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XXI BOMBER COMMAND . . . CANADA'S ROLE IN THE UNITED
NATIONS . . . AEROSPACE RESCUE AND RECOVERY WORLDWIDE

AIR UNIVERSITY REVIEW



THE PROFESSIONAL JOURNAL OF THE UNITED STATES AIR FORCE

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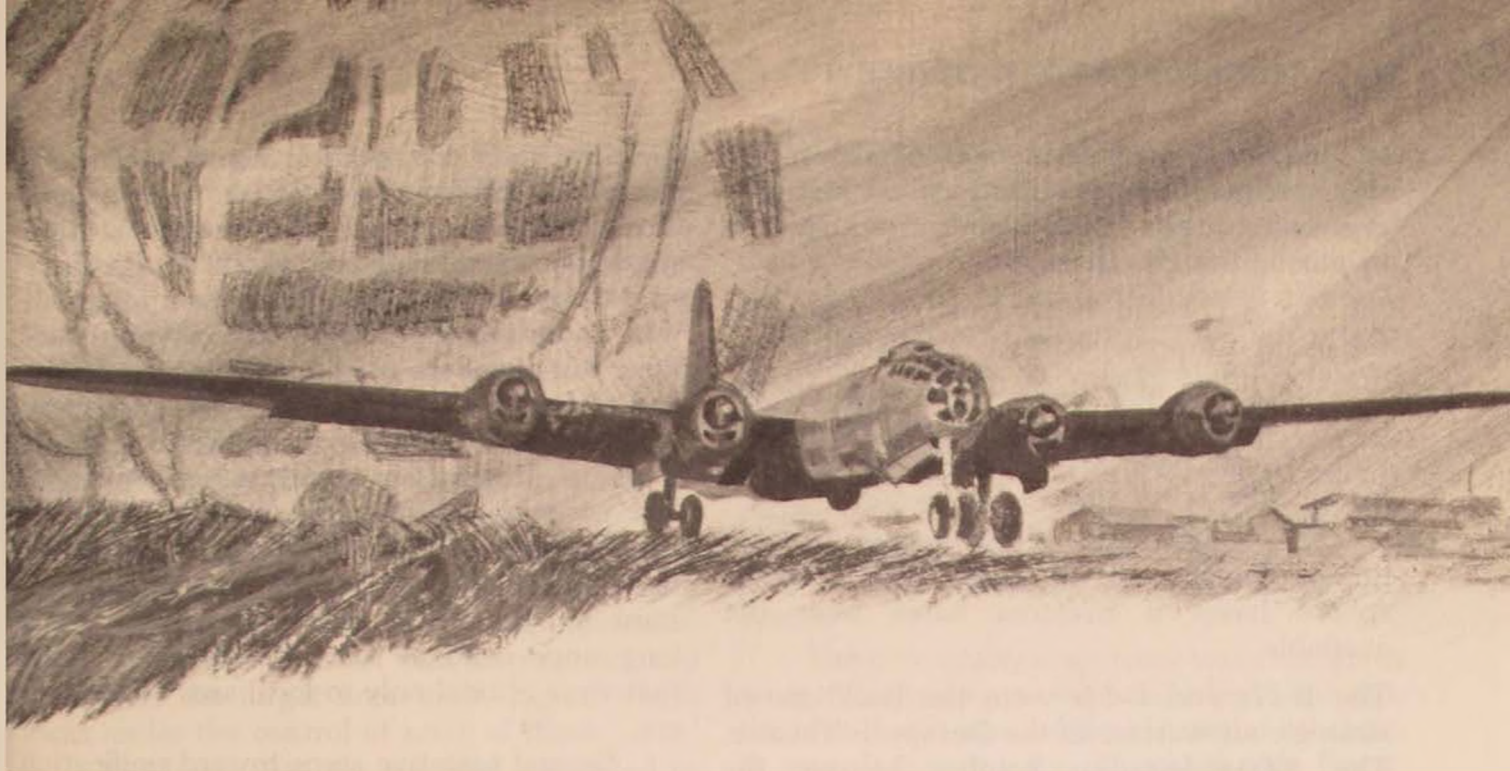
The poet has said that "distance lends enchantment to the view," and often enough it is true. Yet the distance of nearly a quarter-century yields gracefully to the detailed recollection of one who was there, Major General Haywood S. Hansell, Jr., USAF (Ret), as he recreates for us the tension and excitement of the founding of XXI Bomber Command and its early bombings of Japan. In the cover illustration our artist combines some of the ingredients of that epic.

The author, Major General Haywood S. ("Possum") Hansell, Jr., USAF (Ret), shepherded the B-29 air offensive plans, including establishment of the Twentieth Air Force and capture of the Mariana Islands, through the Joint Chiefs of Staff.

General Hansell served as commander of the XXI Bomber Command until 20 January 1945, when he was rotated to the United States.

THE FIRST OF THE TWENTY-FIRST

MAJOR GENERAL HAYWOOD S. HANSELL, JR., USAF (Ret)



THE achievements of American air power in World War II are well documented and well known. They constitute a fascinating and exhilarating story of mature and victorious strength. In the latter part of the war in the Pacific, the XX Bomber Command and the XXI Bomber Command were combined and ultimately became the world's most powerful air force, the Twentieth Air Force. In its maturity, the XXI Bomber Command became an American legend, but its early days—from birth to adolescence to commitment in battle—are less well known and, unfortunately, not well documented. It is with the thought of describing the modest beginnings which led to such magnificent power and stature that this brief résumé has been compiled.

To begin at the beginning, one must describe the circumstances in which the XXI was created and the purposes for which it was commissioned.

In the beginning there was division. There was division of opinion, hotly contested, as to whether there really was such a thing as decisive air power, to be considered in the same context as land power and sea power. There

was division, even more hotly contested, as to who should control it and how it should be organized and employed.

The proponents of air power in 1941 put forth their thesis in Air War Plans Division—Plan 1 (AWPD-1). The plan called for a major strategic air offensive, to achieve, in itself, a major military purpose. It espoused a purpose which would make a signal contribution to victory in war and which might, in fact, be conclusive. It did not deny land power and sea power. It contemplated concerted action by all three. But it did contend that air power could, in some circumstances, be the decisive factor in war.

AWPD-1, prepared before Pearl Harbor, described the end purpose of air warfare against Axis Europe in these terms:

To wage a sustained air offensive against European Axis Military Power. To apply air power for a breakdown of the industrial and economic structure of Germany. To support a final offensive if invasion becomes necessary.

The end purpose of air warfare against Japan, to be undertaken after victory in Europe, was described in similar vein in AWPD-42, dated 9 September 1942.

Because the environment of the future war was not clear, AWPD-1 called for three types of strategic bomber aircraft with which to pursue the air offensive:

- B-17s and B-24s (then in existence) for use if European bases were available

- B-29s and B-32s (both then in the project stage) for use from British, Near East, and African bases against Axis Europe and from Pacific bases against Japan

- A 4000-mile-radius bomber (then a design objective) for use from Western Hemisphere bases if overseas bases were not available.

The B-17s and B-24s were the backbone of strategic air warfare in the European Theater. The 4000-mile-radius bomber became the B-36, but it was not ready in time for World War II. The B-29 was developed and put in mass production and became available in time for employment in the Pacific. It was a major strategic weapon which had to be reckoned with in the preparation of overall war strategy in the Pacific.

The creation of this powerful air weapon, the B-29, really marked the conception of the XXI Bomber Command, for the B-29's potential demanded recognition in the formulation of Pacific war plans.

Solution of the problem of the command of strategic air forces was even more difficult than solution of the technical problems posed by the extravagant requirements demanded of the bomber airplane. Unity of command was a cherished military concept in both the Army and the Navy. In the Army this unity was achieved by designating single commanders to exercise command over all units within specific geographical boundaries. In the Navy it was achieved by retaining control of combat naval forces under ultimate command of the top naval echelon of the nation. Fleet units were almost never *assigned* to territorial command areas, and when they were it was always with the proviso that they could be withdrawn at any moment for employment elsewhere if the naval situation should so require.

Strategic air forces did not fit either con-

cept, but their command characteristics more closely resembled those of the Navy than those of the Army. The long-range air force straddled several land commands. Its bombers might be based in many areas, each of which was under separate Army or Navy jurisdiction. But bombers of the strategic air forces had to have unity at the target area, and they had to have continuity of application if they were to accomplish their strategic mission. The very flexibility which constituted the cardinal virtue of strategic bombers constituted their greatest vulnerability: there was a constant temptation to divert them from their long-range strategic war objectives to targets that were critical only to local area commanders.

Several tentative steps toward unification of strategic air command had taken place in Europe. The Combined Chiefs of Staff gave the Chief of Staff of the Royal Air Force the role of coordinator over the U.S. Eighth Air Force and the RAF Bomber Command. Later the Eighth in England and the Twelfth in the Mediterranean were coordinated by General Carl A. Spaatz. Still later, the Eighth in England and the Fifteenth in the Mediterranean were combined into United States Strategic Air Forces in Europe, under actual command of General Spaatz.

But the problem of unity of command became very acute indeed as primary attention turned to Japan and the B-29 force began to emerge. In order to apply this very heavy bomber (VHB) force against Japan proper, which was its real role, plans were made to establish a number of bases within action radius of Japan. Three bases were to be in China, the Marianas, Alaska, and either the Philippines or Formosa.

The first of these plans, called "Project Matterhorn," resulted in establishment of bases in India and China. U.S. forces there were under command of General Daniel I. Sultan, U.S. Army. He in turn was a part of the Allied command headed by Admiral Lord Louis Mountbatten, Royal Navy. The Joint Staff planners proposed placing four groups of B-29s in the Philippines, which, when recaptured, would be under the command of

General Douglas MacArthur. Plans were also being prepared for placing B-29s in the central Pacific and in Alaska. The Mariana Islands, which were to be captured largely for this purpose, would be under the command of Admiral Chester Nimitz, U.S. Navy.

Each of these base areas was under a separate theater command, and these field commanders were very powerful people indeed. Each had strategic purposes to be achieved. Each wanted to apply the B-29s to his own strategic theater purposes. Each resented any incursion into his area of control. Yet there was one area in which unity of air command and continuity of effort was imperative, and that was the target area itself, Japan, which was under the control of none of them.

In March 1944 the Air Staff presented to the Joint Chiefs of Staff its concept of Pacific strategy. It called for a concerted bomber offensive against the Japanese home islands. In order to carry out this air offensive, the Air Staff advocated capture of the Marianas and establishment of the main B-29 force there. When the Philippines had been retaken, a B-29 force was to be established there also. The B-29s in Chengtu, China, were to be moved forward when better base areas became available. A base was to be constructed in the Aleutian Islands as well. The main thesis of the plan was a unified and concerted air bombardment, concentrated against a single list of targets in the Japanese home islands and coordinated through a unified air command.

Actually it was the similarity of this air problem to the traditional naval problem which finally was persuasive. At least, it was this similarity which persuaded Admiral Ernest J. King to accept the idea of a strategic air force that would be assigned to none of the surface commands but would report directly to the Joint Chiefs of Staff. The concept was similar to that under which the U.S. Fleets operated: they reported to the Joint Chiefs, and the Chief of Naval Operations functioned for the Joint Chiefs as their executive agent. Admiral King accepted the parallel concept of a strategic air force that would report to the Joint Chiefs, with General Henry H. Arnold as its commander and executive agent of the Joint Chiefs.

