore local government in their demands for reform.



Among those present as observers: a RAND "think-tanker."

Question: Can America's passion for growth be managed?

"Local government," they said, "should be reorganized in two directions. On the one hand, we must create regional [authorities] to provide those services which transcend artificial political boundaries such as waste disposal, water, sewers, and transportation. At the same time, neighborhoods must be given a greater voice in shaping their own futures. In essence, this will require a delegation of existing power both upward and downward. Poverty communities especially must be given greater access to the political system.

"Local government must attract persons of higher quality, greater sensitivity, and knowledge relevant to the needs of the inner city. The local bureaucracy must be modernized so that it serves the needs of people instead of bureaucrats or political parties. . . ."

The statement ended with this resolve:

"Unless the above stated proposals to improve the lives of every man, woman, and child in urban America are acted upon in the immediate future, this Assembly is convinced that this nation has no viable future. The future is ours—we intend to reclaim it."

So far as this observer could tell, every one of the participants, cadets and civilians, meant every word of what they said. They were calling for radical reform, but still within the system. But they were warning, too, that the hour is late.

We went away from the conference with renewed hope for tomorrow, and even the day after.—END

Can we survive the urban crisis? Answer: a qualified "yes."

There used to be navigators—period. Now the Air Force has fightergators, photogators, EWOs: on the line, in key staff slots, and in command assignments. A SEA-seasoned F-4 navigator GIB tells about it, and about SEA operations in . . .

Navigator's Log: Jack Armstrong to the Age of Aquarius and Beyond

By Maj. Joseph F. Tuso, USAF

ON A muggy day in May 1968, I emerged from the womb of a laboring C-130 into the brilliance of sun-soaked Ubon Air Base, Thailand, home of the 8th Tactical Fighter Wing. A welcoming slap on the back by a friendly lieutenant colonel brought life to my cramped limbs. I had been preparing for this in one way or another for thirteen years. Very soon the Air Force would discover if it would get its money's worth, and I would know if I could "hack it." It was my first day in the combat zone.

Like a breathless man enveloped by murky waters, I relived my career as an Air Force navigator in the brief moments it took to ride from the ramp to the squadron. Surrounded by sleek yet droop-snooted F-4Ds crouching in the endless revetments, I tingled with that same feeling of pride and awe I had felt ten years before when, on the ramp at SAC's Davis-Monthan Air Force Base in Arizona, I had first passed in review before some forty critical B-47s.

I am of the Jack Armstrong generation, the latter days of the big bands, of Baby Snooks, the B-19, and corduroy pants in high school. I can remember ice trucks, an apolitical Shirley Temple, Wendell Willkie buttons, and muzzle flashes from the deck guns of Japanese submarines, viewed from the trembling rooftop of my home in a Los Angeles smaller and younger by almost thirty years.

In 1955 I left a Catholic seminary, abandoning my plans for the priesthood because of my desire for a wife and family. I had no thoughts then of "laughter-silvered wings." I had done well in a four-year college course geared to produce teacher-priests. I still wanted to be a teacher, and I chose an alternate but still idealistic career—the military. My hope was to teach English one day at the then-fledgling Air Force Academy.

Youthfully taking my drive and abilities for granted, I thought I needed but one thing to win an Academy teaching slot—a Regular commission. After successfully passing the Aviation Cadet Tests, I was told I could be a pilot, but I'd have to wait a year to get a class date. However, I could leave for Lackland AFB, Tex., and subsequent navigation training almost at once. I didn't know for certain what a navigator was, but I knew he was an officer. That was enough for me.

Upon graduating from the navigator-bombardier course at Mather AFB, Calif., I had three choices: SAC B-47s, KC-97 tankers, or Air Defense Command's Radar Observer School and F-89s. In contrast, fifty-three types and models of Air Force aircraft, in-

cluding the SR-71, today use navigators, navigator-bombardiers, and weapon system or electronic warfare officers. What a cornucopia of assignments for today's young navigator!

A senior navigator who had taken me under his wing told me, "If you can navigate the B-47, you can navigate any bird in the Air Force." Since SAC seemed also my best bet for an eventual Regular commission, I chose a B-47 assignment with the 303d Bomb Wing at Tucson, Ariz.

In those days it took about two years for a new SAC crew member to be accepted, to prove himself. Often I wondered if I would ever make it. Many radar-simulated bomb drops and many navigation legs later it happened. I awoke one morning and realized I was a professional SAC navigator, one who could be counted on to pull long hours of alert, help his crew fulfill demanding training requirements, and help his wing successfully "grease through" Operational Readiness Inspections.

SAC was and is tough duty. My conviction is that from its beginnings until the early 1960s SAC was the operational command most responsible for helping the navigator discover who he was and what was his potential. For the first time in Air Force history, the navigator was a marketable commodity; the spot promotions of entire crews, the fate of every bomber wing hinged on his ability to navigate and bomb. He had been extremely valuable in World War II, but now his value received official recognition and he became a leader in tactics, intelligence, planning, maintenance, and electronics.

SAC was my career's greenhouse. The hours were long, the flights rear-numbing, the pressures great, but I got the professional polish I needed.

In 1962 the Air Force apparently felt I was worth an investment of several thousand dollars and two more years of training. I was selected to enter graduate school at the University of Arizona, and after getting my master's degree in the summer of 1964, I reported for duty at the Air Force Academy. I was not to rejoin an operational unit until my arrival in Southeast Asia in 1968.

As the blue pickup pulled up in front of Ubon's 435th Tactical Fighter Squadron, I felt like a young lieutenant again, despite the gold leaves on my shoulders. I was signed in, processed, hustled through ground school, and off on my first combat mission. My aircraft commander or AC, another major, was the quietest, most gentlemanly officer you'd ever hope to meet—on the ground. But in the air he yelled, cursed, and screamed me through my first four combat missions over North Vietnam.

On that unforgettable first mission we were going after 37-mm guns near Xuan Son, about forty miles north of the DMZ. No sooner was the gear up than I started expecting bullets to rip through the canopy. I was so green I didn't know we had to cross the Mekong before we were even eligible for combat pay. My throat was dry, my hands were sweating, and my mind was in a fog. Far away I heard a cacophony of radio calls—my headset went mad with disjointed voices. One of them was howling at me to switch the radio to tanker frequency, then later to Control.

We were cleared to hit our primary target, but I was still fifteen minutes behind what was going on. Through the low, scattered clouds I saw North Vietnam for the first time, a bomb-cratered strip of brown, stretching from left to right in front of us with an incongruously beautiful blue gulf beyond.

The AC yelled for me to call out his weapon settings. As I glanced down at the checklist, I saw a dozen

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During a dive-bombing run, like this F-4 attack on an enemy force in South Vietnam, the GIB—the Guy in Back, or the rear-seat crew member—is also a Guy Incredibly Busy. More than half of the F-4 GIBs in SEA are navigators.

On the ground, the droop-snooted profile of the F-4 belies its Mach 2.5 speed. The author, like other F-4 navigators, found that his duties included relieving the pilot at the controls on long missions. Flying became fun.

chasms belching orange flames at us from the target area below. So those were 37-mm guns. "Damn it, finish the checklist!" the AC yelled. The next thing I knew we were screaming down, down, in a forty-five-degree dive at 450 knots. I had done this on the gunnery range in the States, but somehow this was just not the same. I felt like it was a bad dream, and the flak bursting all around us kept distracting me from the dream's main action, in which I was supposed to be playing a part.

"Tuso, what the hell's our altitude?" The altimeter was spinning so wildly I could hardly keep track of it. My eyes darted from it to the airspeed indicator to the dive angle. I said something or other. Bombs away!

We made two more passes. Speed . . . blurred landscape . . . flak . . . dive . . . release . . . then the pressure of four or five Gs as we jinked precisely but violently left and right to spoil the gunners' tracking as we pulled off. I think we got two guns on the last two passes. I don't remember. What I do remember is the voice of the AC screaming and pushing for an hour and a half from takeoff to landing.

After landing all he said was, "Pretty good mission."

My resentment of the first mission turned to anger, then to a desire to excel at my job in order to stop his yelling. It worked. The better I performed, the more my AC let up on me. With his help I had learned to conquer the enemy in our cockpit—my own inexperience and fear—a prerequisite to coping with the hostile forces below. I was grateful throughout my tour for what I learned from my first combat AC—and for the emphatic way he taught me.

And it was a good tour—of some inconvenience to the enemy, of some use, I hope, to the Air Force, but certainly of great benefit to me. I flew a lot, learned even more, and was in good company. I am proud of the more than 100 navigators who were awarded the Silver Star and the eight who won the Air Force Cross in Southeast Asia during the time I was at Ubon.

When I arrived there, however, a question still hung in the air—would navigators hack it in the F-4's back seat? The navigators themselves never had any such question. Old pros like Bobby G. Smith and young pros like "Hesh" Altman blazed the way for those of us who came later. When I left in May of 1969, young

The F-4 Phantom is the most versatile tactical fighter in USAF's inventory. These F-4 crews downed six MIGs over North Vietnam. Most F-4 pilots prefer to have a navigator, rather than a second pilot, in the F-4's back seat.

An F-4 takes on fuel for a long one. Many SEA missions were longer than UK-based B-17 penetrations in WW II.

navigators who unquestionably would hack it were pouring into Ubon with all the vigor and enthusiasm of the Notre Dame offense.

And I must confess that the young navigator has changed since I was one myself. He seems more confident, more mature, more capable, in most cases, of accepting responsibility than my group was. The navigators in the 8th Tactical Fighter Wing performed outstandingly because they were a healthy mix of this youthful dedication and of mature experience.

And then there were the fighter pilots, from the wing commander to the very first lieutenant to command an F-4 at Ubon. I flew with twenty or thirty of them—I would have gladly flown with them all. To a man, they welcomed the navigator as a valuable adjunct to the mission.

Some of them, however, had to be convinced before they put out the welcome mat. Spike was one of these. When I first flew with Spike, I had about fifty missions marked on my red baseball cap. He didn't have any, and, as was customary with new pilots, he had to fly with an "old guy" in his back seat for his first fifteen rides.

The target was a heavily defended highway and waterway complex in North Vietnam. For several days our squadron had worked that target, but we were dropping our special ordnance too high and were scattering it all over the countryside. Our squadron commander had decided that enough was enough—he got the wing CO's permission to go in as low as necessary to get the job done.

At the briefing, the squadron commander, who was leading the flight, showed us on a papier-mâché relief map how we would thread in trail around the peaks and up and down the valleys in our approach to the target. We would deliver our ordnance at about 300 feet above the ground with the aircraft straight and level for five or six seconds—an eternity when the "bad guys" are shooting.

Throughout the briefing Spike looked pale as a ghost. The tactics would be tough for an old pro, so I could easily understand the apprehension of a man about to fly his first combat mission. The CO asked Spike if he thought he could hack it. What fighter pilot would say no?

When we got to the target area, there was a heavy undercast. There was a hole we could descend through, but we were limited to one attack heading. The enemy gunners would be expecting us. Just before descent, I reminded Spike to set his weapon switches. The CO started down, and Spike and I followed in No. 2 posi-

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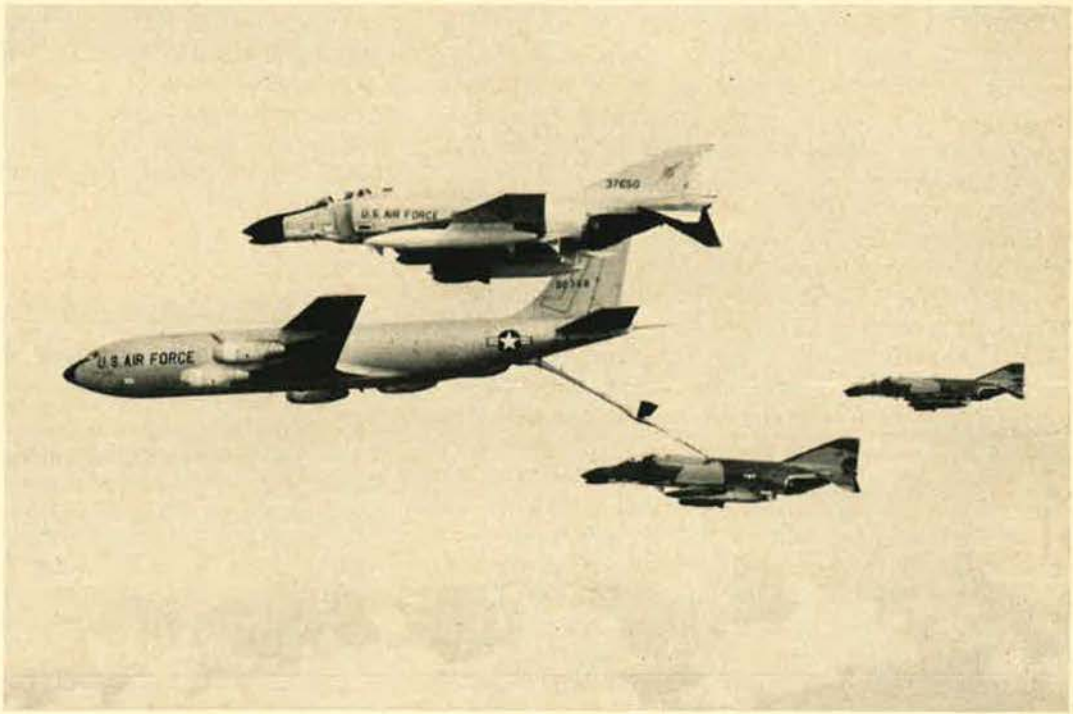

Today's young navigator may find himself on either end of the refueling boom. Gone are the days when most navigators were assigned to SAC and MAC. Now fifty-three types and models of USAF aircraft carry navigators, with TAC a major user. One result of this professional proliferation is a greatly increased number of operational staff jobs and command billets for Air Force navigators.

tion, with No. 3 and No. 4 in trail behind us. Spike told me to keep calling off our altitude, first in 1,000-foot and then in 100-foot increments.

Ahead I could see Lead weaving left and right, up and down, amid the peaks. I glanced at the altimeter—700 feet. "Damn it, I lost him!" I told Spike to hold his heading and keep looking. We were very close to the target now. "Got him again. But hell, I can't see the target!" I told him to keep his eyes glued on Lead and forget about the target.

I saw Lead level off and drop his bombs. We were directly in trail about three-quarters of a mile back. When we came abeam of a peak where I had seen Lead drop, I punched off our bombs. They were still coming off when I saw the orange streak of small automatic-weapon fire hosing up from the ground to meet us on our left. The bombs were off now—"Jink right," I yelled. Spike pulled smartly up and right and began jinking, all the while calling out the ground fire to 3 and 4. They made their runs without incident. On the way home, Spike's voice sounded more relaxed.

After we climbed down the ladder, Spike said, "That was a hell of a mission!" "I thought you looked a bit worried during the briefing," I replied. "Hell, Joe," he said, "what had me worried was flying a mission like that with a *navigator* in my back seat!" He shook my hand, winked, and said, "I'm damned glad you were there."

And once the navigator was accepted, some of the pilots even taught him to fly. During my first twenty or thirty missions I was busy perfecting my craft—in-flight navigation, radio operation, bombing support, effective prayer—and then I began to take the stick. I felt like a kid of thirteen again driving my first car. Suddenly flying was fun. On long missions the ACs welcomed our taking the aircraft. Some of them, when they got busy with other things, often insisted on it. Under the tutelage of outstanding pilots like John Bennett and Pete Pealer, I learned to fly rather respectably, even in formation.

On my last twenty or thirty missions, it wasn't uncommon for me to take the controls shortly after takeoff, climb out, fly to the tanker, take over again after refueling, fly to the target area, support the AC's bombing, fly home, and execute the GCA. Many other navigators flew as much—some even more. In another month or two I probably could have landed the F-4. I'll never know.

Many young navigators, however, *will* know. Approximately half of the recent navigator graduates of basic courses at Mather AFB have gone to fighter aircraft. In fact, eighty percent of all pilots who have flown with navigators in the F-4 prefer to have navigators rather than pilots in the back seat. For the aggressive young officer who likes to fly but who for some reason cannot become a pilot, there is no better assignment.

Nor is a fighter assignment a dead end in career terms. Many navigator-qualified staff positions are opening up in TAC and in fighter operations as a whole. The Air Force's goal is a ratio of navigators in rated staff positions comparable to the overall ratio of navigators to pilots—that is, thirty navigators for every seventy pilots. Today, however, outside of SAC, the percentage of operational staff positions filled by navigators ranges from only four percent to eight percent, depending on command. When we contrast this with Air Force's goal of thirty percent, there is great potential for the 16,700 navigators currently on board. Every navigator will have a chance at one of these middle-management slots after he gets four or five years of absolutely essential operational flying on his record.

Navigation, despite the rich friendships, priceless experiences, and rewarding flying would prove less than a complete profession if there were not room at the top. But there is. More and more navigators are commanding in support areas these days—bases, civil engineering, communications units, and so on. Whether navigators will ever formally command combat units, no one can say. It is a fact, however, that navigators in Southeast Asia *have* commanded combat units during brief, necessary absences of a pilot commander, and have done so with great distinction. The trend is very definitely in the direction of many more command positions for the navigator.

But what of the young navigator who, like me, has exotic interests? It was largely through good fortune that I got the only assignment in the Air Force where I could do my own thing and teach Shakespeare. Now it is more system than luck. Increasing numbers of navigators enter colleges and universities, under Air Force sponsorship, to study everything from astronomy to physiology. Currently 150 such school slots are allocated to navigators, 128 to pilots. The navigator thus has three times as good a chance for selection as the pilot because of the number of navigators (16,700) and pilots (43,000) in the Air Force.

My career at the fifteen-year point is only half begun. In these fifteen years, the navigator has advanced to the threshold of newer, far greater responsibilities than he ever has known before. Today's navigator can look forward to intimate membership in an Air Force facing continued defense commitments during a period of undiminished threat—and probably with reduced resources.

The navigator will be called upon to fill a role that is more varied, more complex, and more challenging than ever before. But never has he been more uniquely equipped to meet the challenge with determination, the complexity with professionalism, and the variety with flexibility. In the 1970s and beyond, he will do just that, and he will leave something lasting behind him. —END

ABOUT THE AUTHOR

Maj. Joseph F. Tuso, who is now an associate professor of English at the United States Air Force Academy, flew 170 combat missions in Southeast Asia, seventy-six of them over North Vietnam. His decorations include the Distinguished Flying Cross, Bronze Star, and the Air Medal with twelve Oak Leaf Clusters. Major Tuso holds a B.A. in Philosophy, and an M.A. and Ph.D. in English from the University of Arizona. A Phi Beta Kappa, his articles have appeared in Modern Language Quarterly, Linguistics, *and* Explicator.

The White House is solidly committed to the concept of an all-volunteer armed force. The military appears willing to give the proposal a try. The blue-ribbon commission selected to study the feasibility of such a force recommends it highly and even offers guidelines for its almost immediate creation. What, then, are the factors in the Gates Commission report that have seemed to raise so many questions? In this cogent and incisive analysis, a respected observer of military affairs gives the answers . . .

The All-Volunteer Force: Its Cloudy Pros and Cons

By Louis R. Stockstill

ALMOST 10,000,000 young men and women have entered the enlisted ranks of the armed forces over the past fifteen years either as draftees, first-term enlistees, or Reservists called to active duty.

Most of the men—about 6,500,000—were either inducted under the Selective Service Act or "induced" to volunteer out of fear of the draft.

As quickly as they completed their required service, the vast majority shed their uniforms. The number entering the armed forces over the fifteen-year period is matched, man for man, by the number leaving.

In this respect, the military manpower pipeline has functioned as a gigantic sluice gate. The rapid, large-scale turnover not only has made heavy demands on the nation's manpower resources, but has presented the armed forces with staggering travel and training costs. And—of even more critical significance—it has engaged the services in an endless battle, not just to fill the ranks, but to retain adequate numbers of career personnel.

The officer ranks have been no exception. Virtually the entire medical corps of the Army, Navy, and Air Force has had to be drafted. Vast numbers of other men have sought commissions or entered ROTC programs only out of fear of the draft. Here, too, turnover among junior officers has defied all efforts to close the sluice gate.

As the flood tide has billowed along, it has angrily churned mounting flotsam to the surface: draft protests, flag burnings, demands for removal of ROTC from college campuses, peace marches, even dissention in the ranks.

Against this backdrop, Richard M. Nixon, as a candidate for President of the United States, promised, if elected, to spur the development of an all-volunteer armed force. On March 27, 1969, less than ten weeks after he entered the White House, the Chief Executive announced creation of a special, fifteen-member commission to tackle the problem. He named former Secretary of Defense Thomas S. Gates to head the group. Other members included two retired generals (Alfred Gruenther and Lauris Norstad), a former congressman, three businessmen, the executive director of the NAACP, six educators, and a university law student.

The Gates Commission members were handed a set of carefully circumscribed instructions. They were not asked to study the problem and advise the President whether it could be solved as he had promised. They were "directed . . . to develop a comprehensive plan for eliminating conscription and moving toward an all-volunteer armed force," and told to "determine what standby machinery for the draft will be required in the event of a national emergency."

Aided by a staff of fifty-one men and women and the services of three "think factories" (the RAND Corporation, the Center for Naval Analyses, and the Institute for Defense Analysis), the Commission met for the equivalent of thirteen eight-hour days over a period of eleven months. On February 20, 1970, the group released its unanimous findings.

Dutifully, if not surprisingly, the Commission gave the President what he had requested: recommendations to end the draft, to create an all-volunteer force, and to establish "standby" authority for emergency use of conscription.

But the Commission also went a giant step further. The members urged that the plan be put into immediate effect, at a minimum additional budgetary outlay of $2.7 billion—mostly in higher entering pay for the enlisted and junior officer ranks, but with an additional $550 million earmarked for expanded pro-pay, higher "doctor pay," the Reserves, ROTC, recruiting, and other programs.

The Commission urged that the pay revisions go into

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Thomas S. Gates, a former Secretary of Defense, headed the special commission set up to investigate the feasibility of creating an all-volunteer armed force. The group unanimously endorsed the establishment of such a force.

It was during his campaign for the Presidency that Richard M. Nixon promised to spur the development of an all-volunteer armed force to replace the antiquated and unfair Selective Service system.

effect on July 1, 1970, and "assumed" that they would be added to an across-the-board pay boost of eight percent for all military personnel, effective in Fiscal 1971. (The assumption was made prior to the postal employees strike and the resulting across-the-board basic pay increase of 8.1 percent for the armed forces, retroactive to December 27, 1969—action that added a previously unbudgeted $600 million to the military payroll for the first six months of the current calendar year.)

The Commission recommended that standby draft rules be enacted by Congress no later than June 30, 1971, the date on which the present Selective Service Act is due to expire.

The timetable urged by the Commission may have come as a shock to the President. He had warned in his instructions that "transition to an all-volunteer force must, of course, be handled cautiously and responsibly so that our national security is fully maintained." Earlier, he had suggested that completion of the transition might not be possible until the Vietnam War is terminated.

The Gates Commission concluded, nevertheless, that the "indispensable" first step (higher pay for the lower ranks) should be put into immediate effect, and predicted that transition to an all-volunteer force could be achieved by the time the present draft law expires next year.

Few responsible officials in the Defense Department —civilian or military—agreed with the timetable; nor did leaders of the Congress. Some were distressed by the overall tone of the resulting report, by certain errors and inconsistencies, and by its "oversimplification" of major problems inherent in transitioning to an all-volunteer organization.

The result was predictable.

Without disavowing the report or its progenitors, the President carefully edged the bulk of the recommendations toward a back burner, urged Congress to overhaul the current draft law (with the expectation of seeking an extension next year), and moved to modify pay and other aspects of service life which, it is hoped, will begin to attract volunteers in greater numbers.

If the inducements to volunteer prove fruitful, the draft sooner or later (considerably later, in all probability) will wither and die. But in the meantime, Defense Department manning requirements will continue to be met through a mixed force of conscripts and volunteers until an all-volunteer organization materializes.

The Gates Commission report, except for some of its broader conclusions and generalizations and perhaps a handful of the philosophical arguments favoring a volunteer force, could meanwhile be left to gather dust. In many respects it is a shallow document, scratching only the surface of problems that have deep and twisted roots.

But if that is the case, some might ask, isn't further discussion of the report only academic? The answer would have to be an unqualified: "No."

Thousands of copies of the report exist. More than 11,900 have been distributed internally within the government, to libraries, and to outside organizations, including a significant segment of the press. Another 10,000 copies have been published and offered for sale by the Government Printing Office (more than 2,500 had already been sold by late April, and orders were still being filled).

This means that, for a long time to come, the report will linger in the hands of many who know no more about the subject than the report tells them. And, in all likelihood, it also means that some newsmen and members of Congress will continue—perhaps unwisely—to use the volume as a reference source.

For these reasons, it is important to take a long, hard look at what the report says, at what it recommends, and at its conclusions and comments that are either contradictory, conflicting, confusing, or at variance with the facts.

Objections

In reaching its basic conclusion that higher pay for the lower ranks will permit almost overnight transition

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In the April issue of AIR FORCE/SPACE DIGEST, *military expert Louis R. Stockstill outlined the more conspicuous recommendations of a report submitted by a special presidential commission, headed by former Secretary of Defense Thomas S. Gates, on the planned all-volunteer force. On these pages appears his in-depth follow-up presentation of the arguments for and against. Mr. Stockstill is the author of the provocative report on American POWs in Southeast Asia, which appeared in this magazine in October 1969. (A story on the attention currently being given the POW situation begins on page 32.)*

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to an all-volunteer armed force, the Gates Commission tackled and demolished—to its own satisfaction, at least —numerous objections posed by those who fear the all-volunteer concept.

Opponents of the volunteer force see the concept as loaded with questionable political, social, and military effects. Their "main" objections, as detailed by the Commission, revolve around five basic questions:

- Is it desirable?
- Is it feasible?
- Can we afford it?
- Will it weaken military effectiveness?
- Does it threaten to subvert civilian control?

To acquaint the nation with "both sides of the issues," the Commission sketched a dozen of the most frequently heard objections and then erased them, one by one—effectively in some instances, smudgily in others.

Stripped to their essentials, here are the "complaints" (headed "Argument"), followed by the Commission's "Answers."

Desirability

Argument: A volunteer force would undermine patriotism by weakening the traditional belief that each citizen has a moral responsibility to serve his country.

Answer: When all citizens cannot serve and only a small minority is needed, a voluntary decision is the best answer, morally and practically. Compelling service through a "draft" undermines respect for the government.

Feasibility

Argument: Even with the draft, the armed forces experience great difficulty attracting and retaining needed manpower. Vast numbers who enlist today, do so only out of fear of the draft. The number who freely enlist or reenlist (true volunteers) has never met service requirements.

Answer: Best estimates are that half (250,000) of the men annually entering the armed forces today are true volunteers" who were not influenced by the draft, and who enlisted despite extremely low and inequitable entry pay. With this number continuing to volunteer, an all-volunteer force of 2,500,000 men would require only 75,000 additional annual enlistees, who can be obtained by improving pay and conditions of service.

Cost

Argument: A 1966 Defense Department study concluded that a volunteer force of 2,650,000 men would add from $4 billion to $17 billion annually to the Defense budget.

Answer: The Gates Commission estimates that the additional budgetary increase for a 2,500,000-man, all-volunteer force would initially be $2.7 billion (after the government recovered some $500 million in extra taxes), and that the force could be maintained at this level, beginning in 1977, with additional annual expenditures of $2.1 billion (after recovery of increased taxes and savings" generated by lower personnel turnover).

Argument: Even if the lower estimate of the Gates Commission is correct, opponents say funds appropriated to the Defense Department for other programs ultimately will be cut to compensate for the added manpower costs, thereby creating a potentially serious deterioration of the nation's overall military posture.

Answer: The size of the military budget and military strength depends upon public attitudes. Since World War II, peacetime forces have been supported at high levels because the public believed them to be essential. The shift to an all-volunteer force cannot significantly change that feeling. But, when the cost is made explicit, if taxpayers decide they prefer a smaller defense force, the issue will have been resolved openly, in accord with the Constitution, and in the best tradition of the democratic process. "Those who then argue that too little is being devoted to national defense are saying they are unwilling to trust the open democratic process," as the Gates report put it.

Military Effectiveness

Argument: A volunteer force will be less effective because not enough highly qualified youths will be likely to enlist and pursue military careers. As the quality of servicemen declines, the prestige and dignity of the services will also decline and further intensify recruiting problems.

Answer: Use of coercion to man the armed services must be a serious deterrent to potential volunteers. A force of men freely choosing to serve should enhance military dignity and prestige. All those in uniform will be serving as a matter of choice. By improving basic pay, pro-pay, and conditions of service and accelerating promotions for the highly skilled, military career opportunities will be more attractive. These improvements, combined with intensive recruiting, should enable the military to maintain a high-quality, more-experienced, better-motivated force, with higher morale.

Argument: Those joining an all-volunteer force will be men from the lowest economic classes, motivated primarily by monetary rewards rather than patriotism. Thus, the services will be manned by mercenaries.

Answer: An all-volunteer force will not differ significantly from the current force. Maintenance of current mental, physical, and moral standards will ensure that a better-paid, volunteer force will not recruit an undue proportion of youths from disadvantaged socioeconomic backgrounds. Increased first-term pay will attract more men who have higher civilian earning potential than who have lower civilian potential. The term "mercenary" applies to men who enlist for pay alone, usually in the service of a foreign power, and precludes all other motives for serving. Those who volunteer do so for a variety of reasons, including a sense of duty. Improved pay and conditions of service will not suddenly change the motives and basic attitudes of new recruits.

Argument: The higher pay will be especially appealing to blacks with relatively poorer civilian opportunities. Combined with their higher re-up rates, this will mean a disproportionate number of blacks in military service, leading to a decline in white enlistments and reenlistments, and an ultimate all-black enlisted force.

Answer: Simply no basis in fact. Negroes presently

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make up 10.6 percent of enlisted men. Future projections are for about fourteen percent in a conscripted force of 2,500,000 or for fifteen percent in an all-volunteer force of equal capability (in the Army: nineteen percent, compared with present 12.8 percent).

Argument: The all-volunteer force will lack flexibility to expand rapidly in times of sudden crisis.

Answer: Military preparedness depends on forces in being, not on the ability to draft untrained men. The Commission has recommended a standby draft for emergencies.

Civilian Control

Argument: The presence of draftees in a mixed force guards against the growth of a separate military ethos, which could pose a threat to civilian authority, freedom, and democratic institutions.

Answer: In either a mixed or volunteer force, the attitudes of the officer corps are the preponderant factor in the psychology of the military; and with or without the draft, professional officers are recruited voluntarily from a variety of regional and socioeconomic backgrounds. We already have a large professional armed force amounting to more than 2,000,000 men. The existing loyalties and political influence of that force cannot be materially changed by eliminating conscription in the lowest ranks.

Argument: An all-volunteer force would stimulate foreign military adventures, foster an irresponsible foreign policy, and lessen civilian concern about the use of military forces.

Answer: Decisions to use force or to threaten use of force during crises are linked with the high cost of military resources, the moral burden of risking human life, political costs at home and overseas, and the overshadowing risk of nuclear confrontation. It is absurd to argue on the basis of whether forces are voluntary or mixed that issues of such importance would be ignored or that force would be used. To the extent that there is pressure to seek military solutions to foreign-policy problems, such pressure already exists and will not be affected by ending conscription. The volunteer force will have the same professional leadership as the present mixed force. Changes in the lower ranks will not alter the character of this leadership or the degree of civilian control.

Recommendations

Having disposed of the objections, the Commission then called for an end to the draft by mid-1971 (except for "standby" authority in case of emergency), urged immediate and substantial pay raises for first-term officers and first- and second-term enlisted men, held out the promise of a twelve-month transition to an all-volunteer force, and endorsed a wide-ranging array of other proposals, semiproposals, suggestions, and possibilities for meeting the overall goal.

The major recommendations and suggestions were outlined in the April issue of AIR FORCE/SPACE DIGEST (*pages 52 and 53*) and included an assorted bag. Examples: adoption of military "salary" system, retirement "vesting," higher hostile-fire pay, civilianization of thousands of military billets, accelerated recruiting boosts in doctor pay, major changes in military medical programs, reduction of paid drill spaces in the Reserves, and higher entering grades and speedier promotion for "recruits" with special skills. The list is far from complete, but it demonstrates the scope and variety of the many problem areas the Commission believes must be smoothed out if the volunteer concept is to be adopted and made workable.

Are the Answers Solid?

At first reading, many of the answers supplied by the Commission seem to make uncommonly good sense. But additional study and reflection cannot fail to raise further questions and doubts.

Desirability: When the Commission says compulsory military service "undermines respect for the government," we may ponder the current draft turmoil and its many ramifications and tentatively agree. But then comes an almost inescapable second thought: Aren't our youth rebelling, at least in part, because many parents have lost the respect of their offspring by *not* compelling them to do anything much? The youngster who has no obligatory chores at home, no firm rules of conduct, no clearly established lines of authority, who is beset with conflicting evidence of what is expected of him, may also have little respect for his parents and even less understanding of his responsibilities to the family as a unit. If the rules or chores are not the same for him as for his siblings, this may create resentment only if there is no good reason for such discrimination and if he fails to understand the reasons that exist.