Admiral King's endorsement was vital because the bulk of the bombers would be in the Pacific Ocean area, which was a naval command. General George C. Marshall, with his typical breadth of vision, supported the concept. The plan was accepted and approved by the Joint Chiefs of Staff on 10 April 1944. General Arnold was designated the commander of the new strategic air force. He in turn appointed me its Chief of Staff, in addition to my assignment as Deputy Chief of Air Staff. The Headquarters Army Air Forces served General Arnold as headquarters of the Twentieth Air Force.

The new strategic air force was even given an out-of-sequence number in order to enhance the idea that it was a different sort of creature. It was designated the Twentieth Air Force, though there was no Sixteenth, Seventeenth, Eighteenth, or Nineteenth. The Twentieth Air Force was conceived to have, eventually, three or four bomber commands: the XX Bomber Command in China-India, the XXI in the Marianas, the XXII in the Philippines or Formosa, and perhaps a XXIII in Alaska.

Although this decision made possible the development of the bomber offensive against Japan, it did not mark the close of the argument from the theater field commanders. They continued their efforts to gain control of the B-29 units in their areas. General MacArthur's headquarters was especially insistent and coupled its requests with a strong contention that B-29 operations out of the Marianas were militarily and technically unfeasible.

As a result, the Twentieth Air Force was under extreme pressure to perform. One major slip and the critics would have had their way; the Twentieth Air Force would have been dismembered and parceled out to the various theaters. An understanding of this tension and pressure is vital to an understanding of the early struggle of the XXI Bomber Command to meet its commitments. We had given a pledge to launch an air offensive against Japan in November (1944). This action was tied into the carefully prepared plans for the Pacific campaigns of Admiral Nimitz and General MacArthur.

The target date had to be met, and the suc-

cess of a highly controversial operation had to be demonstrated if air power was to reach fruition in World War II.

THE XXI Bomber Command was activated at Smoky Hill Army Air Field, Salina, Kansas, on 1 March 1944. The XX Bomber Command was then in process of establishment in the China-Burma-India Theater.

The 73d Wing, which was originally scheduled for the XX Bomber Command, was transferred to the XXI when the XX was reduced from two wings (eight groups) to one wing, the 58th. The XXI Bomber Command was trained and staffed by the Second Air Force. The headquarters of the command was later moved from Salina to Peterson Field, Colorado.

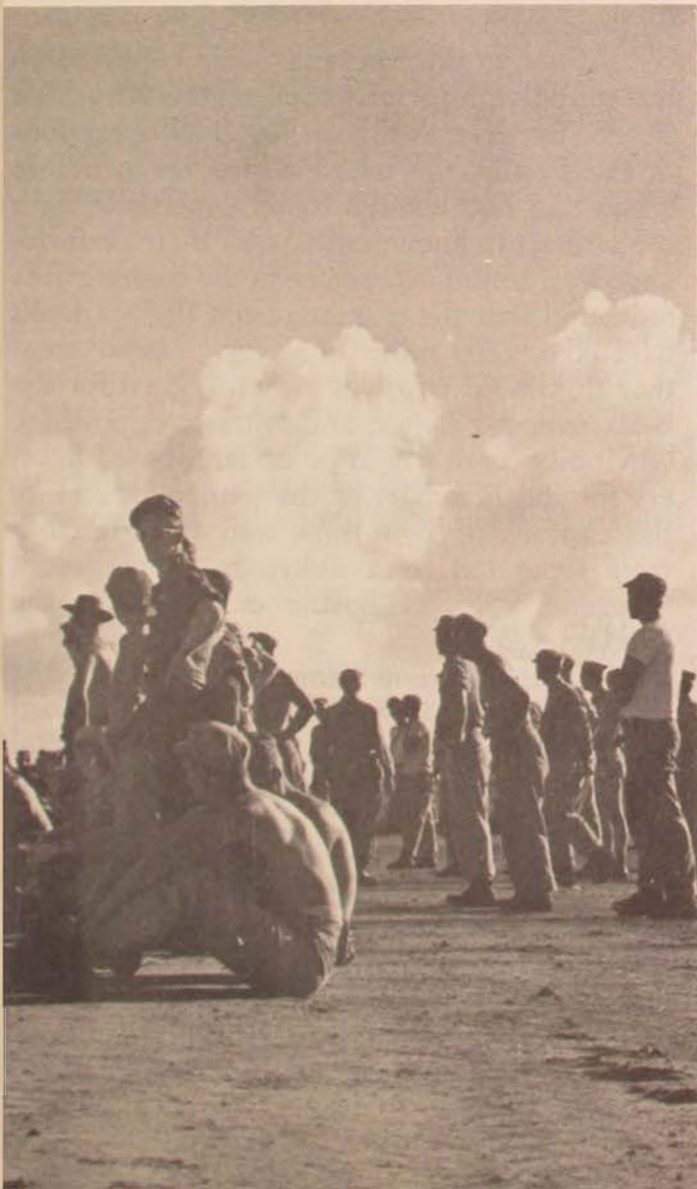
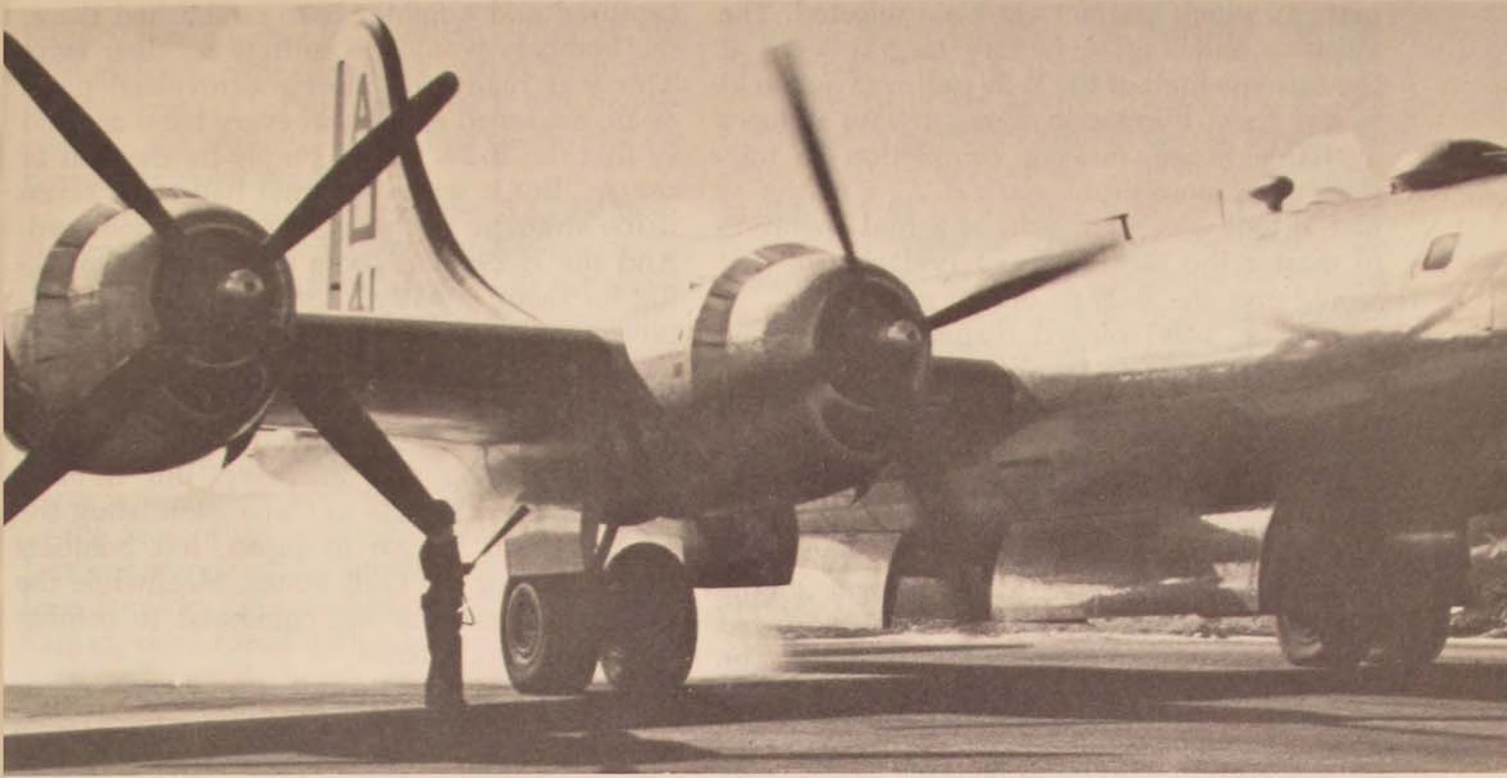
Creation of the parent organization, the Twentieth Air Force, did not take place until 12 April of that year. The Twentieth was to consist of a thousand B-29s in combat units, supported by necessary auxiliary units and given the necessary training.

When I took command of the XXI Bomber Command on 28 August 1944, the units of the 73d Wing were training for radar bombing at night, along the pattern of the XX Bomber Command in China, of which it was to have been a part. The XX, because of its location, logistics problems, and relationship to the main target areas, had been assigned target priorities different from those of the XXI. The Japanese airplane and engine factories were not within range of the bases in China. The XX operated primarily at night, using radar bombing techniques. Precision bombing was neither feasible nor expected.

On the other hand, the aircraft factories and engine factories assigned as targets to the XXI Bomber Command, based in the Marianas, were precision targets. As a matter of fact, they had yet to be located precisely—a major task for the reconnaissance squadron of the XXI. They could not be found, hit, and destroyed with the radar bombing equipment we had available at the time. So the units had to be retrained on a crash basis to do high-altitude, daylight precision bombing and to fly in for-

XXI Bomber Command initiated strategic bombing missions against Japan on 24 November 1944, barely six weeks after the first Superfortress landed at Isley Field on Saipan, Mariana Islands. Aircraft and munitions factories in Tokyo and in neighboring cities were selected as targets for high-altitude bombing by the Boeing B-29s.





mations which had not yet been selected. The airplane and engine factory targets were at the extreme limit of the B-29 radius of action as it was then. Formation flying always reduces available range, making completion of missions even more problematical. As a matter of fact, it took several months of actual operation to master the techniques of fuel control that would give the B-29 its design capability.

There was spirited dispute at the time over this change in bombing tactics. The dispute persists, but the reasoning is not hard to trace.

Our only real experience in massive bombing operations had taken place over Europe. The whole concept of American air power—the selection and destruction of vital targets on the ground through precision bombing—had faced the possibility of disastrous failure there. The ability of massive bomber formations to fight their way through enemy defenses and reach remote targets, without intolerable losses, came dangerously close to being disproved. If the German fighter forces had been left free to expand, the price might have been too high. And if that price had been too high, the air offensive would have failed and with it the hope of surface invasion.

The bombers of the Eighth and Fifteenth Air Forces had to be directed against the sources of enemy fighter development and strength: the aircraft and engine factories, the air bases, and the sources of aviation fuel. These constituted the targets of the intermediate objective: the enemy air force. At the earliest possible time the penetration capability of the bomber formations had to be supplemented by escort fighters.

This experience in Europe obviously weighed heavily in the establishment of target systems in Japan. The aircraft and engine factories, and to a more limited extent the oil resources of Japan, were established as the intermediate objective, to receive first priority in point of time.

The other lesson of European air combat simply could not be applied initially to the Twentieth Air Force. The range of the B-29 was such that no escort fighters could accompany the formations. Until Iwo Jima could be

captured and a fighter base established there, the bombers would be entirely on their own. This was really the most controversial point of all. Seasoned experts on every hand assured us that the B-29s would simply be shot out of the air. But it was a risk that had to be taken if the strategic purposes were to be achieved. And the B-29s had some other factors working for them: greatly improved defensive firepower and high-altitude performance.

Orders for conversion to daylight tactics were issued early in September, and tactical doctrine for daylight operations was established. Training was intensive. But training missions from Kansas to Cuba, simulating the mission from Saipan to Japan, left bombers down all over the Gulf States. Meanwhile the pressure to commit the command to combat was becoming intense.

Final practice missions were flown, groups of the 73d Wing participating in two long-range missions, which stressed take-off, assembly, rendezvous, formation flying, and simulated frontal penetration.

Although the Marianas were captured on the initiative and insistence of the Army Air Forces to serve as a base for B-29 operations in the Pacific, the decision was taken before crews had had enough flying experience with the aircraft to know really what their performance was. Initial experience in the training area indicated that the distance from the Marianas to Tokyo, 1200 miles one way, was so great that the round trip was very marginal for the B-29, even on paper, and without opposition. Obviously there would be no land-based fighters for the first part of the campaign, before the capture of Iwo Jima, and the Marianas were separated from Tokyo by more than a thousand miles of hostile environment: the Pacific Ocean.

When the time came to move the first units to Saipan six weeks later, the crews had averaged less than one hundred hours of total flying time in the B-29, and the average high-altitude formation flying experience was less than twelve hours. The engines of the B-29 had developed a very mean tendency to swallow valves and catch fire. The magnesium crank cases burned with a fury that defied all ex-

tinguishing efforts. In addition, gunsighting blisters were either blowing out at high altitude or frosting up so badly that it was impossible to see through them, but there was no time to fix them properly.

A request was made by the XXI Bomber Command that units be flown to Saipan, under Air Transport Command control, in squadron formations in order to get precious experience in flying formation for considerable distances. This was denied on the ground that the airplane lacked sufficient range to fly from Sacramento to Hawaii, 2400 miles, in formation. The flight would have been without a bomb load, in the face of no opposition, and with excellent communications, weather reporting, and base facilities. These same units, on arrival in Saipan, were faced with a round trip of about 2500 miles, with bomb loads, in the face of enemy opposition, and with no weather data or communications.

Two bases, each with two 8500-foot paved runways and 80 hardstands, necessary shops, housing, fueling facilities, and other essentials, were supposed to be ready on Saipan. The bases were to have been built by the Central Pacific Area Command, but stubborn interference by the Japanese garrisons in the Pacific and competition from U.S. Navy construction work had set the schedule back by several months.

I landed the first B-29, "Joltin' Josie, the Pacific Pioneer," at Saipan's Isley Field on 12 October 1944, with Major (now Major General) Jack J. Catton as my copilot. A rousing reception from the men who had been laboring in tropical heat and rain to build the field greeted our arrival.

Of the two bases under construction on Saipan, one could not then be used at all by B-29s, and the other had one runway 7000 feet long—5000 feet of it paved—a taxiway at one end only, about forty hardstands, and no other facilities whatever except for a bomb dump and a vehicle park with gasoline truck-trailers. It was hardly ready to receive the 12,000 men and 180 aircraft potential of the 73d Wing. Ground crews put up borrowed tents in what was certainly one of the most disorderly military encampments of the war, but they worked

day and night to meet the demands for the first strike.

The bases on nearby Tinian Island had hardly been started. Those in Guam, where the main headquarters of the XXI Bomber Command was to be located, had not even been started. Communications were completely inadequate. The aircraft of the 73d Wing arrived rapidly on Saipan after mid-October and had to be double-parked on hardstands. In the meantime a shipload of supplies arrived at Guam, to become a depot.

The ship had been carefully loaded so that supplies could be unloaded in reverse sequence and stacked at the depot in "combat loaded" order. The procedure was new and elaborate but one which would give us an operating depot in a matter of weeks. Actually, fighting was still going on in Guam, and confusion reigned supreme. The harbor master said, "I'll give you twenty-four hours to get that — — ship out of here." The supplies were dumped in the jungle and never recovered. It became necessary to supply and maintain the B-29s, themselves new and unfamiliar, by air all the way from Sacramento, California—8000 miles away! The in-commission rate was low.

AS INDICATED earlier, the strategic concept was for the defeat or neutralization of the Japanese air forces as an intermediate objective. The major strategic air offensive was against the war-supporting and economic systems of Japan, the primary objective. The plan of operations against the primary objective contemplated destruction of major selected industrial facilities by direct attack and burning out of the major cities in order to eliminate the small supporting industries, which were known to be widely distributed in Japanese homes and residential areas. (Sample Japanese villages were actually built in Nevada, and various types of incendiaries were tried against them. From these tests and experiments, incendiary bombs and clusters were designed and put into mass production.)

The primary target system assigned to XXI Bomber Command by agreement of the





B-29s encounter dense cloud banks en route to bomb targets in Japan. High winds and heavy cloud cover tended to hinder bombing accuracy during these raids. . . . Bombs from a Superfortress fall toward the Musashino aircraft engine plant in Tokyo on 24 November. . . . Smoke billows high above an arsenal at Nagoya following a bombing run.

Joint Chiefs of Staff, giving first place to Japanese aircraft and aircraft engine factories, was not lightly conceived. It had been learned that air superiority is necessary in order to carry out effective surface operations and invasions as well as major strategic air operations. The Joint Chiefs had been persuaded to back the air offensive, but they were looking over the shoulders of the airmen at the invasion shore. Second priority was given to Japanese industry, which was distributed throughout the great urban industrial areas, and third to Japanese shipping.

It must be remembered that the Twentieth

Air Force had won its right to exist only by becoming a creature of the Joint Chiefs of Staff. The official war plans of the JCS did contemplate invasion, and the Twentieth Air Force could not be divorced from that ultimate concept. Certainly that was wise in the early stages. Air power, applied by itself, had never before been sufficient to bring about capitulation of a major nation that was still in full control of its own military means. What if the strategic air offensive should not be effective? The Joint Chiefs simply had to have a backup plan. To be sure, there was some skepticism of air power, but even if there had not been, it would have been unwise to fail to provide for a backup. Actually the JCS did give the Twentieth Air Force priority second to none in the creation and launching of the force, and they did direct the capture of the Marianas as a base of operation of the XXI Bomber Command.

It has been implied that the air strategists who conducted the early operations of the XXI had limited vision and were too much influenced by the need to pave the way for invasion. This is not so.

The pattern of B-29 operations against tar-

gets in Japan was not conditioned by the limited conception of the role of air power inherent in the basic idea of defeating Japan by ground invasion. The initial target list had as its objective the defeat of the Japanese air force, but this, like the defeat of the German air force, was an intermediate objective. It was considered a necessary preliminary in order to ensure and enhance the effectiveness of strategic bombing operations. To be sure, the objective also contributed to successful future ground and sea operations. But the primary objectives were essentially the same as those in Germany: the military, economic, industrial, and social structure, which supported the will and the ability of the Japanese nation to wage war.

Plans for the first bombing of Japan from the Marianas called initially for a combined first strike with the Navy, so that carrier-based aircraft would divert some of the Japanese fighter defenses and absorb some of their capability. For the rest, the B-29s would have to depend upon high altitude (their principal advantage) and their own defensive gunfire. The B-29 was designed as a high-altitude bomber, the first to have pressurized crew compartments. It had turbosupercharged engines. It was reasonably fast at high altitudes. It was heavily gunned. By operating in formation it was expected to fend for itself against enemy fighters, which would be operating at their ceiling and have little if any margin of performance superiority.

The first airplanes and crews to arrive on Saipan were given a small amount of training in the Pacific area. Six short training missions were flown against Truk and Iwo Jima. In spite of all the obstacles, the XXI Bomber Command declared itself ready to meet combat commitments exactly on time, by the middle of November.

In the early morning of 1 November, an F-13A, photoreconnaissance version of the B-29, took off from Saipan and became the first U.S. plane over Tokyo since April 1942. Called "Tokyo Rose," the aircraft flew above the Japanese capital at an altitude of 32,000 feet, photographing a complex of aircraft and engine plants just west of Tokyo and another on the outskirts of Nagoya. They were excellent and

priceless photographs. Before the first strike on Tokyo on 24 November, 17 sorties had been flown over Japan by F-13s. Many of the missions were hampered by bad weather, but enough information on the location of aircraft factories was obtained for the first bombing missions. Copies of the photographs were provided to General Arnold for the JCS and to Admirals Nimitz and William Halsey.

Mosaics were made, strips laid out, initial points and target approaches selected. Every crew was required to trace its photo map, mark landmarks and target runs, and then redraw them from memory—over and over.

As the day for the combined operation against Japan approached, the Navy found itself in serious combat trouble in its movement into the Philippines. The Navy announced that it was unable to participate in the planned combined air operation against Japan. The XXI Bomber Command declared itself ready to go ahead on its own. The mission was on.

The strike, the first on Tokyo since the Doolittle raid on 18 April 1942, was labeled "San Antonio One," and the second was to be called "San Antonio Two." I was to lead the first, and Brigadier General Emmett ("Rosey") O'Donnell, Commander of the 73d Wing, was to lead the second. However, General O'Donnell was shifted to the first strike after I was ordered not to lead the mission because of my extensive knowledge of the Pacific campaign plans.

The morning of the planned assault for "San Antonio One," 15 November, dawned with an ominous calm, which changed suddenly into a tropical storm. A typhoon hit Saipan and lasted six days. The island and the base became a sea of mud. In the meantime the B-29s were sitting on their hardstands, fully loaded, and the orders for the mission had been distributed. The prospect of a security leak became a nightmare.

During this time members of General Arnold's staff and at least one field commander continued to express doubt of the planned air offensive from the Marianas. I received a letter from General Arnold forwarding these expressions of doubt and the conviction of their authors that the missions as planned could not

be carried out. It was contended that the airplanes lacked the necessary range and that the Japanese would shoot them out of the air. General Arnold did not countermand the mission or the plans. He simply forwarded these warnings which others were expressing. The decision to carry out the planned mission or to change it was left to my judgment.

It was quite true that until the time for take-off of "San Antonio One" the XXI had never flown a formation as large as a squadron a distance as far as Tokyo and back, even without bomb loads and without enemy opposition.

The potential impact of the mission on Pacific strategy and the future of the Air Force extended far beyond the XXI. The Army Air Forces, at the JCS planning and command level, had been advocating primary reliance upon the effectiveness of the air offensive, with provision for an invasion of the Japanese mainland only if the air offensive proved inconclusive. This viewpoint did not follow Army and Navy planning. To admit at this late juncture that the air offensive could not even attack its intermediate objectives would have grave repercussions indeed. The whole command structure of the Twentieth Air Force as a worldwide command reporting directly to the JCS, in a role parallel to that of the U.S. naval fleet, was in delicate balance. To subject it to re-examination resulting from a major degradation of capability would have had very serious after-effects. To those who believed that the air offensive was not only the most effective avenue to victory in the Pacific but also the cheapest in terms of American lives, the abandonment of the planned mission would be a disaster almost as great as the tactical disaster of failure might have been. But there was no denying that the decision to carry out the plan *was* extremely risky.