Thus, when the nation demands military service from its sons, the inequities the system breeds may not be so much at fault as are the *unnecessary* inequities.

If the system were made as equitable as possible, many would no doubt continue to see reasonable merit in requiring some of our young men to share a portion of the burdens and responsibilities of their government on other than a "volunteer" basis. Even members of the Cabinet are sometimes reluctantly "drafted." And, as a Senate Judiciary Subcommittee noted in a report earlier this year: Creation of an all-volunteer force may introduce economic and social factors capable of creating a system that is just as discriminatory and probably less democratic than the draft.

Yet, the question may no longer be germane. The White House has committed us to move toward an all-volunteer military organization, the Gates Commission says the step is desirable, the armed forces appear willing to try it, and the President has now accelerated the momentum of the choice.

Timetable. Still, the first recommendation of the Gates Commission to fall by the wayside was its timetable for ending the draft and arriving at an all-volunteer organization by mid-1971.

The President officially confirmed in late April that neither objective can be met within that time frame. We can move away from reliance on the draft, he said, but only in a "phased" effort geared to the success of new initiatives designed to generate more volunteers.

By executive order, the President ended some futu

draft deferments, and at the same time asked Congress for authority to end others. He made it clear that as long as we must continue to use the draft, he will (if given the authority) spread induction liability over a much broader segment of our youth. Under his plan, the dropout or college-bound, the single man or father (except in "extreme hardship" cases), the farmer and the technically or scientifically skilled would all be treated alike as they become eligible in the future.

The Chief Executive also asked for additional authority to make the lottery system more equitable by issuing "national calls" that would assure that all men with the same lottery number become liable for induction at the same time.

But the draft must be retained for the present, he said, and probably extended by Congress next year. Programs aimed at attracting volunteers will meanwhile be speeded up.

Feasibility. This brings us to a discussion of the feasibility of an all-volunteer force.

The Gates Commission asserts that it is indeed feasible. Yet its report is filled with lingering doubts. Many of the recommendations and suggestions are

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Press Comment on the Gates Report

Much of the nation's press has taken a position on the Gates Commission report. Here are samples of what some of the newspapers and columnists have been saying:

DENVER POST—The Commission has made a solid case.

NEW YORK NEWS—We hope there will be a lot more searching look—by officials and the public generally—at this scheme before we rush willy-nilly to adopt it.

KANSAS CITY TIMES—A big improvement over the unfairness of conscription.

JOSEPH ALSOP—The calculations of the President's commission . . . look alarmingly overoptimistic.

CROSBY S. NOYES—The arguments advanced by the Gates Commission . . . are overwhelming.

VIRGINIA PILOT—Career professionals are the sole answer to the modern military machine's manning problem.

PHILADELPHIA INQUIRER—It seems almost out of the question to introduce the volunteer system as quickly as the Commission has suggested.

ST. LOUIS POST DISPATCH—The Commission makes it clear that a volunteer army would not be prohibitively expensive.

WILLIAM F. BUCKLEY, JR.—The additional cost is easily compensated for in a fairly short run by the economic productivity of those who do not enter the Army, and therefore remain home and pay taxes. And, in the long run, by the lowered cost of training—the fruits of professionalism.

MICHAEL HARRINGTON—A scheme for hiring the children of the workers to do our patriotic dying for us. . . . Economic incentives to go into the Army will primarily appeal to young men with gloomy futures.

CHRISTIAN SCIENCE MONITOR—If this kind of army can be safeguarded against the development of a militaristic "German general staff" mentality—and we believe it can—then the volunteer force is probably a useful thing.

JERRY GREENE—There simply aren't enough properly qualified citizens around who want to spend their lives in uniform to meet the demand. . . . The draft is going to be with us until peace breaks out all over the world.

WASHINGTON STAR—Achievement of a completely voluntary military establishment promises substantial benefits in terms of increased efficiency and professionalism, more equitable salaries for those in service, and an end of unpopular, unevenly felt conscription.

DETROIT NEWS—Woefully wrong both in its timetable and sweeping concept.

CHICAGO DAILY NEWS—As a long-range objective, a volunteer force would seem ideal for the country's normal peacetime needs.

WASHINGTON DAILY NEWS—The Gates Commission may be on the right track. Some of its arguments are highly appealing. But this is a policy decision which will require the affirmative backing of the whole country. In that light, the evidence is far from all being in.

CLEVELAND PLAIN DEALER—The Commission appears to have provided satisfactory rebuttals to criticisms of the concept of a volunteer military force.

ATLANTA CONSTITUTION—The very people who scream loudest about the draft are the same ones who scream loudest about military expenditures.

WASHINGTON POST—[The attraction of needed volunteers seems] feasible if the additional incentives and improved recruiting [are provided, but the cost] to taxpayers in general will involve political problems that may not be readily solvable.

LOS ANGELES TIMES—Our present method of finding manpower for our military needs is shot through with imperfections. The all-volunteer plan would be a change, but not, we think, for the better.

SAN DIEGO UNION—Making financial return a primary consideration for those we ask to risk their lives to defend our country has the odor of a moral compromise. Our wealthy nation should consider a lesson that wealthy individuals often have learned painfully—that there are some things money can't buy.

MILWAUKEE JOURNAL—What is really needed in the immediate future is not a volunteer military service but a fairer and more equitable draft system.

hedged on "iffy" language suggesting alternative areas for action or study in the event some of the calculations and forecasts fail to produce expected results.

The Commission may be correct in assuming that—in sheer numbers—sufficient men can be attracted to military service on a volunteer basis, provided entering pay is markedly upgraded and a host of other attractions are either created or improved. But the manner in which it arrived at and "costed" this assumption will not hold water.

Let's see why. The Commission said:

First, not more than 325,000 annual volunteers are needed as the basis of a 2,500,000-man force.

Second, since some 250,000 of those now enlisting each year are "true volunteers," only 75,000 more volunteers must be attracted into uniform annually to wipe out the deficit.

Third, the additional 75,000 men can be obtained by the simple expedient of providing "reasonable improvements in pay and benefits in the early years of service."

Fourth, most (about $2.7 billion) of the first-year cost applies solely to increases in entering pay of first-termers (officer and enlisted), and to a seven to nine percent increase in basic pay for enlisted men in their second term. (The Commission seemingly was undecided about the exact percentage increase for second-termers, saying on page 57 of the report that the increase would be "about nine percent" and, on page 183, "roughly seven percent.")

These assumptions and pay provisions sound good, yet no funds are prescribed for an unspecified number of "other" volunteers the Commission believes the services should enlist or commission in higher grades and at higher pay because they possess needed skills perhaps not otherwise obtainable.

Nor does the Commission hold out any strong new incentives (or funding for such incentives) to *keep* the man once the services get him. All of the armed forces already have serious retention problems among their career men, and these can hardly be blamed on low entry pay.

Who would the first-term volunteers be? The Commission says they would be essentially the same type of men the services are now obtaining. (Hedge: *except* there would be fewer college graduates.)

The Commission comment about the caliber of a volunteer Reserve force is particularly illuminating: "If recruitment is focused on a younger, less well-educated group, the flow of volunteers will be substantially larger." Last year, ninety-four percent of paid drill Reservists had completed high school, more than half had attended college, and sixteen percent had college degrees. But the Commission says: "The Reserves do not require such an educationally rich force."

As for active-duty officers, the Commission says present emphasis on the college-trained man is arbitrary, and at least ten percent of the future officer corps can be recruited from non-college sources. (Hedge: If difficulty is experienced, serious consideration should be given to expanding non-college commissioning programs.)

Yet, with this apparent downgrading of the overall educational caliber of both the officer and enlisted force (not necessarily alarming in itself, according to knowledgeable manpower planners), the Commission incongruously comments at another point that the services today "must compete with the civilian sector for those youths who in increasing numbers enter the labor force with more education and greater technical background."

Defense-wide, the Commission report discloses, the percentage of enlisted men required for electronics and other technical fields is expected to climb from the post-Korea, pre-Vietnam (1953) figure of seventeen percent to an estimated twenty-eight percent in 1974.

To obtain needed specialists not otherwise volunteering as a result of improvements in first-term pay, the Commission suggests that both the enlisted and officer force should be supplemented by giving some entering men higher ranks commensurate with their skills.

Yet a great many of the skills required by the armed forces (sonar operators, as an isolated example) are almost nonexistent elsewhere in the economy. Volunteers can of course continue to be trained, but they must at least be trainable. Other skills in demand are, in many instances, those which civilians learned while in uniform, and which they have continued to perfect at higher and higher pay in civilian life. To entice them back into the armed forces would be an expensive proposition.

All skilled "volunteers" recruited in higher ranks would cost substantially more per man than the Commission has earmarked for first-term recruits. But no funds are provided for this purpose.

The magnitude of the problem is apparent when one looks only at the enlisted electronic- and technical-skill needs of the 1974 force. If that force is 2,500,000 men, and if the Commission's estimate of twenty-eight percent for men with such skills is correct, almost 600,000 men will be required to fill these jobs.

If even half this number of men must be recruited at higher pay-grades (let's say at $1,200 per year above the pay of a normal recruit—not much of an inducement for a skilled technician), the enlisted military payroll would jump about $300 million more annually, not counting higher costs of pay increments or benefits geared to rank.

And the same would be true in the officer ranks. The Commission suggests "advanced grades" for civilians who could be commissioned in a variety of "noncombat skills." Obviously, premium pay for those recruited at escalated officer grades would again jump payroll costs, and at a much more impressive rate per individual.

In failing to budget for these implied costs, the Commission leaves some gaping holes in its feasibility claims. It is not feasible for a man to buy a $95,000 home if he produces the down payment for a home costing only $50,000.

Overall Cost

There are other reasons to regard the total cost estimates with some degree of suspicion.

As has been previously noted, the Commission pre-

sented conflicting statements about the recommended pay increase for second-term enlisted men, stating at one point that it would be "about nine percent" and at a subsequent point that it would be "roughly seven percent." There's a difference of about $60 million. Which estimate was used in the final costing?

Similarly, a Commission chart on page 103 of the report shows that drill pay for Reservists would be increased 4.9 percent as they enter their seventh year of service. But on page 109 the Commission notes that "we propose to increase enlisted drill pay six percent after the sixth year of service, when most decisions to continue in the Reserves are made." Again, one cannot help but wonder whether the higher or lower estimate was used in calculating the overall increase in the Reserve Forces payroll.

In the absence of some logical explanation for these inconsistencies, there are sure to be doubts about the thoroughness of the staff work.

Another cost that is explained in equally murky terms is that relating to armed forces medical programs. The Commission proposed hefty boosts in special "doctor pay," giving many physicians $12,600 to $18,785 more per year than their Line contemporaries. At the same time, the Commission proposed a $35,000 subsidy for medical students willing to commit themselves to three years' active duty, and suggested civilian staffing for military hospitals.

What would all this cost? For Fiscal 1971 (page 7 of the report), the Commission says the budget increase for "additional medical corps expense" would be $120 million. But in the section of the report discussing transition to a voluntary medical corps, the Commission says this: "Given the recommended pay increase, the fellowship program, and the cost of civilian-staffed hospitals, we estimate that an additional $150 million to about $200 million of expenditures will be required."

To further complicate the questions raised by these figures, a footnote appended to the $150 million to $200 million estimate explains that procurement and retention of professionals "in other health disciplines pose similar, though somewhat less severe, problems which must also be addressed."

One might logically ask, "When?" And, "How much additional money will be required to meet these obligations?"

And what about increased retirement costs? Surely these will rise as the services create the more "stable force levels" projected by the Commission. But no funds are pinpointed for this purpose.

There are other equally disturbing omissions and discrepancies in the report, but the object here is not to detail them page by page (that might take a book), but to cite examples that demonstrate that the budgetary implications are much less conclusive than they might be and should be.

Salaries

One might be less concerned about the overall cost estimates if the supporting data in the report were more exact. But here, too, there are contradictions.

Let's take a single example, but one that is extremely significant—officer pay in the overall force and in the Medical Corps.

First, the overall officer force (*see Chart A*): As defined by the Commission, "*regular* military compensation" is the sum of basic pay, basic allowances for subsistence and quarters, and tax advantage." But the definition of "*total* military compensation" appears to be uniquely new, placing a dollar tag on just about

(Continued on following page)

CHART A

Officers' and Comparable Civilian Compensation Profiles by Length of Service (1970 Pay Rates)

This is one of the charts in the Gates Commission's report. It is designed to illustrate pay scales for officers, on the basis of their length of service, as contrasted with comparable civilian jobs, in terms of 1970 pay rates. The author of the accompanying analysis of the Commission's recommendations finds fault with some of the definitions used in the chart and conclusions drawn.

Years of service	Regular military compensation	Total military compensation	Total civilian compensation	Regular military compensation as a percent of total civilian compensation	Total military compensation as a percent of total civilian compensation
1	$ 7,337	$ 8,422	$ 8,558	85.7	98.4
2	7,568	8,740	9,291	81.5	94.1
3	9,145	10,732	9,957	91.8	107.8
4	10,906	12,874	10,556	103.3	122.0
5	11,963	14,486	11,089	107.9	130.6
6	12,277	15,050	11,555	106.2	130.2
7	12,779	15,880	12,021	106.3	132.1
8	12,856	16,214	12,488	103.0	129.8
9-10	13,245	16,759	13,243	100.0	126.5
11-12	14,058	18,144	14,689	95.7	123.5
13-16	14,986	19,545	15,844	94.6	123.4
17-20	16,159	21,290	16,470	98.1	129.3
21 +	19,142	26,771	17,765	107.8	150.7

everything except the ground on which the man walks. The Commission says "total military compensation includes, in addition to the regular compensation, the other current cash pays such as bonuses, incentive pay, and specialty pays (except hostile-fire pay), as well as the *estimated value of future retired pay*. It also includes an estimate of the value of such fringe benefits as *full* medical services for the individual and his family, and commissary and post exchange privileges." (Italics supplied.)

The final column in the chart purports to show that a military officer with twenty-one years' service actually receives almost fifty-one percent more total compensation than the civilian who, presumably, is his counterpart. An officer with five years' service, the chart says, is receiving almost thirty-one percent more than his civilian contemporary.

The chart poses so many problems it is difficult to know how many to go after or which to tackle first. Let's look at three of the more obvious problems: retired pay, special pay, and fringe benefits.

Retired Pay—The military man on the chart is assessed an undisclosed amount for the "estimated value of future retired pay." Yet, under the present pay system, an officer who leaves military service before completing a minimum of twenty years' service is not eligible for a single dollar of retired pay, nor is he entitled to withdraw a single dollar from a retirement "bank account" such as exists for other federal employees. The Commission even takes note of this inequity elsewhere in its report by endorsing the Hubbell proposal to create "retirement vesting" for the military. The Hubbell plan, named for Rear Adm. Lester E. Hubbell, USN, who headed the study group, last year recommended an entirely new military pay structure. The proposal was reported on at length in the March '69 issue of this magazine.

Special Pay—Some men in the armed forces receive a number of incentive or specialty pays, others may receive only one, and some may receive none. Yet Chart A sets a unit-value (again, unknown) on such pay and spreads it on an apparent per-capita basis among all officers with the same length of service—whether they receive it or not.

Fringe Benefits—One of the logical conclusions of the Hubbell pay study was that it is impossible to assess the value of certain fringe benefits such as commissary and PX privileges as they pertain to individual families, because some families are able to utilize the benefits to a much greater extent than others, and the benefit is of value only to the extent that it is used. Yet Chart A assesses all officers with some portion of the cost of such benefits, whether used or not.

These three examples, alone, indicate that the "total *military* compensation" figures provide a highly misshapen "profile," and a grossly overevaluated military income.

By the same token, the "total *civilian* compensation" is underevaluated. Without giving the Commission's lengthy and complicated explanation of how it arrived at the civilian figures, it is perhaps adequate to note that they were derived from income statistics produced by the Census Bureau and upgraded by the Commission to account for subsequent pay increases and to further raise the total by 8.6 percent to cover employer contributions to "fringe benefits." Nothing apparently was added to account for the "estimated value of future retired pay," nor was any apparent account taken of bonuses, or special pays which are not uncommon in private industry.

And—adding insult to injury—the civilian compensation covers *all* "white college graduates, sixteen years of education or more," regardless of where they ended up in the economy after receiving their sheepskins. Those who failed to get promoted or who flunked some other career opportunity are dumped together with those who were successes or partial successes. The military men, on the other hand, except for those in the earliest years of service, are men who have passed successive promotion-selection obstacles which become more severe with the passage of time.

Also, the "years of service" column is misleading. For the military man it denotes actual years of service in the armed forces (in other words, sustained performance in a single career field). For the civilian it denotes the number of years elapsing since the man graduated from college (during which time, of course, he may have wandered through a succession of unrelated jobs, perhaps even have been fired a time or two).

In support of its position, the Commission argues that: (a) promotion selectivity in the armed forces isn't "too critical until about the twenty-years-of service point," and that (b) if the officer corps appears to suffer from the comparison with the civilian group "any residual difference in quality" is compensated for the fact that all of the civilians hold college degrees whereas only seventy percent of the officer corps are college-educated.

The report states: "If there is any bias in our measurement of compensation, it is probably in

How's That, Again?

The language of economics threads the pages of the Gates Commission report on an all-volunteer force.

Frequently, the convoluted and unfamiliar terminology of some paragraphs requires a lay reader to reread the same words several times in an effort to understand what the report is saying.

Perhaps the most extreme example is contained in a section that seeks to show that a 1966 Defense Department study was far off base when it concluded that the cost of an all-volunteer military establishment might go as high as $17 billion.

The full flavor of the Commission response to this prediction is captured in the following sentence from the Gates report:

"Given the relative recruitment deficits appearing in the fourth panel of table C-II, the elasticities implied by the first-term pay increases proposed in the 1966 DoD study can be calculated from the following equation:

$$\log (E_1/E_0) = B [\log (M_1/M_0)],$$

where the Army recruitment deficits are used as the pertinent shortfalls."

CHART B

Proposed Compensation for Medical Officers

Active service	Officer rank	Annual salary	Physician continuation pay*	Physician pay	Medical officer total salary
1	0-3	$11,034.36	0	$ 1,800	$12,834
2	0-3	11,455.56	0	1,800	13,256
3	0-3	11,455.56	0	3,600	15,056
4	0-3	11,793.96	0	5,400	17,194
5	0-4	12,319.56	0	7,200	19,520
6	0-4	12,999.96	0	9,000	22,000
7	0-4	12,999.96	0	10,800	23,800
8	0-4	13,601.16	0	12,600	26,201
9	0-4	13,601.16	$2,822	12,600	29,023
10	0-4	14,115.96	2,950	12,600	29,666
11	0-5	14,952.96	3,120	12,600	30,673
12	0-5	15,888.96	3,356	12,600	31,845
13	0-5	15,888.96	3,356	12,600	31,845
14	0-5	16,659.12	3,549	12,600	32,808
15	0-5	16,659.12	3,549	12,600	32,808
16	0-5	17,084.16	3,655	12,600	33,339
17	0-6	18,779.76	4,041	12,600	35,421
18	0-6	19,719.36	4,276	12,600	36,595
19	0-6	19,719.36	4,276	12,600	36,595
20	0-6	19,719.36	5,701	12,600	38,020
21	0-6	19,719.36	5,701	12,600	38,020
22	0-6	21,170.16	6,185	12,600	39,955

* Already in effect.

direction of underestimating military compensation for those in the latter stages of their careers."

The kindest comment that can be made about this rationale and the methodology that produced Chart A is that it is far from convincing.

Pay for Medical Officers

But, before abandoning all discussion of the chart, we should take a look, for comparative purposes, at Chart B—the proposed compensation for medical officers. Here, the Commission sought to show the need for substantial increases in doctor pay, and elected to use a different set of criteria to depict both present and projected income of military physicians.

Chart B does not talk about "total military compensation," as did Chart A. Instead, Chart B discusses "annual salary" which, the report says, covers only basic pay and quarters and subsistence allowances. The "tax advantage" on quarters and subsistence allowances is ignored. As for special pays and retirement benefits, the chart carries a footnote comment that these would produce higher "total compensation." But no mention is made of commissary and PX privileges.

Why two different sets of criteria for the two charts? One can only speculate that the two sections of the report were put together by separate staff members and not coordinated. And, if this happened, the nagging question is whether other sections of the report are similarly disjointed.

In both cases, the charts offer distorted and divergent assessments of current military compensation.

Percentage Increases

Selective misuse of statistics to prove various contentions in the Commission report is nowhere more obvious than in the section discussing the need for substantial increases in entering pay for officer and enlisted personnel.

No doubt the need exists, and the President, in fact, has moved to narrow the gap in the enlisted ranks by asking Congress to vote an additional twenty percent pay boost for EM with less than two years' service, to take effect next January (Chart C).

But while the Commission's conclusions may be valid in this respect, the "evidence" cited to back their claim is, at best, one-sided.

The Commission says that between 1948 and 1965 "the average basic pay of officers with two or more years of military service increased forty-five percent while that for officers with less than two years of service increased only about thirteen percent." And that, during the same time frame, the history of discrimination against first-term enlisted men "is even more striking," producing a pay increase of "four percent for those with less than two years of service."

The Commission said it used 1965 as the cutoff year because it was "the most recent peacetime year." But it was in July of 1965 that military pay took a quantum jump.

CHART C

President's Proposed Pay Increase For EM With Less Than Two Years' Service (Effective Jan. 1, 1971)

Grade	Present	Proposed	Increase
AT TIME OF INDUCTION (E-1)	$124.50	$149.40	$24.90
AFTER BASIC TRAINING (E-2)	$138.30	$165.90	$27.60
AFTER 1 YEAR OF SERVICE (E-3)	$167.70	$201.30	$33.60
MEN REACHING E-4 IN LESS THAN 2 YEARS	$231.60	$277.80	$46.20
MEN REACHING E-5 IN LESS THAN 2 YEARS	$275.40	$330.60	$55.20

Thus, if the comparison is extended from 1948 *through* 1965, the statistics are quite different.

For example: The basic pay of an O-1 with less than two years' service in 1948 was $180 per month. By September 1, 1965, it had been increased to $294.60 per month—or *more than sixty-three percent.* Similarly, the basic pay of an E-1 with less than two years' service was $75 per month in 1948, but had been in-

(Continued on following page)

creased to $87.90 per month by September 1, 1965—*more than sixteen percent.*

The point is not made to dispute the Commission's assertion that entering pay is too low, but to demonstrate that the case is somewhat overstated. This can be dangerous when such "evidence" is presented to the Congress in support of pay reforms. Too often, in such cases, the favorable arguments and merits of a proposal get shunted aside while irrelevant issues are debated.

Anyone who recalls the Cordiner Commission report of 1957 (named for Ralph J. Cordiner, president of the General Electric Co.) will remember that the gut issues of that proposed pay-reform measure all but foundered on an ill-advised claim that the reforms would "save" enormous amounts of money.

Pentagon Overview

I talked with a number of senior manpower experts within the Defense Department, not about the nuts and bolts of the Commission report, but about the overall objectives and recommendations.

For the most part, they were generally agreed that the armed forces can safely move toward the institution of an all-volunteer organization—provided the draft is not discarded until sufficient men are responding to the new volunteer programs to prove that draft calls can indeed be eliminated.

The President gave strong backing to this approach when he stated in his April message to the Congress that, "From now on, the objective of this Administration is to reduce draft calls to zero, subject to the overriding considerations of national security." The latter clause provides an escape route if the reforms should prove unworkable.

But there is every indication that determined efforts will be made to assure the success of the program—both in terms of adopting some of the measures suggested by the Gates Commission and in terms of other programs the services recognize as of equal or greater importance.

So far, the President has officially accepted only three basic conclusions of the Gates report: (1) that an all-volunteer force will serve the nation better than a mixed force, (2) that we should move toward ending the draft, and (3) that entering pay for the enlisted force is too low.

Initially, however, the Chief Executive temporized both the draft and pay recommendations.

The Commission indicated that the draft could be allowed to expire next year. The President said it "cannot be ended all at once. It must be phased out, so that we can be certain of maintaining our defense strength at every step."

The Commission urged an immediate fifty percent pay boost for first-term enlisted personnel, a twenty-eight percent pay boost for first-term officers, a nine percent (or seven percent) pay increase for second-term enlisted men, higher pay for the medical corps, and revision of a number of other special pays.

The President proposed only a twenty percent increase for enlisted first-termers, and recommended that it be delayed until next January.

At the same time, however, he held out the promise that he will move forward with other, more costly programs in his Fiscal '72 budget—noting that he will ask for an additional $2 billion at that time for "added pay and other benefits, especially for those serving their first two years."

Meanwhile, the President said he has directed the Secretary of Defense to (1) give "high priority" to the expansion of programs designed to increase enlistments and career-retention, and (2) to review service manpower policies and practices with the purpose of giving "new emphasis to recognition of the individual needs, aspirations, and capabilities of all military personnel."

He also asked that he be furnished with quarterly "progress" reports.

The Defense Department in-house effort will now center in the office of DoD's manpower chief, Roger T. Kelley, where an on-going "Project Volunteer" program already has been in effect for more than a year. The pace of this effort will doubtless be stepped up, and probably with particular attention to some aspects of service life that received little more than casual mention in the Gates Commission report. These include needed improvements in family and bachelor housing (possibly off base), stronger efforts to bolster career-retention (especially in high-skill areas), a more thorough study of the impact a volunteer force will have on the Reserves, and a careful look at ways and methods of meeting not only the quantitative needs but the qualitative demands of an all-volunteer organization.

Certainly, the career structure will be examined as thoroughly as—if not more thoroughly than—the structure at the entering level of the military manpower pyramid. And all solutions will have to be linked to an overall effort to improve the current image of the armed forces, which has suffered sharp setbacks over the past couple of years.

Both of these factors were noted by the President in his April message. He said:

"While we focus on removing inequities in the pay of men serving their first few years in the military, we must not neglect the career servicemen. They are the indispensable core of our armed forces. The increasing technological complexity of modern defense, and the constantly changing international situation, make their assignments ever more difficult—and critical. We shall continue to make every effort to ensure that they are fairly treated and justly compensated.

"There is another essential element—beyond pay and benefits, beyond the best in training and equipment—that is vital to the high morale of any armed force in a free society. It is the backing, support, and confidence of the people and the society the military serves. While government can provide the economic justice our men in arms deserve, moral support and backing can come only from the American people."

Thus, the commitment to an all-volunteer force has now moved into high gear. Both administrative and legislative efforts, as well as a great deal of money, will have to be poured into the fuel tank.

But whether the vehicle will end up as a Grand Prix contestant, a slow-moving oil-burner, or an Edsel—only time will tell.—END

AIR FORCE/SPACE DIGEST

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The tradition of excellence that has consistently been a part of the editorial policy and content of AIR FORCE/SPACE DIGEST was once again recognized with the announcement by the Aviation/Space Writers Association of Edgar E. Ulsamer as 1970 recipient of the James J. Strebig Memorial Award. This is AWA's highest award recognizing the best aviation writing in any print media during the preceding year.

Ed Ulsamer, an AF/SD Associate Editor and a staff member since 1964, was also named to receive AWA's award for excellence in aviation writing in the category of aviation/space magazines during the year.

To add to this professional recognition of AF/SD's editorial quality—the reason it is the most respected and carefully read magazine of its kind—a special AWA citation has been awarded to AF/SD contributing writer Louis R. Stockstill for his exposé of the plight of American POWs in Vietnam. This article has been widely quoted and reprinted and was the lead article of the November issue of *Reader's Digest*.

A Winner's Background

- Served in the Office of Strategic Services (OSS) during World War II.
- Seven years as staff correspondent in Vienna for United Press International after the War. (Among his "firsts" was a detailed report on the break of Yugoslavia's Tito with the united Communist front.)
- Writer for the Voice of America.
- Promotion Manager and Product Editor for Minneapolis-Honeywell.

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  Technical Editor J. S. Butz, Jr., for "Taking the Night Away from the Viet Cong"

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The Communists have chosen to make the Vietnam War and future conflicts "people's wars." By their definition of people's war, everyone is a combatant. The ramifications of this policy are immense. The meaning is that terror will be routinized and cease being an isolated phenomenon . . .

The Kind of War That Is Vietnam: 'People's War' With Terror as the Tool

By Douglas Pike

DAK SON is a name probably destined to be lost in the mists of time and history. But Dak Son, a place in South Vietnam, should be remembered. It should be remembered along with the better-known examples of man's inhumanity which stud the record of the human race.

It was shortly before Christmas, 1967, that this tribal highland village of some 2,000 inhabitants was the scene of what to me remains the worst atrocity in the entire atrocity-ridden Vietnam War. Dak Son had none of the awesome magnitude of the Hué massacre, that vast enterprise of death that would occur a year later. The dead at Dak Son numbered only 252 (plus 200 abducted never to return), less than one-tenth the toll at Hué. But Dak Son had about it a kind of insane cruelty more nightmarish than Hué's scene of execution squads, with death lists attached to their clipboards, moving from house to house calling out the unfortunates. Dak Son was unrelieved savagery, emphasized by the innocence of its victims.

After breaking through the flimsy hamlet militia's defenses, 300 Communists systematically set about to destroy Dak Son. Their chief weapons were flame throwers—sixty of them. Families were incinerated alive in their grass-roofed huts or in the trenches dug beneath their beds—where they had taken shelter. Everything combustible was put to the torch: houses, newly harvested grain, fences, trees, people. It was a "Carthaginian solution," all but the sowing of the salt.

One of the first Americans to arrive on the scene the following morning later wrote:

"As we moved toward the village I thought I saw black cordwood beside the road, neatly piled up the way you pile up logs for use in a fireplace. When we got closer I could see it actually was stacked, burned bodies of several dozen babies. . . . The odor of burned flesh, which is like no other smell on earth, reached us outside the village and of course got stronger at the center. People were trying to breathe through cabbage leaves. . . . I saw a small boy and a smaller girl probably his sister, sort of melted together in charred embrace. I saw a mother burned black, still trying to shield her children, who were also burned black. Everything was burned and black. . . . Most nerve-rackin was the wail of the survivors who were picking throug

the smoldering ruins. One man kept screaming and screaming at the top of his lungs. For an hour he kept it up. He wasn't hurt as far as I could tell. He just kept screaming, until a doctor gave him a shot of morphine or something. . . . Fire bloats bodies, and after a few hours the skin splits and peels and curls. Only a third of the dead were men, the rest women and children. . . . The far end of the village wasn't burned. The Communists ran out of flamethrower fuel before they got to it. . . ."

Dak Son was quintessential, symbolizing to me more than any other event during my eight years in that country the kind of a war that is Vietnam.

People's War

The kind of a war that is Vietnam is the culmination of a 300-year process, one would hesitate to say development, of refining military doctrine. The objectives of both sides in Vietnam are what might be called historically commonplace: The Communists seek control, either in terms of unification by northern Communists or through a monopoly of political power by southern Communists; the other side is determined to prevent this. For two millennia men have locked themselves in similar struggles with similar goals. What makes Vietnam new and different is doctrine.

Anyone who reads history even casually should have seen this kind of a war coming. From the time of Napoleon, who generally is credited or blamed as the inventor of the idea of nationalism (that is, the nation-state fielding a conscript army motivated by ideology, rather than the political, social, or religious fiefdom fielding a professional force which fought because its services had been engaged), warfare has moved steadily toward an illogical conclusion with the thinking of China's Mao Tse-tung and North Vietnam's Vo Nguyen Giap.

The single most significant aspect of this changed doctrine of war has been the ever-deepening involvement of noncombatants. We have moved in stages. When King Arthur warred, "civilians" did not take part. The Napoleonic campaigns mixed mercenary and conscript. In World War II, civilians became a major legitimate target. In Vietnam, the Communists erased entirely the line between military and nonmilitary, and as a matter of policy made no distinction between enemy soldier and enemy civilian. In several hundred years, noncombatants have been dragged from roles of disinterested bystanders to those of key participants.

This new doctrine is admirably described by the Communist term, *people's war*. This is, in its proper use, a *technical*, not a propaganda term. It does not mean all-us-good-guys-against-the-landlords-and-other-exploiters. It means the-people-as-an-instrument-of-war. The mystique is a trinity: organization, mobilization, motivation. First control the people. Then forge them into a weapon. Then hurl it into battle. Those involved directly in this war, on both sides, understand this proxy approach, the people as a servomechanism. It is only the outsider who is confused as to who is fighting whom or what the fighting is all about.

In people's wars, all people are expendable, as any weapon is expendable—there to be used up. It is quite acceptable to trick a twelve-year-old boy into self-destruction in a satchel-charge attack on a government building. Acts against people, such as Dak Son, are fully justified, for the people are a weapon and, if they are faulty, they may be scrapped as an imperfect howitzer barrel would be scrapped.

Their enemies, who probably would prefer to fight a war of professional technology out and away from population centers, even in outer space, are obliged to close with the Communists on their own terms, of and across people. The Communists have maximized their advantage by transferring war's venue. People's war means that the devastation previously visited on the land over which a battle was fought now is visited on the people themselves. It means Dak Son or Hué as

(Continued on following page)

Handcuffed and bound, a Viet Cong prisoner contemplates rice paddies in the distance. Meanwhile, the "people's war," fueled by terror, goes painfully, relentlessly, on.

deliberate acts and My Lai as historical conjuncture—a confluence of attitudes and events.