I thought I understood why General Arnold had sent me this message. Disaster on the first missions of the XXI Bomber Command would have changed Pacific strategy and delayed recognition of coordinate air power by many years. Since there seemed to be a high probability that such disaster would actually ensue, the ill effects would be less severe on the future of the air forces if the responsibility

were borne by a subordinate field commander. It was not an unreasonable precaution to take, under the circumstances.

On 24 November, 111 B-29s of the 73d Wing, XXI Bomber Command, took off on the trip toward Japan, representing over 90 percent of the B-29s on Saipan. Some of the crews had arrived less than a week before, and their first take-off was for Tokyo. Each take-off was an ordeal. The B-29 was originally designed for a gross weight of 120,000 pounds. By urging and pleading, we convinced Wright Field to raise the allowable gross to 132,000 pounds. In order to carry every gallon of gas that could be pumped aboard, they were taking off at 140,000 pounds! A faltering engine would spell the end for any airplane.

Primary target for the B-29s on "San Antonio One" was the Nakajima Aircraft plant on the outskirts of Tokyo, and the secondary targets and "last resort" areas were the docking facilities and urban area of Tokyo. A total of 277.5 tons of bombs was carried by the 111 B-29s. Seventeen bombers turned back because of fuel problems, and six missed bombing because of mechanical troubles. Flying at 27,000-33,000 feet, the bombers picked up a 120-knot wind over Japan, giving them a ground speed of 445 miles per hour. This speed taxed the limits of the optical bombsights. Twenty-four planes bombed the Musashino plant, and 64 unloaded on the dock areas. Only one B-29 was lost in combat. U.S. gunners claimed 7 enemy fighters destroyed and 18 probables. Final count for the XXI listed 2 B-29s destroyed, 8 damaged by enemy action, one man killed, 11 missing, and 4 injured.

After the war ended, it was learned that 48 bombs had hit in the factory area; one percent of the building and 2.4 percent of the machinery were damaged; and 57 persons were killed and 75 injured.

The weather at the target was far from favorable, and the bombing left much to be desired. However, the losses were small, and the operation was carried out in spite of the hazards and obstacles. Not the least of the hazards was the return to base. The mission lasted 12 to 14 hours, and the return was at night. There were no runway lights, only smudge pots

along the single runway strip. The next nearest landing strip was at Kwajalein, over a thousand miles away. If a B-29 splattered itself on the runway, the rest of the aircraft behind it were all through.

In my judgment this first attack by the 73d Wing was a very real achievement, and the crews who flew it were men who should be marked for praise. From a newly assembled unit in Kansas, newly equipped with an untried airplane, trained for single-aircraft night-bombing by radar, they had progressed to daylight bombing in formation at 30,000 feet over a Japanese target, operating from a half-prepared base in Saipan, 1200 miles away. All in two and a half months! The bombing was only fair, but the men who performed the job were magnificent.

The decision to launch the offensive in the face of such adverse conditions and recommendations seems to reflect recklessness and good luck more than sound judgment. But this first great gamble proved the feasibility of the assault. Momentum and confidence and improved efficiency would come with experience and numbers.

"San Antonio Two" was staged on 27 November, with the same target priorities. The crews of the 81 B-29s that flew the mission found Tokyo completely covered by clouds, so the bombs were dropped by radar on the secondary targets. The Japanese were provoked into trying to halt the bombing by making air raids on Isley Field, and they destroyed some B-29s. The Japanese were realizing that their home islands were indeed susceptible to sustained attack and that their fighters could not turn back the B-29s.

The next three months were frustrating, to say the least. Schools were established to train the lead crews, in a determined effort to improve bombing accuracy. Enormous efforts were made to improve maintenance. The depot had to start all over again, and in the meantime the air supply from Sacramento had to be improved. More missions were run against aircraft and engine factories. But the weather was a terrible opponent, and there was no intelligence of its movements. Japanese fighter opposition was desperate but not very effective,

at least in comparison with German fighters. Air kamikaze ramming tactics were tried with some effect. Morale was a critical problem. The airplane engines were still unreliable. Airplanes that were disabled from combat or from other causes were 1200 miles from friendly territory, and crews had the choice of drowning or bailing out over Japan, to be executed by maddened Japanese. The U.S. Navy made a tremendous contribution to morale by stationing rescue submarines at intervals along the route.

On 13 December, 74 B-29s of the 73d Wing were credited with doing significant damage to Japanese aircraft plants. Most of the bombers carried 500-pound general-purpose bombs, while others were loaded with incendiary clusters. The primary target was the Mitsubishi engine plant at Nagoya. Photographs failed to show the entire damage. Later reports indicated that engine assembly shops and auxiliary buildings were destroyed or damaged. A total of 246 people were killed and 105 injured. Aircraft engine production capacity was reduced from 1600 to 1200 per month. The Mitsubishi No. 4 Engine Works no longer made parts. The Japanese also began the transfer of plant equipment to underground facilities. It was the most destructive mission to date for XXI Bomber Command.

The order for succeeding missions was for maximum strikes against top-priority targets by high-altitude precision bombing when weather was acceptable. When this was not possible, secondary targets were to be hit, and time was also given to night attacks by use of radar. But still, bombing effectiveness was hard to assess because of cloud cover. Reports of effectiveness were deliberately played down by the XXI Bomber Command headquarters to counterbalance the known tendency to exaggerate.

Night incendiary attacks against Japanese urban industrial areas in early 1945 were part of the original plans for employment of the XXI, but they were scheduled for performance after the Japanese aircraft and engine factories had been knocked out. One wing of the XXI, the 315th, had been equipped exclusively for such operations. Its aircraft were delivered without armor or armament, except for a tail turret, and they were equipped with a new radar bomb-



Maintenance crewmen clean and service a Superfortress in readiness for the next mission. . . . After the flames, little remains of one of three B-29s destroyed by Zeke fighters that strafed Isley Field in a futile attempt to stop the bombing of Japan.



Sheet-metal workers repair the tail assembly of a B-29 damaged during an attack on Saipan's Isley Field by Japanese planes.



sight that permitted more accurate bombing. All the XXI units were equipped and trained for radar bombing of those area targets that rendered good radar return.

Preparation for aerial mining operations against shipping in Japanese waters was also initiated during this early period. The program, which turned out to be one of the major contributions of the Twentieth Air Force, met with some opposition to start with.

Mining of rivers and harbors in the Netherlands East Indies by the B-29s of the XX Bomber Command had been one of the first operations carried out by that command from bases in Ceylon. Admiral Nimitz's staff proposed a much more extensive campaign for XXI Bomber Command in Japanese home waters. In fact the Navy's initial proposal would have absorbed most of the total command capacity in the first three or four months. I objected to this on the ground that it constituted another major diversion from the principal purpose for which the command had been created and deployed. The objection was directed not primarily to the idea of mining but to the magnitude of the diversion at a time when utmost endeavor was needed to develop our primary capability. The problem was settled when General Arnold issued a directive calling for a mining effort at a much reduced initial level and postponed somewhat in time.

Even while the problem was being discussed at high level, initial steps were undertaken to prepare for a mining campaign of some intensity. I directed the 313th Wing, whose aircraft began to arrive on Tinian in December, to undertake development of techniques and tactics for this type of operation. One group of the wing was designated to carry out this work. The XXI Bomber Command owes a debt of

gratitude to the Navy personnel for the fine assistance they rendered in adapting Navy mines to installation in B-29s and in helping the development of dropping techniques and tactics.

THE FIRST three months for the B-29s in the Marianas helped lay the groundwork for the much larger bombing offensives against Japan during 1945. If it is conceded that initial periods are always the most difficult ones, then the initial period of XXI Bomber Command was marked with reasonable success. It cannot be denied, however, that such success as was achieved was accompanied by a full measure of good fortune. It might so easily have been a period of disaster. If one of the initial operations, from uncompleted bases, had returned to find our single, partially paved runway blocked out by weather or obstructed by a crippled B-29, the whole force would have been lost. The only alternative base was 1500 miles away.

The Twentieth Air Force and the B-29 air offensive were experimental ventures. Most of the senior veteran commanders of World War II were on record as saying that a strategic air force which was not under a theater commander was wrong and that an air offensive against Japan from the Marianas could not be carried out with the B-29. But that air offensive against Japan was launched by the men of XXI Bomber Command, and the later success of the XXI and the Twentieth Air Force owes much to the modest achievements of those first fine combat crews and the men who backed them up.

Washington, D.C.



CANADA'S ROLE IN THE UNITED NATIONS

JOHN W. HOLMES

TO UNDERSTAND Canada's role in the United Nations, one must know its general approach to the part it should play in world affairs. Central to this approach is the concept of the middle power with a specific kind of function. Being too skeptical—or unimaginative—to see ourselves as having a pre-ordained destiny vis-à-vis the human race, we Canadians have recognized that we should nevertheless find ourselves a sensible career. If this is to be a successful career in international diplomacy, it must be related to our power and influence, neither underestimating nor overestimating them.

We have to see ourselves in perspective. We are not a failed great power; we are a self-respecting middle power. We can be a close and loyal friend of our large allies, seeing ourselves not as their equal partners but as having different things to do in our common interest in world order. As a middle power our role is more constructive if it is played not in isolation but in association with many other countries—with friends and allies and fellow members of the world community. For us, international associations and above all the United Nations are of supreme importance. Without them we would be ineffectual.

We were not always like this. Before the Second World War we were almost as careful as the United States to avoid entangling alliances. We were born into a worldwide empire, and that gave us a somewhat broader view.

After we had secured our undoubted right to decide our own policies, even to go to war or not as we wanted, we showed little interest in making use of our new freedom. Independence we saw as something passive that would protect us from involvement, not something active to be used in world politics. Unlike the United States, we joined the League of Nations, but it must be admitted that a powerful motive for doing so was that separate membership established our position as an independent state. It was our assumption that we lived in “a fire-proof house,” that we were peace-loving and ought not to be dragged even by the League of Nations into wars set off by naturally aggressive foreigners in other continents. There was some justification for our reluctance. Our position towards the League was not heroic, but it was dangerous for a League of Nations that did not include the United States and other large powers to pretend to enforce collective security.

Every nation had a terrible lesson to learn in 1939–45. We realized the futility of the effort to avoid international commitments. We were inevitably involved in the war, not just because we felt committed to stand at Britain's side but because all humanity was threatened. It was better therefore to try actively to prevent wars. By the end of the war we were deeply involved in plans to create a new and more solidly based world organization and to play our part in it zealously. It was easier for us to support the United Nations than the League of Nations be-

cause it did include all the major powers and isolationism had vanished from North America. We accepted the wisdom of an international organization which, in security matters, gave a special position to the great powers. However, instead of sitting back and leaving all the tough questions to the great powers, we fought hard for a greater voice for the lesser powers—especially the middle powers, of whom we were a leading specimen.