Terror Defined

What concerns us here, in considering this doctrine of war, is its essence—what, pejoratively, is called terror.

It is more difficult than might first appear to distinguish among *terror, violence,* and *war.* Without being drawn too far afield it would seem adequate for this article to use the definition: *Terror is illegal violence.* We have assumed that warfare, although immoral in ethical terms, is legal. But we have also assumed that even in warfare certain acts are illegal and may objectively be called terror. The limit of warfare, we have thought, is the point where death, pain, fear, and anxiety among all elements of the population are used for the deliberate purpose of coercing, manipulating, intimidating, punishing, or paralyzing people into helpless submission.

All the evidence the past year indicates a change of Communist grand strategy in Southeast Asia from big-unit war to protracted conflict. It will still be a people's war but with a more even mix of *armed struggle* and *political struggle,* to use Communist parlance—rather than a predominance of the armed struggle. Intelligence indicators also suggest this, in terms of retraining course work, weaponry movements, and public and classified statements on strategy and tactics. Communist paramilitary elements as well as North Vietnamese units in the South are being converted into wide-ranging, well-trained "sappers" or city commandos.

We have seen an increase in large-scale terror attacks, military in appearance, but designed to terrorize rather than accomplish some military objective. The raid on the US Sixth Convalescent Hospital at Cam Ranh Bay, August 7, 1969, portended this new face of Communist terror: A 100-man sapper force infiltrated the hospital compound, detonated several dozen charges, shot some American patients, and then vanished without a casualty to themselves.

The capability, scope, and importance of this sort of operation has broadened steadily in the past eighteen months. It will probably continue to increase, with more Communist resources allocated to such activity and more doctrinal emphasis placed on it—amounting to a trend toward less costly warfare and, especially, less lavish expenditure of men and materials. Terror is more economical, provides greater precision in strikes, and is far more flexible than big-unit war.

Three programs, or areas of activity, called the *van* or *action* programs make up the sum of a people's war. The details need not concern us here. Essentially the *van* programs consist of blending a tight organizational structure, intensive communication efforts in terms of propaganda, agitation, and "thought reform," and widespread proselytizing efforts, using coercion, force, and violence. All such programs rest on a bedrock of terror, not as a capricious addition but as an integral part of the policy. It is important not to treat this terror in simplistic terms, as terror for its own sake by sadistic beasts indifferent to the blood on their hands. Those who thus paint the Communists do a disservice to truth and a greater one to understanding.

The terror is rational. The Vietnamese Communist finds from experience that terror is his major advantage over the government, in that it makes possible almost all his important successes. Progress of his cause is directly proportional to the level of insecurity among the Vietnamese people. The greater the insecurity, the better his prospects. He may not particularly like using terror but he can intellectualize it so that it no longer bothers him. We must never underestimate the ability of the human mind to rationalize.

Insecurity, of course, is not exactly the same as terror, but is closely allied to it. Conversely, for the government, the more security, the brighter *its* prospects. To the government, security is a function of organizations—social, governmental, and military—which are efficient, effective, and attractive to the people, especially at the village level. For the government, security is not exactly the same as organization, but it is its most essential element.

Thus terror becomes the indispensable device for the Communists, just as organization through security becomes the indispensable device for the government. This is not to suggest that terror is the only concern of the Communists any more than the only concern of the government is organization. But in each case, terror for the one, organization for the other, are the respective essences.

What About Our Side?

All this leads to a question of central importance to those of us who deny the legitimacy of terror. What

Terror has many techniques. One of the deadliest methods has been implanting of sharp "punji" stakes by VC in areas used by government troops. Above: a "punji" removal job.

can we say of "terror" by the *opponents* of the people's war, by the Saigon government and Allied forces in Vietnam?

No one with any experience in Vietnam denies that troops, police, and others commanding physical power have committed excesses that, by our working definition, are acts of terror. No one can justify these, nor condone them. These excesses are wrong and beyond atonement. The heat of battle is no excuse. Neither is the argument that every army now or in history has been similarly guilty.

But there is an essential difference in such acts between the two sides, a difference of outcome or result. To the Communists, terror has utility and is *beneficial* to his cause, while for the other side the identical act is self-defeating. This is not because one side is made up exclusively of heroes and the other of villains, but rather, because terror is integral to Communist doctrine. They couldn't rid themselves of it if they wanted to, while the other side firmly believes, even though its members may not always behave accordingly, that it has a vested interest in abstaining from such acts.

It might be argued that terror from passion is the same as terror from policy. But in fact there is a world of difference; one side seeks to maximize the use of terror and the other seeks to eliminate terror from its ranks.

Although terror has been a constant in Communist activity in Vietnam throughout the war, the present objectives of that terror have tended to evolve with the war itself. At this writing there are three objectives.

First, terror diminishes the opposing force. It eliminates key individuals and reduces the total sum of power on the other side. Terror weakens greatly, and that is the single most important gain the Communists make by using terror. This is a hard objective. It goes beyond psychological considerations. A person is kidnapped and killed, or assassinated. Gone not only is an individual, but a service, a resource, an asset.

Second, terror sustains Communist morale. This may not seem to be of much importance to outsiders. But a guerrilla leader knows that his men's morale is far more ephemeral and subject to greater swings from euphoria to disphoria, than is morale among regular soldiers. He knows, too, that the most debilitating thought that can infect his men and drive morale down to the point where he dare not commit them to action, is a sense of growing impotency.

The guerrilla always sees himself as alone, beleaguered, surrounded, outnumbered. Nothing sends his morale soaring and wipes out despondency and doubt, like a shattering blow delivered the enemy in his lair—an attack expertly planned, faultlessly executed, and followed by unscathed escape. In a moment, the enemy's great firepower, his overwhelming numbers, his huge logistics base, shrink into unimportance. The terrorist feels omnipotent. That his blow may have been no more than an inconvenience to the enemy does not matter. The guerrilla's prowess is demonstrated, his invulnerability again proved—to himself.

The third major objective is the disorientation and psychological isolation of individuals. Terror is a rot in the social fabric. Hué, numb for months following the massacre, was a classic example of this. Terror destroys the individual's relations with his society. An assassination in a village not only frightens a villager but also blots out part of the structure of authority that was a source of his security. Terror of any sort shifts the ground strangely, like an earthquake. It removes underpinnings of order, leaving in its wake confusion as much as fear. A civilian expects safety and order from his government and when he does not get safety he becomes disoriented. He can no longer draw strength from society. He can rely only on himself. Even if he is physically untouched by terror, he still is terribly alone and in anguish. A terrorized village, an American psychiatrist in Vietnam has suggested, is a case of collective anxiety neurosis, with the victim seeking only relief. The victim, the village itself, stops behaving as a normal social unit. It fragments, each individual within it seeking only to ensure his own personal security.

The doctrine of people's war is the face of communism that the Vietnamese people have come to know well in the past decade. Much blood has flowed beneath the bridge. The Vietnamese people are wiser, and sadder, even if the world is not. How outsiders can assume the Vietnamese would prefer communism to an extension of the security being brought them by the government is a universal and never-ending puzzlement to everyone in Vietnam, Vietnamese and foreigners alike.

Yet, after surveying Communist terror and its uses, we can suggest that the effectiveness of terror as a political and psychological weapon yields diminishing returns. The programs rooted in terror grow weightier with the passing of each day—but without corresponding increased strength for its supporting pillars, the Communist cadres, and true believers. Communist leaders are prisoners of their own policy. For them to eliminate terror as a base might be to win worldwide commendation. But it would be suicide. So, in the short run, we can expect them to continue their slaughter. We can expect increased efforts to terrorize but with diminished effect.

We can also conclude from all this that to end the military defense of Vietnam, to halt opposition to these Communist programs would not, as has often been suggested, bring an end to the long suffering that has been the plight of the Vietnamese people. Considering the integral part terror plays in Communist social change, it does not follow—it cannot follow—that the quick and sure route to peace, to a moratorium on death, would be to permit the Communists to assume power.—END

Douglas Pike is currently Special Assistant for Political-Military Affairs, United States Information Service, Tokyo. He is a recognized authority on Vietnamese affairs and the author of two books on the subject: Viet Cong, the Organization and Techniques of the National Liberation Front of South Vietnam *(MIT Press, 1966) and* War, Peace and the Viet Cong; A Study of Current Communist Strategy in Vietnam, *(MIT Press, 1969). A World War II enlisted combat correspondent, he has spent most of his adult life in Asia and joined the United States Information Agency in 1958. He was on USIA assignment in Vietnam from 1960 to 1969. The above article represents Mr. Pike's personal views.*

THE BULLETIN BOARD

News and Comment about Air Force People . . .

By Jackson V. Rambeau
AFA DIRECTOR OF MILITARY RELATIONS

Message to President Nixon

Following is the text of a telegram AFA President George D. Hardy sent to the White House following the briefing on foreign policy (pictured below):

Dear Mr. President:

As one of the Association leaders privileged to be present at your briefing on foreign policy this afternoon, I wish to assure you that the Air Force Association will continue its strong support of your national security objectives in this time of crisis. I am particularly concerned with the assessment we received on the military buildup in the Soviet Union and the ominous threat it imposes to world peace. We agree on the need for increased attention to the many social ills of the day, including environmental problems, but we also agree with you that unless our nation stands secure we will have no environment to worry about. We must concern ourselves with both problems, always with the highest priority going to national security. We agree that you have no alternative but to press on with your program for MIRV to enhance the deterrent power of our strategic forces and for the Safeguard to protect the survival of these forces. We support also the need for negotiations leading to enforceable arms limitations without unilateral agreements. We recognize the heavy weight of your responsibilities and applaud your efforts to meet them.

GEORGE D. HARDY
President
Air Force Association

DoD Action on Dual-Compensation Rules

The Department of Defense has gotten off dead center on restrictions that long have prohibited retired Regular officers from drawing full retirement pay while holding federal jobs.

The draft of an Administration-backed bill that would repeal the curbs has been sent to Rep. Thaddeus J. Dulski (D-N.Y.), head of the House Post Office and Civil Service Committee. AFA has pushed hard for such legislation, which would add a total of about $7 million to the income of the officers concerned. Other bills concerning "dual comp" have been pending before the committee, but the DoD-sponsored bill is considered the front-runner.

Some Retirees Lose on New Pay Scale

Many Air Force retirees are rightfully up in arms over the recent decision that will mean a loss of compensation

President Nixon, center left, and military association leaders gathered in the White House Cabinet Room on April 28 for a briefing on US foreign policy. Both domestic and international problems were discussed, with particular emphasis on the potential threat to national security. AFA President George Hardy and Executive Director James Straubel attended the hour-long meeting and in the photograph above are seated fifth and sixth on the right.

Nancy Ann Eagan, a member of the Sisters of St. Joseph of Carondelet religious order, became the first Catholic nun to join the Air Force Reserve Nurse Corps. Gen. John C. Meyer, Air Force Vice Chief of Staff, swears her in at commissioning ceremonies held at the Pentagon on May 5.

to those retiring between January 1 and April 15. While those retiring during the first quarter of 1970 are to receive any retroactive pay they may have coming, their retired pay will not be computed on the basis of the higher active-duty rates included in the new pay scale recently approved by President Nixon.

As one retiree complains: "If the pay increase is retroactive to January 1, then that should be the basic pay in effect for all those who retired between January 1 and the time of enactment. To do otherwise would be rank discrimination against those retiring in the January–March period."

"Bulletin Board" has learned that this decision was *not* made by DoD officials. It is unfair, and AFA, along with many other organizations, is protesting the action.

Assistance for Vietnam Veterans

Prompt action on recommendations of the President's Committee on Vietnam-era Veterans was reported by Donald E. Johnson, Administrator of Veterans Affairs, Chairman of the committee.

The committee report, already approved by the President, contains a number of specific recommendations relating to jobs, education, and loans for Vietnam-era servicemen.

An Executive order already has been issued authorizing federal agencies to appoint qualified Vietnam vets to jobs up to GS-5 (starting at $6,176) without regard to Civil Service registers, providing the individual undertakes a program of education and training.

Where legislation is required, bills have been proposed before Congress that would:

- Allow VA to underwrite mobile-home financing in cases where a vet can't afford a conventional home.
- Assist vets to start or expand businesses through a combination of Small Business Administration loans and cooperative G.I. Bill education.
- Allow VA advanced payments under the G.I. Bill so school enrollments aren't blocked by large, initial financial outlays.
- Allow men still in service to enroll under the G.I. Bill after serving six months (instead of two years).

SENIOR STAFF CHANGES

B/G Woodrow A. Abbott, from Cmdr., 307th Strategic Wg., SAC, U-Tapao AB, Thailand, to Cmdr., 823d Air Div., SAC, McCoy AFB, Fla., replacing B/G Salvador E. Felices . . . **M/G Milton B. Adams,** from CoS, Hq. PACAF, Hickam AFB, Hawaii, to DCS/P&O, PACOM, Camp H. M. Smith, Hawaii, replacing M/G Chesley G. Peterson . . . **B/G Winston P. Anderson,** from Cmdr., 10th Tac. Recon. Wg., USAFE, RAF Alconbury, England, to Dep. Dir., J-3 (NMCC), Jt. Staff, JCS, Hq. USAF . . . **M/G Paul N. Bacalis,** from Asst. DCS/M, to Asst. DCS/Plans, Hq. SAC, Offutt AFB, Neb., replacing B/G (M/G Selectee) Earl L. Johnson . . . **B/G Joseph H. Belser,** from Dir. Ops, J-3, NORAD/CONAD, Ent AFB, Colo., to Chf., Western Hemisphere Div., J-5, Jt. Staff, JCS, Hq. USAF.

B/G William H. Best, Jr., from Vice Cmdr., Air Weather Svc., to Cmdr., AWS, Scott AFB, Ill., replacing M/G Russell K. Pierce, Jr. . . . **B/G Wendell L. Bevan, Jr.,** from Dir., Cmbt. Ops, 7th AF, PACAF, Tan Son Nhut, Vietnam, to Chf., Rqmts. & Dev. Div., J-5, Jt. Staff, JCS, Hq. USAF . . . **B/G Jonas L. Blank,** from Cmdt., ACSC, AU, Maxwell AFB, Ala., to Dir., Supply & Services, DCS/S&L, Hq. USAF . . . **B/G Earl W. Brannon, Jr.,** from Cmdr., David Grant USAF Medical Ctr., Travis AFB, Calif., to Cmd. Surgeon, Hq. MAC, Scott AFB, Ill., replacing B/G Harold F. Funsch . . . **Col. (B/G Selectee) Arnold W. Braswell,** from Dep. Asst., Jt. Matters, D/Plans, DCS/P&O, to Dep. Dir., Force Dev., D/Plans, DCS/P&O, Hq. USAF, replacing Col. (B/G Selectee) Harry N. Cordes . . . **M/G Roland A. Campbell,** from DCS/M, to CoS, Hq. PACAF, Hickam AFB, Hawaii, replacing M/G Milton B. Adams.

B/G Robert L. Cardenas, from Vice Cmdr., 16th AF, USAFE, Torrejon AB, Spain, to US DCS/LIVE OAK, SHAPE, Casteau, Belgium, replacing B/G David L. Carter . . . **M/G Charles W. Carson, Jr.,** from Cmdr., USAF Recruiting Svc., to DCS/TTC, ATC, Randolph AFB, Tex. . . . **B/G David L. Carter,** from US DCS/LIVE OAK, SHAPE, Casteau, Belgium, to SACEUR Rep. to Jt. Strategic Target Planning Staff, Offutt AFB, Neb. . . . **Col. (B/G Selectee) Harry N. Cordes,** from Dep. Dir., Force Dev., D/Plans, DCS/P&O, Hq. USAF, to DCS/Intelligence, Hq. SAC, Offutt AFB, Neb., replacing M/G Richard R. Stewart . . . **M/G Thomas H. Crouch,** from Dir. Prof. Svcs., OSG, to Dep. SG, TSG, Hq. USAF, replacing M/G (L/G Selectee) Alonzo A. Towner . . . **Mr. Harry Davis,** from P. L. position of Dep. Asst. Sec. (Special Programs), Office, SAFRD, to P. L. 313 position of Dep. Undersec. (Systems Review), Office, SAFUS, Hq. USAF.