Canada a middle power

The term "middle power" was popularized towards the end of World War II. It appealed particularly to countries like Canada who were resentful of the way in which the great powers had dominated war strategy. Canada was the third-strongest of the Western allies, but Roosevelt and Churchill made all the decisions. We were prepared when the United Nations was established to give a special place—even a veto—in the Security Council to the major military powers, but we did not accept the idea of a world organization in which, because of their military strength, they would dominate everything. We had a theory that each country should have a special function in world organization in accordance with its special capacities and special interests. Because we were a second-class military power, we accepted a second-class place in the Security Council; but because we were a major trading country, we asked for a position of greater influence in bodies dealing with international trade. Because we had no colonies and no experience of colonial administration, we did not want a place on the Trusteeship Council; but as one of the three countries that had worked together during the war to produce atomic energy, we claimed and got permanent membership in the United Nations Atomic Energy Commission and have had a seat on all subsequent U.N. bodies concerned with disarmament.

Functionalism is not a rigid theory but is a general approach to world politics which we have retained. It is partly a continuing resistance to the hegemony of the great powers, but it is also an attempt to find a workable formula for a world in which there is an increasing

number of independent states of various sizes which must collaborate with each other but which cannot be organized into anything like a central world government, with an upper and a lower house. It is an attempt to find for each country its unique place in the world. A healthy state, like a healthy citizen, should feel it has a constructive role to play in international politics. We Canadians, for example, when we lack assurance that we are playing a useful and distinctive part in international bodies, tend to feel that our national destiny is something purely mischievous—like needling the United States, pursuing independence for its own sake, or acting in a generally capricious manner. It is in the interest of our large allies to encourage us to find a sensible vocation even if they think



we take a wayward view of policy from time to time.

Mackenzie King, Prime Minister of Canada most of the time from the Twenties to the Fifties, argued that Canada should stay out of overseas quarrels because we had no national interests in remote places. When he passed from the scene shortly after the war, he was succeeded by a man with a different approach. Louis Saint Laurent and his new Minister for External Affairs, Lester B. Pearson, supported by a greatly expanded Department of External Affairs and a bolder Canadian spirit, set out to play a constructive role in any way that seemed likely to contribute to the peace and prosperity that were as essential to Canada as to any country. Soon Mr. King's maxim was turned upside down through our active involvement in the United Nations. In 1947 Mr. Pearson was looked upon as the arbiter between Jews and Arabs in Palestine. In 1948 Canada was active in the settlement of the conflict between the Dutch and the Indonesians. By 1954 we were called upon to man the frontiers of Vietnam, Laos, and Cambodia in tripartite international commissions to supervise the Geneva Agreements. The reason we were involved was precisely that we had *no special interests* in those areas and were expected, therefore, to be fair and impartial.

For a middle power linked closely with a super power, it is good to have a large organization like the United Nations. There we can combine with other lesser powers to put forward constructive proposals to which the great powers must pay attention. Our active part in the establishment of U.N. peacekeeping operations has given our armed forces an arduous but exciting role that is peculiarly satisfying. The Canadian soldier preventing murder in Cyprus or standing on duty between Arabs and Israelis can understand very easily that his purpose in life *is* useful. This is not to say that he is more useful than the soldier on NATO duty, but the job needs less explaining. There is no doubt that the credibility of our diplomacy has been strengthened by our willingness to contribute.

The Canadian approach to the U.N. has been pragmatic rather than doctrinaire. Since

1945 Canadian governments have tended to regard the U.N. as an experiment that would extend its authority and learn by practice and precedent to prevent conflict. Although we regret that it has not made more progress, we do not look upon it as a job that failed. It is an association of states—*we* the United Nations—not Operation Thunderball. Because we were never under the illusion that we were setting up a world government to control all countries with its own police force, we are not cynical now, just worried. The job of the U.N. is conciliation and diplomacy, not enforcement. So long as the great powers are restrained by the threat of mutual nuclear destruction, the U.N. can be effective in preventing fights from getting out of hand. It was not designed to cope with struggles between the great powers at first hand or, as in Vietnam, at second hand. There is no use expecting it to impose peace in such situations; it can only urge the powers to negotiate. If they are prepared to do so, then its corridors, its peacekeeping machinery, its moral pressure can be helpful.

If a middle power like Canada is to play an effective part in United Nations diplomacy, it must have some concern for its image. A satellite state, a yes-man in diplomacy, carries no weight. For many years Canada had to make clear to the world, and perhaps to Americans more than others, that its foreign policy was not run from Whitehall. The problem now is to make clear that its policies are not made in Washington. On most fundamental issues Canada has no desire to differ from the United States because we are allies and share fundamental interests and values. This is no guarantee, however, that Washington and Ottawa will not differ on tactics to be followed to achieve their common goals, as they often do in the U.N. It is by no means a bad thing for the United States that Canada should operate somewhat differently, and it need not be assumed that this implies hostile intent. At the time of the Suez crisis, for example, Canada and the United States were agreed on the establishment of a United Nations force as a means of persuading the British, French, and Israelis to withdraw. If the United States had taken the lead in this proposal it would have become a

cold war issue, the Russians would have opposed it, and the nonaligned would have abstained. Secretary of State Dulles himself preferred that Mr. Pearson take the initiative so that there would be a better opportunity of getting broad support. This does not mean, of course, that there are no matters in which the United States should take the lead; it simply means that it is better to have tactical alternatives to fit situations. For various reasons—because Canadians are allowed to travel to China and trade with China, because Canada has an Embassy in Havana, because Canada is a member of the tripartite International Control Commission for Vietnam and has officers in Hanoi, and simply because Canada is not strong enough to excite fear—Canadians have been able on occasion to play the role not of neutrals but of intermediaries, exploring grounds for possible agreement. We think that the variation in our behavior is not only useful in itself but also necessary if we are to preserve the essential image of independence. There is no good argument for Canada differing from the United States merely to show its independence. Fortunately there are enough situations in which there is an honest difference of opinion to make clear to the other members of the United Nations that we are our own masters.

an evolving role in U.N.

This article is principally concerned with the role of the United Nations in maintaining security and preventing disputes. If I have failed to mention the U.N.'s economic and social functions, it is not because Canada is disinterested in them. Because we are one of the world's leading trading nations and because of our large resources and considerable industry, Canada is a more significant economic power in the world than a military power. For this reason and because of our "functionalist" principles, much of our energy in U.N. affairs is put into economic bodies and projects. Like other Western nations, Canada is much concerned with economic aid to developing countries. In the early years we were one of the principal contributors to aid programs. As other and larger countries have restored their economies, our aid contribution



has become relatively less imposing. However, we have continued to direct a larger proportion of our economic assistance through the United Nations and other international organizations than do most countries.

Special interest attaches to the Canadian role in international peacekeeping. Canada is one of the few countries that has had representatives in virtually every U.N. operation of this kind. Those in which we did not participate were the two earliest U.N. operations, in Indonesia and in Greece. Since then, after it came to be recognized that except in special circumstances it was wiser not to incorporate troops from any of the great powers, Canada has been asked to serve on every occasion.

We do not normally include under this heading the U.N. police action in Korea. There the United Nations was itself conducting a military action. In peacekeeping operations, so called, the U.N. normally does not take sides but organizes neutral intervention to prevent hostilities from getting out of hand and to promote a settlement. For the record it should be mentioned, however, that Canadians did participate in the Korean operation.

At the height of this action Canada had some eight thousand servicemen in the Far East theater, one of the largest contributions next to those of the United States and the Republic of Korea.

In a special category also should be mentioned Canadian participation in the International Control Commissions for Vietnam, Laos, and Cambodia. These commissions resemble in many ways a U.N. operation, though they were established not by the United Nations but by the Geneva Conference in 1954. A practical disadvantage for the Indians, Poles, and Canadians who make up the commissions is that they are obliged themselves to provide many of the logistical services that would otherwise be organized by the United Nations, the costs being borne by those who participated in the Geneva Agreements. Canada has been sending officers to these commissions since 1954. Although the maximum number of service personnel at any one time in the three Indochinese countries was not much over 200, these were almost all highly trained officers, and the strain on army personnel has been greater than is apparent from the numbers.

The role of these commissions has been misunderstood and, in the Canadian view, frequently maligned. It was clearly never intended that such small bodies should *enforce* the Geneva Agreements. The commissions were of greatest value in their early stages, assisting in the disengagement of the forces and with populations being moved between north and south. Since then the assignment has been arduous and frustrating. The commissions are not authorized to prevent the parties by force from violating the terms of the Agreements, and they could not possibly do so. Their function is to report such violations to the "Co-Chairmen" of the continuing Geneva Conference, the Foreign Ministers of Britain and the Soviet Union. If the Agreements are violated, as they certainly have been, it is up to the great powers who signed the Agreements to exert the necessary pressure. Whenever there is an agreement of this kind, there is bound to be some kind of supervisory body or tribunal set up. It may or may

not do its job well, but it should in no way be confused with a police force. Because of the ambiguous position of the commission in Vietnam in the present circumstances, Canadians have been tempted to withdraw. They have stayed on, though, in the belief that, however frustrating and even humiliating the role of the commission may be, it should remain in place as at least a symbol of the Geneva Agreements of 1954 and because it may perform useful functions in the investigation of claims and counterclaims or possibly in the effort to reach a state of negotiation.

U.N. observer groups

One category of U.N. operations in which Canada has participated is what might be called the "observer groups." The earliest in which Canadians took part were the United Nations Military Observer Groups India/Pakistan (UNMOGIP) and United Nations Truce Supervision Organization in Palestine (UNTSO). These operations illustrate one of the problems of being a peacekeeper. One begins in the expectation that it is a matter of holding the line for a short time and withdrawing when a settlement is reached. Unfortunately settlements are not often reached. Sometimes the very fact that the U.N. presence guarantees security keeps the parties from the negotiating table. Canadian observers have been in Kashmir since 1949 and in Palestine since 1954. The numbers have varied, but at present there are 9 in Kashmir and 20 in Palestine. At first, Canadian officers from the militia or retired servicemen went to these jobs, and the Canadian government as such was not much involved. It proved difficult to get nonprofessionals, and as the government began to realize by the mid-Fifties that it was in the peacekeeping game for a long time, provision was made to send officers from the regular forces. Although ground forces, and therefore army personnel, are usually required, both the Royal Canadian Air Force and the Royal Canadian Navy have played some part. In one instance Canadian participants were almost entirely from the Air Force. That was the 1963-64 operation known as UNYOM, in

which RCAF observers and aircraft, along with Yugoslav ground forces, were to see that an agreed truce was maintained in Yemen. Unfortunately the participants in the fighting and their principal backers had no will to keep the truce, and the U.N. force was withdrawn. More successful operations in which Canadians took part as observers were the United Nations Observer Group in Lebanon (UNOGIL) in 1958-59, to which 77 men were sent, and the United Nations India/Pakistan Observer Mission (UNIPOM) in 1965-66. This latter mission was set up at the time of the recent outbreak of fighting between India and Pakistan. Canada provided 12 observers, an air transport unit, and a senior air adviser, a total of 112 people.

For the same reason that Canadians are considered suitable to serve in these operations, senior Canadian officers are asked to assume special functions for the United Nations. Lieutenant General E. L. M. Burns served as Chief of Staff of UNTSO from 1954 to 1956. Being the man on the spot, he was then asked by the Secretary-General at the time of the Suez crisis to be the first Commander of the United Nations Emergency Force. He continued in this position until 1960. Major General B. F. Macdonald, who had been senior Canadian officer in Cyprus, was called in 1965 to be the Chief Officer of UNIPOM, where he served until UNIPOM was disbanded in March 1966 after tranquillity—relative at least—had been re-established.