B/G Peter R. DeLonga, from Asst. for Log. Planning, DCS/S&L, Hq. USAF, to DCS/M, 7th AF, PACAF, Tan Son Nhut, Vietnam, replacing B/G Paul F. Patch . . . **M/G Kenneth C. Dempster,** from Vice Cmdr., 13th AF, Clark AB, Philippines, to Asst. Dir., Plans, Programs, and Systems, Def. Sup. Agency, Cameron Stn., Va. . . . **B/G Salvador E. Felices,** from Cmdr., 823d Air Div., SAC, McCoy AFB, Fla., to Asst. DCS/M, Hq. SAC, Offutt AFB, Neb., replacing M/G Paul N. Bacalis . . . **Col. (B/G Selectee) James M. Fogle,** from Asst. DCS/Plans, to Dir., Ops, J-3, NORAD/CONAD, Ent. AFB, Colo., replacing B/G Joseph H. Belser . . . **B/G William C. Fullilove,** from DCS/P, Hq. AFLC, Wright-Patterson AFB, Ohio, to Vice Cmdr., Sacramento AMA, AFLC, McClellan AFB, Calif.

B/G Harold F. Funsch, from Cmd. Surgeon, Hq. MAC, Scott AFB, Ill., to DCS, Bioastronautics and Medicine, Hq. AFSC, Andrews AFB, Md., replacing retiring B/G Jack Bollerud. . . . **B/G Walter T. Galligan,** from Cmdr., 35th Tac. Ftr. Wg., PACAF, Phan Rang AB, Vietnam, to Dir., Tac. Air

(Continued on following page)

Lt. Gen. Thomas S. Moorman, Superintendent of the Air Force Academy for the last five years, will retire from active duty on July 31, 1970. His replacement had not been announced at press time. On May 30, at its annual dinner in Colorado Springs in honor of the Outstanding Squadron of the Academy, AFA presented General Moorman its Citation of Honor "in recognition of his years of enlightened leadership, superior administration, and thorough dedication in his vitally important post as the Superintendent of the United States Air Force Academy."

Cont. Cen., 7th AF, PACAF, Tan Son Nhut, Vietnam, replacing B/G John W. Roberts . . . **Col. (B/G Selectee) James V. Hartinger,** from Cmdr., 23d Tac. Ftr. Wg., TAC, McConnell AFB, Kan., to Asst. DCS/Plans, J-5, NORAD/CONAD, Ent AFB, Colo. . . . **Col. (B/G Selectee) William R. Hayes,** from Student Nat'l War College, Washington, D.C., to Asst. Logistics Planning, DCS/S&L, Hq. USAF, replacing B/G Peter R. DeLonga . . . **B/G (M/G Selectee) Richard M. Hoban,** from Vice Cmdr., San Antonio AMA, AFLC, Kelly AFB, Tex., to Cmdr., Ogden AMA, AFLC, Hill AFB, Utah, replacing M/G Robert H. McCutcheon.

Mr. George R. Hodge, from GS-16, Dep. Chf., Procurement and Production, Ballistic Systems Div., AFSC, Norton AFB, Calif., to GS-16, DCS/Procurement and Production, Hq. AFSC, Andrews AFB, Md. . . . **B/G Thomas B. Hoxie,** from Dep. Dir., Manpower & Organization, DCS/P&R, Hq. USAF, to DCS/P, Hq. AFLC, Wright-Patterson AFB, Ohio, replacing B/G William C. Fullilove . . . **Col. (B/G Selectee) George J. Iannacito,** from DCS/Plans and Programs, Hq. AFCS, Scott AFB, Ill., to Cmdr., PAC Comm. Area, AFCS, Wheeler AFB, Hawaii . . . **B/G (M/G Selectee) Earl L. Johnson,** from Asst. DCS/Plans, to Asst. DCS/Ops, Hq. SAC, Offutt AFB, Neb., replacing B/G (M/G Selectee) James M. Keck . . . **B/G Harold F. Knowles,** from Cmdr., 3640th PTW, ATC, Laredo AFB, Tex., to Dir., Special Projects, Hq. USAF, replacing B/G Donald H. Ross.

Col. (B/G Selectee) Harrison Lobdell, from Cmdr., 3560th PTW, ATC, Webb AFB, Tex., to Cmdr., 3510th FTW, ATC, Randolph AFB, Tex., replacing B/G William C. McGlothlin, Jr. . . . **Col. (B/G Selectee) George G. Loving, Jr.,** from AF Res. Asso. Coun. on Fgn. Relations, Harold Pratt House, 58 E. 68 St., New York, N.Y., to Cmdt., ACSC, AU, Maxwell AFB, Ala., replacing B/G Jonas L. Blank . . . **B/G Edward O. Martin,** from Cmdr., 2d Bomb Wg. (H), SAC, Barksdale AFB, La., to Dep. Dir., J-3 (NMCC), Jt. Staff, JCS, Hq. USAF . . . **M/G Robert H. McCutcheon,** from Cmdr., Ogden AMA, AFLC, Hill AFB, Utah, to Dep. Dir., Contract Admin. Svcs., DSA, Cameron Stn., Alexandria, Va. . . . **B/G William C. McGlothlin, Jr.,** from Cmdr., 3510th FTW, to Cmdr., USAF Recruiting Svc., Hq. ATC, Randolph AFB, Tex., replacing M/G Charles W. Carson, Jr. . . . **B/G George H. McKee,** from Cmdr., 19th Air Div., SAC, Carswell AFB, Tex., to Dir., Maintenance Engineering, DCS/S&L, Hq. USAF.

M/G David V. Miller, from DCS/P, Hq. AFSC, Andrews AFB, Md., to Dir., Dev. & Acq., DCS/R&D, Hq. USAF, replacing retiring M/G Thomas S. Jeffrey, Jr. . . . **B/G Paul F. Patch,** from DCS/M, 7th AF, PACAF, Tan Son Nhut, Vietnam, to DCS/M, Hq. PACAF, Hickam AFB, Hawaii, replacing M/G Roland G. Campbell . . . **Col. (B/G Selectee) John W. Pauly,** from AF Member, Chairman's Staff, to Dep. Dir., Ops, J-3, Jt. Staff, JCS, Hq. USAF . . . **M/G Chesley G. Peterson,** from DCS/P&O, PACOM, Camp H. M. Smith, Hawaii, to Sr. AF Member, Mil. Studies & Liaison, WSEG, ODDR&E, Hq. USAF, replacing M/G John S. Samuel . . . **M/G Russell K. Pierce, Jr.,** from Cmdr., AWS, Scott AFB, Ill., to Dep. Cmdt., Industrial College of the Armed Forces, Ft. McNair, Washington, D.C. . . . **Col. (B/G Selectee) Bryce Poe, II,** from Cmdr., 26th Tac. Recon. Wg., USAFE, Ramstein AB, Germany, to DCS/M, Hq. USAFE, Lindsey AS, Germany.

Col. (B/G Selectee) George Rhodes, from Dir., Materiel Mgmt., to Vice Cmdr., San Antonio AMA, AFLC, Kelly AFB, Tex., replacing B/G (M/G Selectee) Richard M. Hoban . . . **Col. (B/G Selectee) Jack B. Robbins,** from Dep. Dir., Data Automation, AF Compt., Hq. USAF, to CoS, Hq. AFCS, Richards-Gebaur AFB, Mo. . . . **B/G John W. Roberts,** from Dir., Tac. Air Cont. Cen., 7th AF, PACAF, Tan Son Nhut, Vietnam, to Dep. Dir., Pers. Planning, DCS/P, Hq. USAF . . . **Col. (B/G Selectee) Ray A. Robinson, Jr.,** from Vice Cmdr., 20th Air Div., ADC, Ft. Lee AFS, Va., to Asst. DCS/Plans, Hq. ADC, Ent AFB, Colo., replacing Col. (B/G Selectee) James M. Fogle . . . **B/G Donald H. Ross,** from Dir., Special Projects, Hq. USAF, to Cmdr., 347th Tac. Ftr. Wg., PACAF, Yokota AB, Japan.

M/G Arthur G. Salisbury, from Dir., Jt. Cont. Def. Sys. Integration Planning Staff, Hq. USAF, to CoS, Hq. ADC, Ent AFB, Colo., replacing M/G Robert W. Burns . . . **M/G John S. Samuel,** from Sr. AF Member, Mil. Studies & Liaison, WSEG, ODDR&E, Hq. USAF, to Cmdr., Lackland Mil. Tng. Ctr., ATC, Lackland AFB, Tex. . . . **B/G Quintino J. Serenati,** from Cmd. Surgeon, Hq. TAC, Langley AFB, Va., to Cmd. Surgeon, HQ COMD USAF, Bolling AFB, D.C., and Cmdr., Malcolm Grow USAF Medical Ctr., HQ COMD USAF, Andrews AFB, Md., replacing B/G Maxwell W. Steel, Jr. . . . **B/G Foster L. Smith,** from Dep. Dir., Ops, J-3 (NMCC), Jt. Staff, to Chf., Far East Div., J-5, Jt. Staff, JCS, Hq. USAF . . . **B/G Maxwell W. Steel, Jr.,** from Cmd. Surgeon, HQ COMD USAF, Bolling AFB, D.C., and Cmdr., Malcolm Grow USAF Medical Ctr., HQ COMD USAF, Andrews AFB, Md., to Cmdr., David Grant USAF Medical Ctr., Travis AFB, Calif., replacing B/G Earl W. Brannon, Jr. . . . **M/G Richard R. Stewart,** DCS/Intelligence, Hq. SAC, Offutt AFB, Neb., to Asst. Dir., Intelligence Production, DIA, Hq. USAF . . . **M/G Lawrence F. Tanberg,** from Dir., Maintenance Engineering, DCS/S&L, Hq. USAF, to Vice Cmdr., 13th AF, PACAF, Clark AB, Philippines, replacing M/G Kenneth F. Dempster.

M/G (L/G Selectee) Alonzo A. Towner, from Dep. SG, TSG, to SG, TSG, Hq. USAF, replacing retiring L/G Kenneth E. Pletcher . . . **L/G John W. Vogt,** from Dir., Ops, J-3, to Dir., Jt. Staff, JCS, Hq. USAF . . . **B/G Paul C. Watson,** from Dep. Dir., J-3 (NMMC), Jt. Staff, to Dir., J-1, Jt. Staff, JCS, Hq. USAF . . . **B/G Hamilton B. Webb,** from Cmd. Surgeon, Hq. 7th AF, Vietnam, to Cmd. Surgeon, Hq. TAC, Langley AFB, Va., replacing B/G Quintino J. Serenati.

PROMOTIONS: Nominated to **Lieutenant General:** Alonzo A. **Towner.**

RETIREMENTS: B/G Jack **Bollerud;** M/G William T. **Daly;** M/G Leo F. **Dusard;** M/G William D. **Greenfield;** B/G Linscott A. **Hall;** M/G Thomas S. **Jeffrey, Jr.;** L/G Lewis L. **Mundell.**—END

LETTER FROM LOS ANGELES

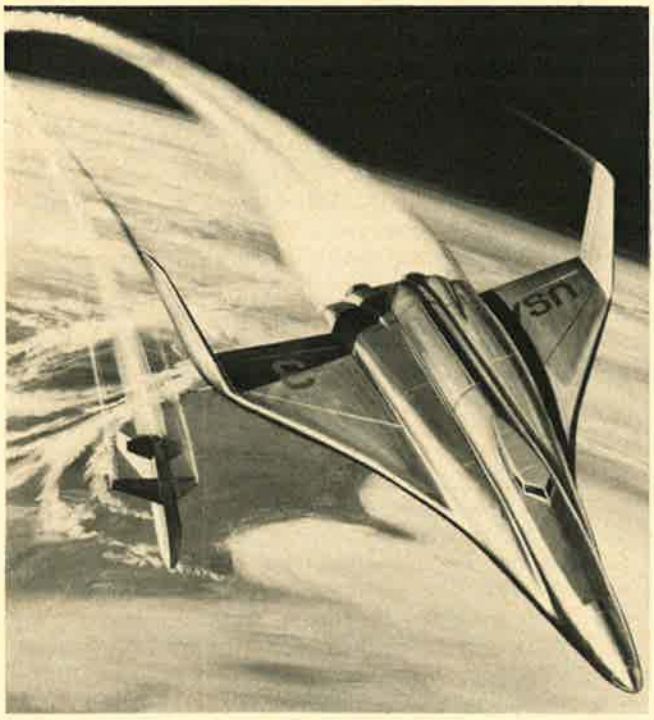
By Irving Stone

WEST COAST EDITOR, AIR FORCE/SPACE DIGEST

New Era in Space Transportation

The space-shuttle system, a prime element in the National Aeronautics and Space Administration's search for operational capability in a sophisticated space station/base, is being kicked off with extensive program-definition studies. In mid-May NASA awarded separate preliminary design study contracts to two aerospace industry teams, one headed by North American Rockwell Corp. and the other by McDonnell Douglas Corp. The North American Rockwell team includes General Dynamics Corp., IBM, and American Airlines, while the McDonnell Douglas team is made up of Martin Marietta Corp., TRW, Inc., Pan American World Airways, Raytheon Co., Sperry Rand Corp., and United Aircraft Corp. These eleven-month analyses are designed to specify a low-cost, economical space transportation system (STS) to haul crew, passengers, and cargo. The studies will include preliminary design of system elements, both booster and orbiter (the logistics vehicle with reentry capability). They'll also develop data on the scope, timing, and cost of the system, and on the supporting technology needed.

It's an ambitious program involving techniques substantially beyond Apollo, and requiring ingenious extensions of aerodynamic configurations for both booster and orbiter. NASA's Houston, Tex., Manned Spacecraft Center will provide technical direction for the orbiter element, and the Marshall Space Flight Center at Huntsville, Ala., will be responsible for technical direction for the booster.



This is an artist's conception of a North American Rockwell approach to space-shuttle design. The firm is teamed with General Dynamics Convair Division for shuttle study.

The space-shuttle transport system, which according to NASA estimates will cost in excess of $6 billion over the next twenty years, as now conceived will employ two stages: a booster-like vehicle carrying an upper-stage spacecraft that can return to earth. It is still undecided whether or not the launch vehicle itself would be designed for landing and reuse.

A parallel definition effort for the space shuttle's main engine unit—a high-performance bell-nozzle, rocket engine configuration using liquid oxygen/hydrogen propellant—is already under study by North American, United Aircraft, and Aerojet General Corp., controlled by General Tire & Rubber Co.

Industry observers view the space-shuttle program as a new test pattern for NASA/Air Force cooperation on future major space programs. Earlier this year NASA's chief, Dr. Thomas O. Paine, and the Air Force Secretary, Dr. Robert C. Seamans, Jr., signed an agreement to establish an eight-member review committee, with four members each from NASA and the Air Force, to plan and review the development phase of the space shuttle.

The overall space-transportation-system effort is seen as incorporating an earth-to-low-orbit (300 nautical miles or less) shuttle; a space tug; an orbit-to-orbit shuttle for travel from low earth orbit to synchronous earth orbit (19,400 nautical miles) and for orbits between these low and high points; and a lunar-orbit shuttle. The last two vehicles might be combined in a single, general configuration and would not need to be able to reenter the atmosphere.

Beyond its general interest in the space transportation system, the Air Force is particularly interested in the orbit-to-orbit shuttle. It's likely that more funding will be programmed for Air Force participation. Some $2 million will have been spent by the end of Fiscal 1970 for Air Force in-house efforts in this program, it's reported. Fiscal 1971 funding could be considerably more, for in-house and contractor work.

Study Considerations

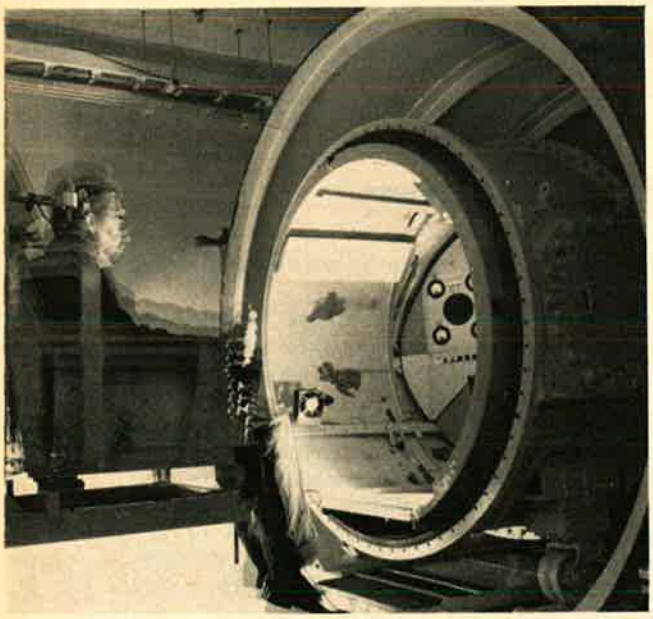
Highlights of the preliminary design studies for the space shuttle undertaken by the two competing teams will include:

- Calendar year 1972 will be used as the materials-technological base. Sufficient flexibility will be maintained to incorporate technology advancements and alternate missions.
- Initial operational capability will be pegged for the second half of 1977, with launch rates expected to vary from twenty-five to seventy-five a year.
- A life of 100 missions will be provided for the booster/orbiter. Mission duration will be at least seven days of self-sustaining lifetime. For missions in excess of seven days, the weight of the expendables will be charged against the payload.
- Two approaches will be considered. One design will optimize the shuttle-vehicle combination for a high-aero-

(*Continued on following page*)

In the design study competition, Grumman looked at several concepts for the "space tug" family of spacecraft. One design is shown here, off-loading at a lunar base.

dynamic cross-range landing capability in the orbiter, of approximately 1,500 nautical miles. A second design will optimize the vehicle combination for minimum influence of cross range. In that instance, the aerodynamic cross-range performance of the orbiter would be only about 200 nautical miles. The government wants to explore in depth the overall influence of a high- or low-aerodynamic cross-range performance on the acquisition of the space shuttle and to establish an optimized design in the context of a national space transportation system. Indications are that the Air Force favors the high-aerodynamic cross-range capability.