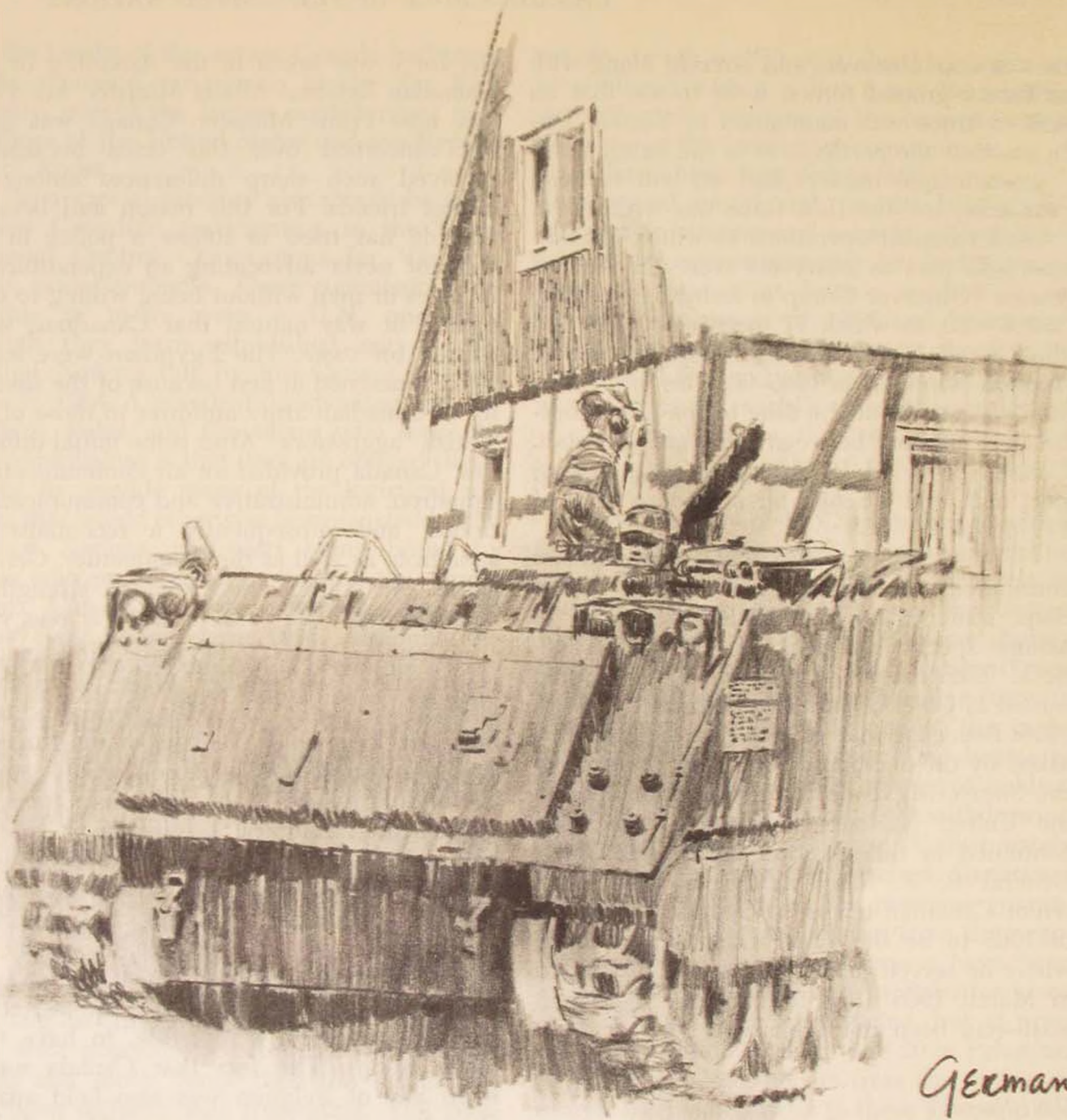
U.N. "forces"

In all these operations, including the commissions in Indochina, the role was primarily observation, and participation was largely by officers. On a broader scale have been the U.N. bodies that could more easily be called "forces," though the term is hardly indicative of their job to maintain order rather than combat aggression. These forces are the U.N. Emergency Force in the Middle East (UNEF); the U.N. Force in the Congo (UNOC); and the U.N. Force in Cyprus (UNFICYP).

UNEF. Canada was closely associated with UNEF because the initiative in proposing

the force was taken in the Assembly by the Canadian External Affairs Minister, Mr. Pearson, now Prime Minister. Canada was terribly concerned over this crisis because it involved such sharp differences among its closest friends. For this reason and because Canada has tried to follow a policy in the U.N. of never advocating an expenditure of finances or men without being willing to contribute, it was natural that Canadians were offered for UNEF. The Egyptians were somewhat concerned at first because of the similarity of Canadian army uniforms to those of the British "aggressors." After some initial difficulties, Canada provided an air communications squadron, administrative and communications troops, and subsequently a reconnaissance squadron, as well as the Commander, General Burns. At present the Canadian strength in UNEF is 850. The tour of duty is one year.

Congo. To the Congo force the Canadian contribution was smaller. Here, as in UNEF, Canada was called on for the special and technical services usually lacking in the forces of small countries. It is because Canada, among the middle powers, has a relatively large and sophisticated military establishment that its help usually proves indispensable. There were certain political reasons why its troops might not be acceptable in Egypt, but no other country was willing and able to supply the specialist forces. In the Congo this was to prove even more true, because the Secretary-General preferred, if possible, to have non-white troops. The fact that Canada was a NATO ally of Belgium was also held against Canadians in some quarters. Nevertheless, the U.N. desperately needed what Canada alone was able to provide. There is no other country, furthermore, that can provide both English-speaking and French-speaking servicemen, and the importance of the latter was demonstrated not only in the Congo but also in Indochina. Canada was asked in the Congo to contribute the troops required to maintain internal and external communications for the force. Over three hundred specialists from the Canadian army went, including both communications and logistics experts. The RCAF produced all the personnel needed to manage air



Germany

control towers handling U.N. air operations. In addition the RCAF Air Transport Command took on a large part of the airlift responsibility provided to previous operations by the U.S. Military Air Transport Service. Of the three operations designated as "forces" the Congo is the only one from which Canadians have as yet been able to withdraw. They stayed there until the operation ended in 1964.

Cyprus. Canada had three strong reasons for being concerned about the security situation in Cyprus in 1964: Cyprus was a member

of the Commonwealth, and Greece and Turkey were fellow members of NATO. It had been suggested that a force drawn from NATO or the Commonwealth might go to Cyprus, and Canada would undoubtedly have been included in either. When the situation became dangerous in the spring of 1964, Canada took the initiative by offering to send troops so that a U.N. force could be set up. The Canadian External Affairs Minister was able to persuade others to join Canada, and by this action an extremely nasty situation was averted. Canada, however, grown somewhat

wary from its long experience, tried to prescribe certain understandings. One of these was that there be a determined effort at mediation alongside the peacekeeping operation. The role of the peacekeeping force or group is normally not to seek a settlement but to hold the ring. Too often the fact that the ring has been held has prevented the disputants from reaching a settlement. In Cyprus a mediatory effort was set up apart from UNFICYP. UNFICYP, partly for financial reasons, has been on a short-term, usually three-month-renewable basis. Mediation has not got very far, but Canada has always agreed to prolongation of UNFICYP. At present there are about a thousand Canadian military personnel serving in Cyprus, and in support of the operation the RCAF maintains a scheduled transport service between Canada and Cyprus. It might be noted in this connection that a good deal of the cost of all these operations is paid by Canada. Unlike other participants, Canada

provides troops at normal Canadian foreign service pay, so that the cost to the U.N. is less than that for any other national soldier.

a permanent U.N. force?

Canada has been as aware as any country of the difficulties caused by the need for sudden improvisation when a crisis calls for the deployment of a U.N. force. It was inevitable, therefore, that Canadians should take a considerable interest in the idea of a permanent U.N. establishment. Like other strong supporters of the United Nations, Canada would like a trained and organized U.N. force ready for action at any time. However, having been much involved in the politics and diplomacy of creating forces to suit occasions, we fully recognize that this is not possible. We have accepted, therefore, the position stated by the late Dag Hammarskjöld in his report to the General Assembly in 1960, that governments in a position and willing to do so should



maintain contributions in a state of readiness to meet possible demands from the United Nations.

The Canadian military, who have suffered particularly from the necessity of improvisation, would like to see within the U.N. Secretariat a military staff to consider contingency plans and direct operations with more military understanding than is possible at present.⁹ While the government would like to move in this direction, it recognizes the formidable difficulties caused by the opposition of the Soviet Union and many nonaligned countries. Canadian policy has been to make the best of what we can achieve rather than to push impossible plans to a confrontation that would endanger the whole idea of peacekeeping.

In the debate that has raged recently over the financing of peacekeeping, Canada, while clinging to the principle that these operations ought to be paid for in equitable proportions by all members, nevertheless sought compromise solutions. Canada, as a member of the Special Committee on Peacekeeping Operations, in the 1966 Assembly put forward concrete proposals. Recognizing that a mandatory apportionment would be possible only when the Security Council, including its permanent members, agreed that this should be done, the Canadian representative suggested that the Assembly put forward certain guidelines. He recognized that the constitutional issue could not be settled by the majority's forcing its view on the minority. The Charter conferred primary responsibility for maintaining peace on the Security Council, but it gave the Assembly the right to discuss this subject and make recommendations. Thus it recognized that, if the Council was unable to make decisions in this field, the Assembly might be able to do so. Canada put forward a resolution, cosponsored by a number of other countries, which, in addition to these recommendations, would have established a special scale for financing peacekeeping operations, under which the less-developed countries would contribute five percent of the cost and the bal-

ance would be borne by other members. This would not be mandatory but would serve as a guideline. The proposal, however, narrowly failed to get the necessary two-thirds majority.

standby forces for U.N.

Canada has itself maintained and developed the principle of a national standby force. This concept in Canada goes back to the Korean War, when Canada announced that it would maintain a brigade for service in Korea, for NATO purposes, or for other U.N. operations. Fifteen years ago the Canadian military looked upon peacekeeping services as outside their normal course of duty. The requirements for Indochina, beginning in 1954, and then for UNEF in 1956 appeared at the time to be temporary, but they were a considerable drain on a small force. It came to be realized by military planners that this must become one accepted aspect of Canadian military activity. Having made this adjustment, the services have welcomed the opportunities for varied and active service in different parts of the world. In the various theaters where they have worked, frequently on assignments as much diplomatic as military, Canadian servicemen have acquired skill and adaptability. They have learned to accept the restraint and discretion required when military forces operate, sometimes entirely without arms, to keep other people from shooting. It has not been easy, and in the Congo and Cyprus they have had the experience of being beaten up or fired upon without responding with the force that would be brought to bear in a conventional military situation.

A large proportion of Canadian servicemen have had experience of this kind, and they possess a considerable store of knowledge to be passed on to others in training. Canada has been interested also in sharing its expertise with other countries. Recognizing that because of political difficulties the U.N. Secretariat itself could do little, the Canadian government in 1964 planned a peacekeeping conference in Ottawa and invited all those countries that had responded affirmatively to the Secretary-General's request for standby forces for U.N. duty to participate. Twenty-

⁹For views of a Canadian with much peacekeeping experience and suggestions for practical improvements see Lt.-Col. R. B. Tackaberry *Keeping the Peace* (Toronto: Canadian Institute of International Affairs, 1966).

three countries sent representatives to this meeting. Although it was organized outside the United Nations, it was not intended to bypass the will of the U.N. It was not a political discussion but a consultation of military men to learn from each other how to prepare themselves better for other U.N. calls.

For some years Canada has maintained units specifically on call for U.N. service. Although this practice has been justified in that some troops are always prepared and inoculated for instant dispatch, the difficulty has been that requirements vary greatly. The demand for technical and special services has made it necessary to call on other units. The "White Paper on Defence" in 1964 concluded:

Preparations for United Nations service on the part of Canadian military personnel must be varied, with an emphasis on mobility. While the training and equipment of such forces may be of a special nature, the best results can be accomplished through the establishment of regular military formations, which need not be earmarked exclusively for United Nations service and which can be used for other roles as required.

The same White Paper stressed the need for

mobility as regards deployment, method of operation, and logistic support. This was one reason why the White Paper, which gave a new direction to Canadian defence preparations, placed heavy emphasis on mobile forces that could be used for all Canada's varied military requirements, including peacekeeping.

Whether Canadian forces will be required again for this kind of duty is never known. It is by no means certain, of course, that the U.N. will be able to finance such operations again. However, the fact that Canada has been asked to serve in every such U.N. operation for over fifteen years suggests that further calls are likely, and it is well to be prepared. Forces are prepared for NATO even though we trust they will never go into action. If we take for granted that the world will not settle down without occasional perturbations, then in all probability, regardless of the constitutional problems, the U.N. will find some way to intervene. If further calls are made on Canada, there is no doubt that Canadian authorities will be willing and Canadian forces prepared to play their part under whatever peculiar circumstances obtain.

Toronto, Ontario



ADMINISTRATIVE CLAIMS



A Mission-Support System

MAJOR ROBERT T. HOLT

MORE and more we are learning that “gittin’ thar fustest with the mostest” may win battles but doesn’t necessarily win wars. Today, winning wars involves the intricate meshing of sophisticated systems, some of which are as far removed from the hardware of battle as the cavalry charge from the surface-to-surface missile. Political, economic, social, and psychological tools are recognized as of equal or even superior importance to conventional weapons in modern conflict, which is essentially a battle for peoples rather than territory. The tolerance, if not the loyalty, of the local population is necessary to maintain the effectiveness of our armies in the field. Active cooperation is assured through political techniques in which payment of claims for damages caused by our armed forces plays no small part in engendering good will.

Any troop commander in any battle situa-

tion is primarily concerned with three essential elements—his own forces, the enemy forces, and the terrain. The battle is fought through manipulation of these elements, and—except where opposing forces are overwhelmingly disproportionate—the outcome usually depends upon the capability of the commander, his ability to control the terrain, and the quality and flexibility of his forces. Since he has little if any direct control over the opposing forces, his options are limited to control of the terrain and his own troops. We have already noted the part that claims settlement plays in controlling the terrain, specifically the political and social climate of the battlefield. We are not, of course, referring to the literal battlefield, since claims arising from actual combat are, for the most part, not payable under the administrative claims system.¹ We refer to the worldwide social and political arena where the

conflict situation is structured. The other command option—actions affecting troop capability—is also influenced by payment of claims. Compensation for losses of the individual fighting man incident to his service and sustained through no fault of his own is a significant “morale” requirement.

The claims mission-support system is not so broad as *claims* in its traditional and operational sense. For instance, for management purposes, the Air Force breaks out claims into two broad categories: claims in favor of the Air Force and claims against the Air Force. Collection of claims in favor of the Air Force constitutes a substantial portion of the workload of the Air Force worldwide claims organization. This activity recouped for the Air Force over \$2.5 million, approximately one-third as much as was paid out in claims against it, in FY 1966.² The important contribution of claims collection is, nevertheless, for the pecuniary benefit of the United States government generally and has little relationship to the claims mission-support function. On the other hand, claims against the Air Force are all to a greater or lesser extent connected with mission performance.

Generally speaking, claims against the government fall into three broad functional categories which may be designated *obligatory* claims, *image* claims, and *morale* claims. Obligatory claims are those which the United States is legally required to pay in some amount. The obligation is fixed; only the amount is uncertain. In this type of claim, there is usually a provision in the authorizing statute for administrative settlement, although the claim is ultimately referable to, and may result in a judgment from, a federal court. Image claims are payable purely administratively and are in the nature of good-will expenses to ease the operational burden of the military forces. Morale claims are those made administratively by armed forces members or civilian employees for loss or damage of personal property incident to their service and with no fault on their part.

obligatory claims

Why is it necessary for the armed forces,

or any governmental agency, to pay claims arising from the exercise of governmental functions? In earlier days it was not. The sovereign, who personified the government, was completely immune from judicial prosecution, civil as well as criminal. He could, with impunity, imprison a subject, confiscate his property, and enslave his wife and children for any reason whatsoever, or for no reason at all. Even after recognized courts were established and law began to take on more of its present characteristics, the king could not be sued for loss or damage caused by his army, navy, post carriage, or high sheriff unless in a rare fit of charity he permitted it. Usually even when this happened, suit was allowed only in a special court presided over by his personal chaplain, and the judgment was, of course, subject to the approval of the sovereign himself.

The United States, as a sovereign, possesses the same immunity from suit as any king. It, too, on occasion has relaxed its sovereign immunity and allowed itself to be sued—always in a federal court—at first on a case-by-case basis, later by general legislation permitting suit in particular types of cases without a special petition. It has only been within the present century, however, that the United States has consented to be sued in the same manner as a private citizen. Statutes permitting this have some extraterritorial applicability, but they generally apply to actions arising in the United States and are always triable in its own courts. The first comparatively broad legislation of this nature involved maritime actions—in which the federal government has always had a special interest³—and permitted suit for damages caused by naval and merchant vessels of the United States.⁴ Moreover, it was not until over twenty years later that the broad field of general tort actions⁵ was opened to litigants against the United States.

Enactment of the Federal Tort Claims Act⁶ on 2 August 1946 marked the culmination of a long effort to mitigate unjust consequences of the government's immunity from suit. Under that act the United States assumed the liability of a private citizen for property damage or loss, personal injury or death, resulting from tortious acts or omissions of its agents, in accordance

with the law of the place where the act or omission occurred. The agent must have been acting in the scope of his government employment at the time the tort was committed. A distinctive feature of this statute is that the United States is legally obligated to pay proper claims falling within its purview although payment may result from an administrative settlement or judgment of a court.⁷ If dissatisfied with the agency determination, the claimant may bring action in a federal district court. In these cases the United States is in substantially the same position as a private corporation which has given its claims department authority to settle certain claims but which is subject to court action in cases where a settlement cannot be reached.

Obligatory claims are, of course, important and are becoming even more significant. Claims accruing prior to 18 January 1967 could be administratively presented only in amounts not in excess of \$2500; demands for larger damages required suit in a federal court. However, the 1966 amendment to the Federal Tort Claims Act⁸ requires that any claim cognizable under it, regardless of the amount claimed, be administratively presented to the government agency responsible for the damage or injury, prior to any court action. Suit can be brought only after disapproval by the agency or the elapse of six months without disposition by it. It is too early to do more than conjecture the impact that the recent legislation will have on Air Force claims, although it will undoubtedly be impressive. Nevertheless, it is not likely that these claims, even under the amended statute, will ever command the military emphasis that image and morale claims do, for the simple reason that the military departments have so few options in their disposition. Being obligations fixed by law, their payment, even administratively, is looked upon by the claimant as his rightful due, and their utility as a mission-support tool is definitely limited.

image claims

Unlike obligatory claims statutes, all image claims laws begin with the phrase "Under such regulations as the Secretary of a Department may prescribe" or a similar prefatory statement, clearly allowing options within the limits of

the particular statute. There are three laws of this type: the Foreign Claims Act⁹ is limited to extraterritorial claims; the Military Claims Act¹⁰ and Public Law 87-769¹¹—which for lack of a better popular short title may be designated the Use of Property Claims Act—are applicable worldwide but are generally used only in the disposition of claims in the United States or its territories or claims of its nationals abroad. Another feature differentiating these acts is that the Military Claims Act is not applicable unless the property damage, death, or personal injury is caused in the scope of the tort-feasor's government employment or in connection with noncombat activities, whereas the Foreign Claims Act and the Use of Property Claims Act contain no such prerequisites.

Foreign Claims Act. How does improvement of the Air Force image—specifically the local Air Force unit's image—help the commander do his job more effectively? Let's look at an example. An Air Force unit was based in what was at the time considered a very strategic location in a foreign country friendly to the United States. Unfortunately, many of the assigned troops were exuberant young flyers whose actions not only resulted in damage from an occasional operational mishap but also frequently caused property damage or personal injury in connection with off-duty activities in the local bars. Needless to say, the impact upon international relations was something less than favorable. As a result, the unit was burdened with a great deal of civil police liaison work, a high court-martial rate, and a correspondingly low rate of claims settlement. It is not unusual for claims to play second fiddle to the more glamorous courtroom activities of a base legal office. The local citizens complained to their government representatives of the slowness in settling claims, and the complaints eventually reached the ears of the central claims agency of the receiving state, thence to the United States sending state office. The Air Force queried the base staff judge advocate for an explanation of the delay. He replied that his court-martial activity was so heavy he simply could not spare a judge advocate for claims duty. Moreover he had discussed the matter with the base commander, who decided that

complaints of local nationals had a low priority—the colonel had a base to run. Furthermore, some of his men were in confinement awaiting trial, a situation that is anathema to stateside politicians. Without doubt, the commander was plagued with a perplexing priorities question. He had chosen what he, as a troop commander, thought was more important—the immediate welfare of his men. What he did not know, however, was that at that very moment, high-level talks were going on at the request of the receiving state concerning the feasibility of closing the base. The commander's problem was about to be solved; at the rate he was progressing, in a very short while the Air Force simply would not have a base to generate either claims or court-martial activity. In winning the battle, the war would be lost.

It is clear *why* claims arising from base activities must be settled. Consider for a moment *how* this is done. In this connection, some historical background will be helpful. The problem of settling overseas claims began to reach major proportions early in World War II when the United States began to send numbers of troops abroad, stationing them on foreign soil. At the time, laws under which claims could be settled were of limited applicability and usually required that the soldier or sailor be acting in the performance of official duty to give them effect. Many problems arose in connection with off-duty activities of our troops. Inhabitants of the host country found it difficult to understand why the United States could not pay for damages caused by an off-duty serviceman who wrecked a local bar or crashed a wrongfully appropriated jeep into a citizen's donkey cart. All to no avail were explanations that the soldier's private life was his own civil responsibility under United States law and entirely separate from his official life. The logic went something like this: "The United States brought the soldier into my country and my town—the soldier damaged my property or caused me injury—the United States has money—it should pay." This line of reasoning was almost irrefutable, especially since in many instances we were following the British, who had been stationing their troops all around the world for three hundred years and had applied

that logic under the provisions of their Visiting Forces Act.¹² Congress bowed to the inevitable and enacted the Foreign Claims Act.