Boeing, an unsuccessful bidder in the space-shuttle design study competition, tests a pilot-seat concept. The space-shuttle "pilot" got more than a little shook up.

- Gross liftoff weight of the space-shuttle system will be 3,500,000 pounds. Because the gross is fixed, it is difficult to specify a payload capability, although this has been pegged as high as 50,000 pounds.
- Abort capability will allow the booster and the orbiter to separate and continue flight to safe landings, with the orbiter able to land with a full payload.
- Booster and orbiter would incorporate a go-around capability, with the booster capable of returning to its launch site.
- There will be two-man flight crews for both booster and orbiter. In an emergency, each vehicle could be flown by a single crewman. There will be a shirt-sleeve environment.
- Minimal assembly and checkout requirements at the launch pad will be desirable for the space shuttle, and the shuttle will be designed for liftoff within a sixty-second launch window for all launch azimuths. The launch pad, primary landing sites, and servicing facilities would be in the same general location.
- The shuttle system will be capable of remote- or pilot-controlled landings. The automatic-landing capability will permit landings under FAA Category II conditions. There will be an autopilot system similar to those in commercial aircraft.
- Space-shuttle elements (booster and orbiter) will be able to land horizontally on runways no longer than 10,000 feet. The landing characteristics and handling qualities will not require skills more demanding than those required for operational land-based aircraft.
- Total shuttle turnaround time from landing to launch readiness will be less than two weeks.
- Each vehicle stage will be capable of ferry flights between airports. Provisions for strap-on engines and/or auxiliary tankage, in addition to air-breathing engines for ferry, go-around, and landing-assist functions, will be considered in the analysis.
- Cargo elements containing hazardous material will have self-contained protective provisions against all dangers. A variety of self-sustaining payload types will be considered in the integration of the payload. And pre-launch payload-integration procedures similar to current air-cargo carrier operations will be desirable. *(For detailed shuttle-cargo concepts, see AF/SD, March 1970, page 61.)*
- The vehicle will be designed for maximum on-board control.
- All subsystems will be designed to fail operational (for completion of the mission) after the failure of the most critical component, and to fail safe (no loss of vehicle) for crew survival after the second failure. Electronic systems will be designed to fail operational after failure of the two most critical components, and to fail safe for crew survival after the third failure.
- For the logistics resupply of a space station/base in a circular orbit of 270 nautical miles at fifty-five-degree inclination, the space shuttle should be capable of launch from a standby status within two hours.
- Crew/passenger-compartment atmosphere and total pressure of the space shuttle will be compatible with the space station/base. Personnel and cargo transfer nominally will be accomplished in a single operation. While personnel and cargo transfer will be by intravehicular activity, the design of the vehicle will not preclude extravehicular activity.

The Titan-II Reentry Vehicle Team of the 390th Strategic Missile Wing, Davis-Monthan AFB, Ariz., won this year's first trophy in the 1970 SAC Missile Combat Competition at Vandenberg AFB, Calif. Left to right: Sgt. Robert Meloncon; TSgt. Harry P. Cook, Team Chief; SSgt. Roger Hussong; SSgt. Milo Zinie; TSgt. William Knebel; Col. E. P. Denton, 390th Commander; SSgt. Stephen Stoker. SSgt. Doyle Parrish missed the picture taking.

• The orbiter will incorporate antiradiation survival provisions, as specified in joint DoD/NASA survivability requirements.

Shuttle Engine Details

The booster and the orbiter will use a common bell-nozzle, liquid oxygen/hydrogen, reusable rocket engine, except for differences stemming from optimization of the nozzle expansion ratio. The baseline engine will have a 400,000-pound sea-level thrust. Maximum, complete dry weight will be 5,000 pounds when the extendable nozzle skirt system is included.

The engine will be integrated as a complete package and single- or multiple-engine installations would be feasible. The booster may require up to ten or more engines and the orbiter two or three.

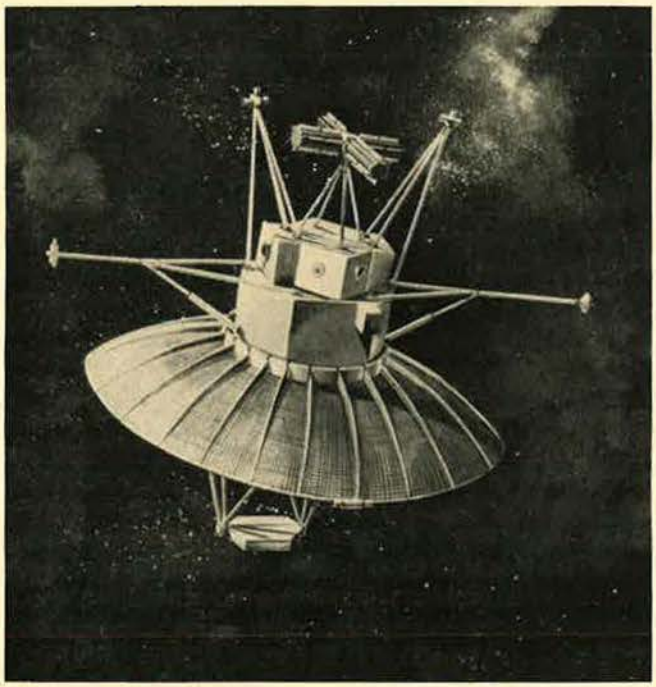
Analyses of the propulsion system will include examination of the effects of engine-out capability, pressurization, propellant management, thermal control, and integration considerations. System effects such as operating percent of thrust range, engine length, gimbaling restraints, and center-of-gravity locations will be considered.

In addition to the 400,000-pound sea-level thrust value, power levels of 250,000 and 600,000 pounds of thrust will also be considered. For the orbiter operation, in addition to the 480,000-pound-thrust altitude value (corresponding to 400,000 pounds of thrust at sea level), altitude thrusts of 300,000 and 721,000 pounds are to be considered (corresponding to 250,000 and 600,000 pounds of thrust, respectively, at sea level). These variations will be analyzed as to clustering effects, lifetime, maintenance, recurring and nonrecurring costs, and development time.

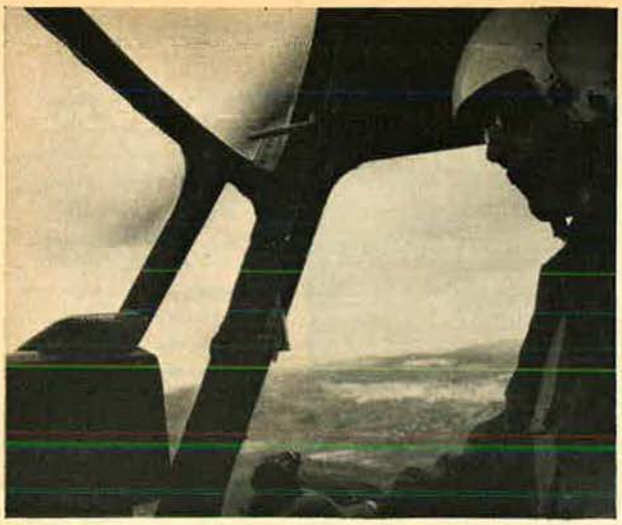
Engine-start capabilities of 100, 500, and 1,000 times will be analyzed with respect to engine lifetime, maintenance, cost, and development. And engine lifetimes of five, ten, and twenty hours will be considered in relation to these same factors plus effect on number of starts.

The air-breathing engines projected for use on ferry, go-around, and landing-assist operations will be analyzed as to type, thrust level, location, tankage, deployment techniques, and controls. The practical merits of using hydrogen fuel for these engines will be evaluated in depth and will be compared with the use of standard fuels. To define the full implications of air-breathing propulsion requirements for the orbiter and their impact on the booster, tradeoff studies will be made of the baseline go-around requirement, the powered approach, and no air-breathing propulsion.

There will also be analyses of the practicality of using a common air-breathing engine for both booster and orbiter. Modifications to jet-propulsion air-breathing engines to utilize hydrogen will also be considered as well as vehicle-integration requirements.—END



This is an artist's sketch of spacecraft that might make Grand Tour of planets in 1970s. General Electric is working on nuclear-powered generators for such future missions.



Captain Jack Ross, one of the Bush Airline's H-19 helicopter pilots, delivers supplies to a remote site in the Republic of Korea. Maximum-range missions with no landing or refueling alternates aren't uncommon for the chopper crews.

Evacuating patients from a mountaintop, landing on a beach at low tide, finding lost equipment, delivering to Korea-based airmen almost anything a Gooney Bird or an H-19 will lift is all in a day's work for the 6314th Support Wing at Osan . . .

Now Loading for Kangnung and P-Y-Do

By SSgt. Harold W. Smith, USAF

EIGHT ancient C-47 Gooney Birds, four antiquated H-19 helicopters, and crews to fly and maintain them make up one of the smallest and most colorful flying outfits in the Air Force—the "bush airline" operating out of Osan Air Base, Korea.

Officially designated Base Flight of the 6314th Support Wing, Osan's bush airline flies more than ninety hours a week, supporting USAF bases and remote installations scattered throughout the rugged terrain of South Korea. It hauls everything from people, parts, and provisions to that very important item—personal mail.

Places with such strange names as Kangnung, P-Y-Do, Cheju Do, Youngmunsan, Mangilsan, and Irwolsan, all with US Air Force personnel assigned, are regularly scheduled stops for the airline. Unscheduled acromedical evacuation and high-priority cargo flights are another job for the C-47s and H-19s. Both sections have a crew and a bird on standby twenty-four hours a day for these priority missions.

"Irwolsan gives the H-19 the most trouble," according to Maj. Harry P. Dunn, flight operations chief. "It's 4,000 feet up on the top of a mountain more than 100 miles east of here. With no weather-reporting facilities between Osan and the site, our H-19 crews never know what to expect."

The H-19 and the crew's total capability are pushed to the maximum on the flight to Irwolsan, which is just within the H-19's range and performance capability, with scant margin for error. There are no alternate landing pads in the vicinity, and no alternate refueling sites. Turbulence in the mountain passes and during landing is as unpredictable and unforgiving as Russian roulette.

"We were sent out there on one air-evac mission," Major Dunn recalled, "and when we arrived clouds capped the mountain so our landing pad couldn't be seen. We circled the mountain, above and below the clouds, looking for an opening. On the third trip around, we found a hole at the base of the cloud just big enough to make one of the two pads visible, so we snaked the helicopter in for a landing.

"As soon as we touched down, the clouds came

A C-47 of the 6314th Support Wing's Bush Airline lands on the beach at P-Y-Do. It's a low-tide-only operation here.

A cargo of that all-important item, mail, is delivered to USAF remote site at Kangnung on the east coast of Korea.

back down all around us. After the patient pickup, we just dropped the chopper off the pad down into the valley until we could see where we were going."

Lt. Robert H. Sluss, flight scheduling chief, rates Cheju Do the roughest site for the C-47. "We have 3,500 feet of grass runway to put that Gooney Bird down and to take off again. It's not too smooth, and at times, after initial touchdown, you might find yourself with fifteen feet between you and the ground again."

The H-19s, in addition to their regular schedules, fly support missions to any site within a hundred-mile radius of Osan. "We occasionally get some unusual ones," H-19 pilot Capt. John F. Ross observed, "like looking for equipment that has fallen off an aircraft. Recently we searched for a tip tank dropped off an F-4. With an interpreter from the Security Police, we went to the area where it was lost. We landed in school yards, which are pretty large at most provincial schools, and the interpreter explained what we were looking for. Finally we found someone who led us to the tank."

The C-47s haul about 2,500 pounds of cargo on an average flight to one of the boondock bases. And, of course, replacements for men who have completed their tours in Korea—probably the only delivery that is even more welcome than mail at the remote sites.

On their weekly runs to remote sites, the H-19s carry a payload of 1,000 pounds. Their longest scheduled trip—to the mountaintop "retreat" at Irwolsan—takes some three hours. It's a far cry from a trunk-line operation, but one which the aircrews often find exciting, sometimes hairy, and always rewarding.

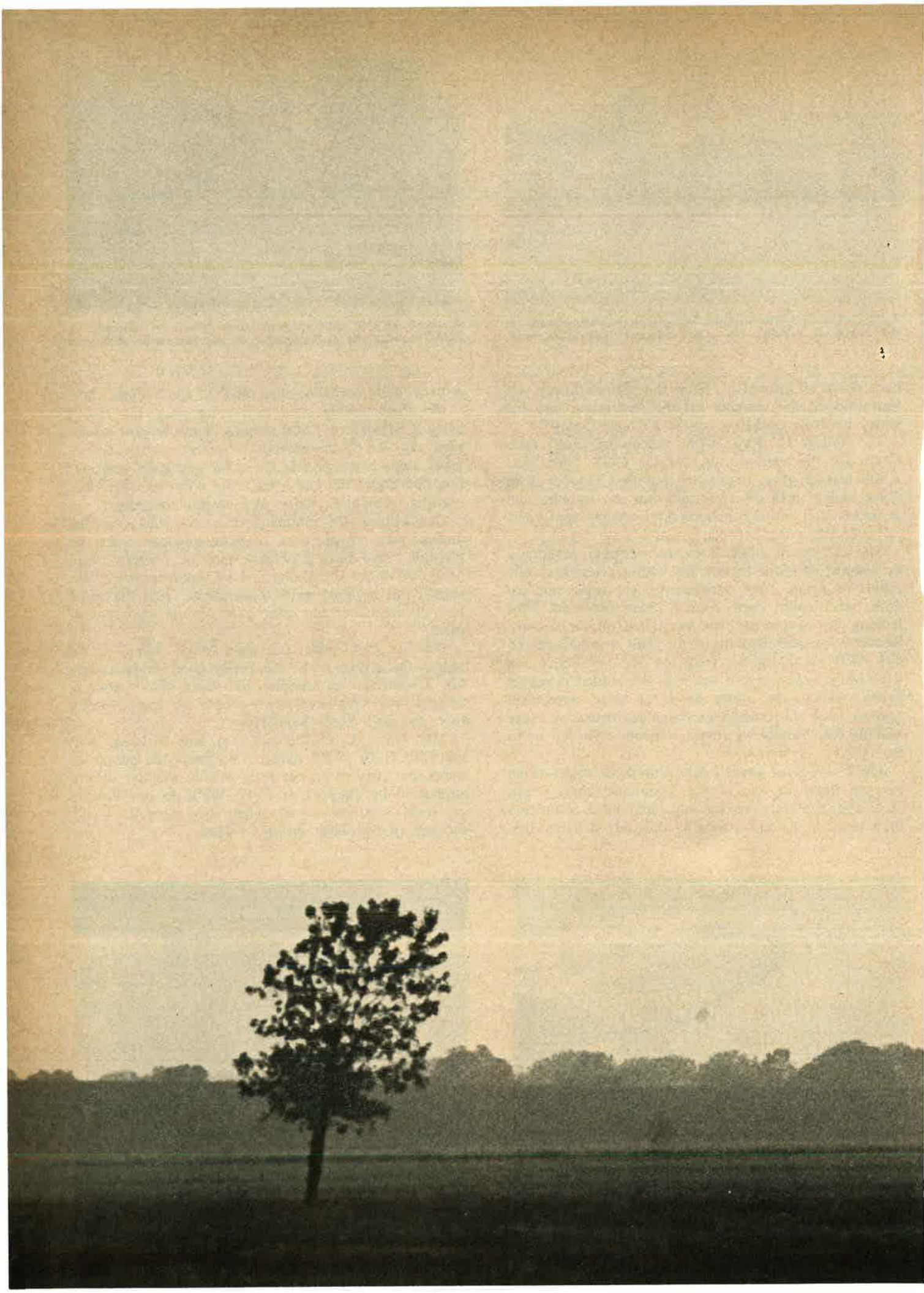
But without the maintenance crews who keep the ancient relics flying, none of these missions would be possible. "We have problems once in a while," said MSgt. William J. Maher, H-19 maintenance flight chief, "but nothing really troublesome. Just the usual lack of manpower and spare parts for our aging equipment."

On the C-47 side, line chief MSgt. James Perot judges the airline to be "in pretty good shape except for a shortage of people, but even that's coming around now. Our twenty-two people are spread pretty thin, but we'll keep them flying."

Maj. Oliver C. Coslett and Maj. Ray B. Long, who are both H-19 pilots, agree. "We know the people at these sites depend on our little airline, whether they're supported by chopper or C-47. We'll do our best to get them what they need, when they need it. That's the job of our bush airline."—END

Capt. Marty Sedlacke, Maj. Clarence Inman, and SSgt. Paul Wedeking get ready to roll at an isolated grass strip.

Cheju Do's 3,500 feet of sod—often sodden, always rough—seems to get a lot shorter as the Gooney turns in on final.



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1970 ANNUAL NATIONAL CONVENTION AND AEROSPACE BRIEFINGS AND DISPLAYS

Washington, D.C. — September 21-22-23-24

SCHEDULE OF EVENTS

Sunday, September 20

12:00 NN Registration Desk Open
3:00 PM AFA Board of Directors Meeting

Monday, September 21

8:00 AM Registration Desk Open
9:30 AM Opening Ceremony & Awards
2:30 PM 1st AFA Business Session
7:00 PM AFA President's Reception For Chapter Officers and Convention Delegates

Tuesday, September 22

8:00 AM Registration Desk Open
8:30 AM 2nd AFA Business Session
9:00 AM Briefings & Displays Open
11:45 AM AF Chief of Staff Reception
12:00 NN Briefing Participants Buffet Luncheon
2:30 PM AF Reserve Seminar
6:00 PM AF Secretary & Chief's Annual Reception

Wednesday, September 23

8:00 AM Registration Desk Open
9:00 AM Briefings & Displays Open
9:00 AM Air Force Symposium
11:45 AM AF Secretary's Reception
12:00 NN Briefing Participants Buffet Luncheon
12:30 PM AF Secretary's Luncheon
4:00 PM Briefing Participants Reception
7:00 PM AF Anniversary Reception
8:00 PM AF Anniversary Dinner-Dance

Thursday, September 24

9:00 AM Briefings & Displays Open
12:00 NN Briefing Participants Buffet Luncheon
4:00 PM Briefings Participants Reception

AFA's 1970 National Convention, now combined with its Annual Fall Meeting and Aerospace Development Briefings and Displays, will be held in Washington, D.C., September 21-24. All major Convention activities will be conducted at the Sheraton-Park, Shoreham, and Washington Hilton Hotels. Additional housing also will be reserved at the Windsor Park Hotel. Reservation requests should be addressed to the AFA Housing Office, 1129 20th St., N.W., Washington, D.C. 20036. All reservation requests for rooms and suites must be mailed (no phone calls, please) to the AFA Housing Office. Do not make any reservation requests directly with the hotels.

AFA's 1970 National Convention activities will include a luncheon for the Air Force Chief of Staff, a luncheon for the Air Force Secretary, a reception in honor of the Secretary and Chief, and the Annual Air Force Anniversary Reception and Dinner-Dance. The National Convention also will feature AFA's Business Sessions, Seminars, and several other activities, including a reception in honor of AFA Chapter Officers, the Annual Outstanding Airmen Dinner, and the Chief Executives Buffet Reception.

The Advance Registration fee for AFA's 1970 Annual Convention is $50.00, which includes credentials and tickets to all major Convention functions (except as referred to below), including the Secretary's Luncheon, the Chief's Luncheon, and the Reception honoring the Secretary and the Chief. After September 7, the Current Registration fee is $60.00, which includes the above credentials and activities. The Air Force Anniversary Reception and Dinner-Dance is not included in Advance or Current Registration fees. Individual reservations are $30.00 (includes both Reception and Dinner-Dance). All seating at Dinner-Dance is reserved and tables of 10 are available at $300.00. Dress is black tie. All Convention registrants are cordially invited to attend the Aerospace Briefings and Displays each afternoon, as our guests and to join us for a complimentary reception Wednesday and Thursday afternoons at 4:00 PM.

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SEPTEMBER 21-24, 1970 SHERATON-PARK HOTEL WASHINGTON, D. C.

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UNIT OF THE MONTH

THE EGLIN, FLORIDA, CHAPTER . . .
cited for consistent and effective support of the AFA mission through its support of AFJROTC and CAP Cadet programs, and the POW/MIA Project.

A recent meeting of the **Eglin, Fla., Chapter** spotlighted AFJROTC and CAP cadets. Representatives of **AFJROTC units** in the Fort Walton Beach area briefed the Chapter's membership on their training, from sophomore through senior year. In so doing, they outlined material contained in some nineteen textbooks, and other facets of their leadership and aerospace education. A **CAP cadet** made an enlightening presentation on CAP cadet training and contributions made by CAP cadet programs.

Also, as a part of the program, members of the families of two POW/MIAs made a plea for all Chapter members and citizens of the community to pledge continued active support of the **POW/MIA letter-writing campaign** initiated by the Air Force Association. They expressed deep gratitude to AFA at all levels for its strong support of the program.

In recognition of its efforts in stimulating young people to participate in such programs as AFJROTC and CAP, and its outstanding efforts in behalf of the POW/MIA project—obtaining letters and petitions, distributing bumper stickers, publishing and distributing some 20,000 copies of a booklet, "Lest We Forget," which details types of programs to use in support of the project, sample letters, etc.—we are pleased to name the Eglin Chapter AFA's "Unit of the Month."

The **Tidewater Chapter of Norfolk, Va.,** recently hosted a meeting of the **Virginia AFA Executive Committee,** at which State President **Richard Emrich** presided. Members of the Committee were special guests at a dinner sponsored by the Tidewater Chapter at the Armed Forces Staff College Officers' Open Mess.

John A. Lang, Jr., Administrative Assistant to the Secretary of the Air Force, was guest of honor and speaker. In his remarks, Mr. Lang touched on the history of Virginia and compared the problems facing the early settlers to the problems facing our nation today, emphasizing the need for a **strong deterrent force in being.** He stressed airpower as the primary force and, also, the importance of continuing research and development as a means of maintaining a technological lead to ensure our existence as a nation.

Mr. Lang stated that the SALT **(Strategic Arms Limitation Talks)** negotiations with Russia are merely the faint beginnings of man's search for peace, and that it will be a long, arduous path that we have to follow. He said we must remain firm in the belief that peace will come if we have the will to endure and the strength to allow the statesmen to pursue these goals.

Chapter President **John Pickering** presided at the dinner meeting, and **Carlton Harry** was Master of Ceremonies. **Congressman G. William Whitehurst** (R-Va.), a member of the House Armed Services Committee, spoke briefly on the importance of the defense forces and of his interest in the furtherance of aerospace power. He then introduced Mr. Lang.

Judge J. Hubbard Davis, on behalf of the Mayor of Norfolk, presented Mr. Lang a miniature replica of the original symbol of the grant of authority for the City of Norfolk.

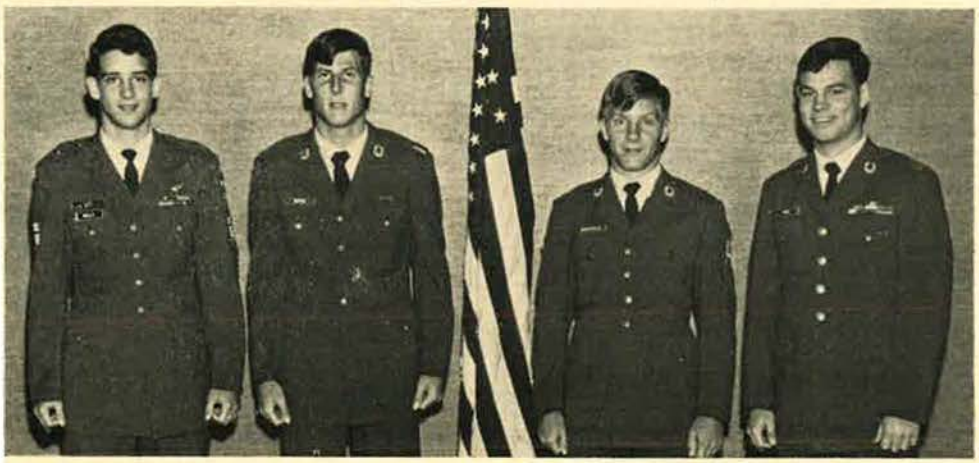
* * *

AFA **Board Chairman Jess Larson** was guest of honor and speaker at the recent Charter Night Dinner of the **Northwest Ohio Chapter,** Toledo, Ohio.

In his remarks, General Larson answered the question, "Who needs AFA?" Citing statistics on the Soviet research and development program and arms buildup compared to those of this country, and the temper tantrums of arrogant, reckless, and immature people who are attempting to destroy the fabric of American democracy, he stated, "We intend, therefore, for AFA to be heard on the issues that determine the future of the country and the free world; I know that I can count on AFA's new Northwest Ohio Chapter to do its share of our missionary work."

Other program participants included **Sergeants Bell, Rathke,** and **Samudio,** members of the Color Guard from the **180th Tactical Fighter Group** at Toledo Express Airport;

(*Continued on following page*)



Four cadets stand proud after briefing members of the Eglin, Fla., Chapter on their activities in CAP and AFJROTC units in the Fort Walton Beach area. From left are Mark Wells, CAP; and AFJROTC Cadets Terry Barton, Choctawhatchee High School; Ricky Whitefield, Fort Walton Beach High School; and Charles Byrd, Niceville High School.

Principal participants in the Charter Night Dinner of the newly established Northwest Ohio Chapter were, from left, Everett Cottle, Chapter Vice President; Donald J. Benore, Secretary; AFA Board Chairman Jess Larson, the guest of honor and speaker; Chapter President Dale Hornung; Ohio AFA President Bernard Osborne; Dr. Charles W. Kimble; and AFA National Secretary Glenn D. Mishler.

Great Lakes Regional Vice President **W. M. Whitney, Jr.;** AFA National Secretary **Glenn D. Mishler;** Ohio AFA President **Bernard D. Osborne;** Ohio AFA Executive Vice President **Ernest E. Pierce;** and Chapter President **Dale B. Hornung.**

Officers installed at the meeting included President **Hornung,** Vice President **Everett Cottle,** Secretary **Donald Benore,** and Treasurer **Charles W. Kimble.**

Among out-of-state AFA guests were Michigan AFA President **Marjorie O. Hunt;** Wisconsin AFA President and Mrs. **Lyle Ganz;** Mr. and Mrs. **Len Baldock** of Windsor, Ont., a Past National President of the Royal Canadian Air Force Association; from the Chennault Chapter of Detroit, Mich., Chapter President **Dorothy Whitney,** Secretary **Anne Boedigheimer,** and member **Judy Larson;** and, from the Mount Clemens, Mich., Chapter, **Mrs. Dorothy Hyne.**

In conjunction with the Charter Meeting, Mr. Whitney conducted a **Great Lakes Regional Meeting.**

* * *

AFA's Santa Monica, Calif., Chapter recently sponsored a brunch honoring the Chapter's Past Presidents. Held at the Santa Ynez Inn, Pacific Palisades, the program featured a presentation by **Col. Phillip J. Erdle,** Professor of Mathematics at the Air Force Academy in Colorado Springs. Colonel Erdle described the life of the cadets at the Academy and showed a movie depicting the many activities the cadets engage in.

During the program, arranged by **Yolk Lew,** Chapter Vice President, **Beirne Lay, Jr.,** author of the World War II novel *Twelve O'Clock High,* presented a gift to immediate Past President **Vera B. Wright** in appreciation for her two years of outstanding service as Chapter President. **Robert Lawson,** Chairman of the California AFA's Executive Committee and a Past President of the Chapter, was Master of Ceremonies.

Distinguished guests included retired USAF **Gen. Jimmy Doolittle,** a founder and first President of AFA; Lt. Gen. **Charles H. Terhune, Jr.** USAF (Ret.); and **Maj. Gen. Arno Luehman,** USAF (Ret.), and wives.

* * *

CROSS COUNTRY . . . At the **Tinker AFB Family Services Award** ceremony, recently held at the Holiday Inn East, Oklahoma City, Okla., AFA's **Gen. Thomas P. Gerrity Chapter** presented its "Volunteer of the Year" award to **Mrs. Lois Searcy,** wife of TSgt. Vernon Searcy of the 2854th Air Base Group. Chapter President **Frank Squires** made the presentation on behalf of the Chapter . . . Our sincere thanks to the **Iron Gate Chapter** of New York City for their generous contribution that permitted the 21st Air Force Band of **McGuire AFB, N.J.,** to participate in New York City's annual **St. Patrick's Day Parade** . . . During the awards ceremony of the 14th Annual Akron Public Schools Science Fair, the **Akron, Ohio, Chapter** presented a $25 bond to **Douglas Cross** of Litchfield Junior High School, first-place winner in the earth science-junior division category with a project entitled "A Study of Lunar and Solar Photography."

CONGRATULATIONS and best

(*Continued on page 97*)

Maj. Gen. Franklin A. Nichols, left, Commander of the Ground Electronics Engineering Installation Agency (AFLC), Griffiss AFB, N.Y., presents the GEEIA Commander's Plaque to Colin P. Kelly Chapter President Kenneth C. Thayer in appreciation of the Chapter's "close cooperation with Griffiss AFB and continued efforts to promote aerospace understanding in the civilian community." More than 400 attended the AFA-Rome-Utica Appreciation Dinner for General Nichols.

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6-70

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.

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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, Cadets of the United States Air Force Academy, or a USAF Officer Trainee—$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.

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 principle of freedom and equal rights to all mankind.

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Information regarding AFA activity within a particular state may be obtained from the Vice President of the Region in which the state is located.

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New York, New Jersey, Pennsylvania

At a recent dinner meeting, Mohawk Chapter President William Ong, left, presents an AFA Citation to Maj. Robert J. MacDowell, Chief, Information Office, 4676th Air Base Group (ADC), Richards-Gebaur AFB, Mo., for his outstanding and untiring contributions to the promotion of AFA in the Kansas City area. Missouri AFA President Rodney Horton looks on.

wishes to AFA National Director **Martin H. Harris** and **Patricia Franklin** who were married on Monday, April 27, in the McCoy AFB, Fla., Chapel. The ceremony was performed by **Rev. Bob Coward,** Chaplain of the Florida AFA and the Central Florida Chapter. Marty and Pat (a recent member of the AFA Headquarters staff in Washington), and Marty's two young daughters, will make their home in Orlando, Fla.

COMING EVENTS . . . AFA's 1970 National Convention, now combined with the Annual Aerospace Briefings and Displays, will be held in Washington, D.C., **September 21-24,** 1970. All major Convention activities will be conducted at the Sheraton-Park, Shoreham, and Washington Hilton Hotels. Additional housing has been reserved at the Windsor Park Hotel. Due to the magnitude of AFA's National Convention, being held in conjunction with the Annual Aerospace Briefings and Displays for the first time since 1964, it is anticipated that the Sheraton-Park and Shoreham Hotels will be "sold out" very early. Plan now to attend. Write for hotel accommodations to the AFA Housing Office, 1129 20th St., N. W., Washington, D.C. 20036, and return the Registration Form on page 92 to AFA, 1750 Pennsylvania Ave., N.W., Washington, D.C. 20006.

Louisiana AFA Convention, Monroe, June 12-13 . . . **Texas AFA Convention,** Big Spring, July 17-19 . . . **New York AFA Convention,** Syracuse, July 17-18 . . . **Pennsylvania AFA Convention,** Erie, October 9-10 . . . **Michigan AFA Convention,** Detroit, October 16-18 . . . **New Jersey AFA Convention,** Teterboro Airport, October 16-18 . . . **Washington AFA Convention,** Spokane, October 16-17.

—DON STEELE

The Amen Corner (an informal organization of influential community leaders in Pittsburgh, Pa.) recently honored its retiring President Judge John Brosky, AFA's Northeast Regional Vice President. Among the more than 1,000 attendees were, from left, Judge Brosky, Senator Gale W. McGee (D-Wyo.), Senator Barry Goldwater (R-Ariz.), and AFA National Director Carl J. Long. Senator Goldwater presented Brosky an AFA Citation in recognition of his community service and enhancement of public knowledge of the Air Force's contribution to free-world security.

Bob Stevens'

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