The Foreign Claims Act has been amended several times to make it more responsive to recent needs.¹³ Basically, however, its rationale has not changed—to provide for the expeditious settlement of meritorious claims of inhabitants of foreign countries. All the act requires is that a qualified "foreign inhabitant" sustain death, personal injury, or property damage in a foreign country as the result of the act or omission of a member or employee of the United States' armed forces or incident to our noncombat activities. It makes no difference whether the damage is caused in the scope of official duties or outside the scope. We pay without distinction in either event. Out of scope includes off-duty automobile accidents, assaults, robberies, even murders and rapes. This may sound costly, but payment of claims has not been as expensive as one might think. Damages are paid in accordance with local law and are generally a good deal more conservative in foreign countries than in the United States. Administration of the act is gradually becoming more expensive; however, over the years we are quite convinced that all payment of claims of this type is government money well spent. It is almost certain that without this policy we could not have maintained our overseas establishments.

Claims under the Foreign Claims Act are paid without legal liability. Although it has been the practice to pay damages the same as if we were legally obligated under local law and in the same amounts a local national person or corporation would pay under similar circumstances—with some exceptions¹⁴—nevertheless, if the claimant is dissatisfied with our settlement, he has no remedy. There is no appeal from the decision, which is usually made by a Foreign Claims Commission composed of one to three judge advocate officers.¹⁵ And there is no waiver of sovereign immunity from suit, either in the local courts or those of the United States. These payments are called *ex gratia* awards, paid out of the goodness of our political hearts. Of course, this is not true. Our motives are unashamedly practical, not altruistic. If we were a private corporation, money expended in

this manner would be considered as payments for "good will," and there would be no question at all that the expenditure represented a hardheaded, tax-deductible business expense. The game is the same. The impression that Foreign Claims Act payments are part of a giant worldwide giveaway could not be further from the truth.

Military Claims Act. Unlike the Foreign Claims Act, the Military Claims Act is not exactly a statutory innovation except for its present form, which is substantially the same as the 1943 original of the present codification. Predecessor laws in one form or another had provided for payment of damages caused by armed forces members, incident to noncombat activities of the armed forces. Broadly, the present act permits settlement of two different types of claims: those for death, personal injury, or property damage arising from *acts or omissions* of members or employees engaged in the scope of their employment and those *incident to the noncombat activities* of the armed forces. Although the statute is broad enough to cover many situations, the Air Force requires that claims under the "act or omission" provision be tortious, that is, wrongfully or negligently caused.¹⁶ This limits cognizability somewhat, making the act resemble the Federal Tort Claims Act in some respects when applied in the United States. On the other hand, the "incident to noncombat activities" provision is very broad, since these activities include generally any activity of military departments not common to civilian pursuits, such as operation of tanks, heavy guns, and combat-type aircraft. The act is administrative and does not contemplate suit in a court of law, although the present trend of the courts is to broaden coverage of the Federal Tort Claims Act so that in many instances a claimant in the United States has alternative remedies.

For the most part, the Military Claims Act is used in the United States and involves claims for damages and personal injury or death incident to noncombat activities, so that fault on the part of the government or its agents need not be shown. The practical function of the act is to provide in the United States a remedy similar in effect to the Foreign Claims Act

overseas. The Air Force image must reflect equity and justice at home as well as abroad. Nevertheless, the act is considerably more restrictive in the United States, since it requires that the act or omission from which the claim arises be in the scope of employment of the service member or employee, or—if it arises incident to noncombat activities—that the activity from which it arises be an authorized one. This rule has been relaxed for certain types of claims under the Use of Property Claims Act, which is discussed further on.

As previously noted, the Military Claims Act is worldwide in scope although it is more commonly used in the United States. Ordinarily, it is pre-empted overseas by the Foreign Claims Act or a claims provision under an international agreement,¹⁷ but in instances where none of these arrangements are possible or feasible, claims authorities may still use the broad authority of the Military Claims Act. Its principal employment in foreign countries is for settlement of claims of armed forces members or employees and their dependents who sustain damage due to government causation but not incident to their service with the armed forces. They are not foreign "inhabitants," since they reside in the country under orders from the United States and are therefore not proper claimants under the Foreign Claims Act. Neither are the claims proper for payment under the Government Personnel Claims Act¹⁸ if they do not arise incident to service.¹⁹ In these circumstances, the only remedy is the Military Claims Act. The commonest example of this type of claim is that of a service member or employee whose private automobile is damaged by the fault of the driver of a government vehicle²⁰ or a dependent who is killed in the crash of an Air Force aircraft. It is obvious that in these circumstances the claims begin to take on the overtones of morale-type claims, although the rationale is entirely different, these claims requiring government causation whereas morale claims do not.

Use of Property Claims Act. The most recent of image-type claims legislation, the Use of Property Claims Act, became law on 9 October 1962. Briefly, it provides for payment of claims not in excess of \$1000 for property dam-

age or personal injury or death, caused by civilian officials, employees, or members of the United States armed forces, Coast Guard, or Department of Defense, incident to the use of government vehicles at any place or any other government property, as well, if on a government installation. Payment of claims for personal injury or death is limited to reasonable medical, hospital, or burial expenses actually incurred.

The expressed purpose of the law was to minimize bills for private relief where there appears to be a moral obligation upon the United States to compensate the claimant but where no legal or administrative remedy exists.²¹ The statute specifically provides that it shall not be applicable unless the claim is "not cognizable under other law." Such claims normally involve the use of a government vehicle by an unauthorized driver or substantial deviation by an authorized driver from the mission assigned, although the law is broad enough to cover a much wider group of situations. The act is limited to use of motor vehicles only when the damage arises off the military installation. On-base claims may arise from the use of "any other property of the United States," with or without the fault of the service member or employee, whether within or without the scope of employment. This is an almost unheard of broadening of liability and makes the United States, in effect, an absolute insurer of the conduct of its service members and employees using its property on a government installation. Since "other property" is not defined, presumably claims for damage incident to the use of athletic equipment issued by Special Services, such as baseballs or golf balls, as well as boats, aircraft, tools, or special equipment belonging to nonappropriated funds, are cognizable under the law so long as the property is *owned* by the United States and is *being used by* a member or employee of a military department at the time the damage occurs. The blanket authority is limited only by regulations of the secretary of the military department concerned, and these may not abrogate the clear mandate of the statute, although it is possible that in some instances the secretary may administratively broaden or limit some categories of claims.

Like the Military Claims Act, this law has no statutory territorial limitations, although its use outside the United States will undoubtedly be rare. As a matter of fact, since it was specifically designed to allow payment of claims of United States citizens in their homeland upon moral or ethical grounds similar to the rationale of the Foreign Claims Act, it has sometimes been facetiously called the "Foreign Claims Act for Americans." The image at home, too, must remain untarnished.

morale claims

Traditionally, payment of claims of servicemen and civilian employees of military departments incident to their service has been based upon the realization that these claimants are exposed to risks to which the ordinary public is not subject and that losses arising from these risks ought equitably to be borne by the government rather than the individual.²² This is doubly applicable to our highly mobile Air Force troops and their families. Broadly, these claims are for losses or damage to personal property in connection with travel under government orders or in assigned quarters or authorized places of storage, commonly called "household goods" claims. They include fire losses and stevedore or shipping damage in transit from one station to another, thefts at certain overseas bases where thievery is rampant, and other similar losses. A serviceman and his family tend to move more frequently than his civilian neighbor, usually over long distances. This not only makes for disruption and inconvenience but also causes damage to his household goods and personal property which he can scarcely afford to absorb on a modest serviceman's pay. The old saying "Three moves equal one fire" has a degree of validity. Payments under the Government Personnel Claims Act are intended to offset partially these unhappy consequences of the service life. There is little question that they constitute a significant morale factor. It must ever be borne in mind that all factors which affect individual morale, no matter how slightly, combine to define the attitude of the fighting man and collectively army *esprit de corps*.

SETTLEMENT of administrative claims is significantly effective as a mission-support system. It sharpens the human instrument by which military power is applied against the enemy and favors the creation of a propitious atmosphere in the country where that power is exercised. Its use, however, is somewhat restricted by two all-too-common human failings: the inability of the commander to recognize the limitations of the system and the tendency of the technician to subordinate the overall mission to operation of the support system he directs. A claim cannot be paid simply because the commander wants it approved. Every claim payment must be traceable to a statutory source. If no law exists under which payment may be made, the claim must be disapproved, no matter how compelling the reason for paying it. On the other hand, it is the duty of the claims specialist to find a way to pay a mission-supporting claim if it is at all possible to stretch, bend, or shape it to fit within an existing statute. Furnishing the commander seventeen different reasons why it cannot be approved is no comfort at all.

A claims specialist has many statutory tools available for his use. Mr. John J. Powers, Jr., long-time attorney-adviser to many Air Force claims chiefs, lists in his "Claims Road Map"²³ fifteen separate statutes and one Department of Defense directive available for claims settlements. There is undoubtedly no field of military law that requires more specialization than claims. In addition to being a fully qualified lawyer and a judge advocate, the claims specialist must be familiar with the text, background, and application of all claims statutes; the directives, regulations, and manuals affecting their use; the claims provisions of treaties and other international agreements; and the body and application of all the local tort law in all the countries in the world where our troops are stationed. Moreover, he labors under the most onerous burden that can be imposed upon a lawyer, the requirement to make the answer come out the way it is needed. In criminal law—

or military justice—the accused is guilty or not guilty. In civil suits, the plaintiff can recover or he cannot, he can obtain relief or it will be denied. But in the application of military claims law, the answer should not be a no if the mission requires a yes. It is the responsibility of the claims specialist to find that affirmative if in any way possible. It is the duty of the commander to accept the negative if he must.

Furthermore, finding the yes answer to the claims query is not in itself sufficient to afford the desired degree of mission support. A claim that deserves payment must be approved quickly and fairly. A claim paid tardily, in an amount grudgingly accepted by the claimant, is futile. Nevertheless the approving authority must not only be mission conscious; he must also be cost conscious. Factors influencing our nation's balance of payments are ever increasing in their significance, and money has become as potent a weapon as missiles. The claims authority is constantly threading the channel between the Scylla of overpayment and the Charybdis of parsimony. A misstroke in either direction places him in peril. If he pays too much, he is not only wasting his government's gold but painting the image of a spendthrift, gullible Uncle Sam. On the other hand, if he pays too little, his action is worse than useless—it is a negative quantity in the international psychosocial balance. The money is utterly wasted because it fails to purchase the good will the statute was designed to procure, and furthermore the feckless action has antagonized the claimant.

Expeditious settlement of meritorious claims, in the manner and amount best purposed to support the command mission, fulfills the function of the administrative claims system and makes an effective command tool. Speed, flexibility, fairness in claims settlement—as in most human engineering systems—are qualities which make up a threefold cord of good will which is not quickly broken.

Hq United States Air Force

Notes

1. Both the Military Claims Act, 10 U.S.C. 2733, and the Foreign Claims Act, 10 U.S.C. 2734, refer to claims "incident to noncombat activities." The Foreign Claims Act specifically provides that claims may not be paid if they "arise from action by an enemy or result directly or indirectly from an act of the armed forces of the U.S. in combat."
2. See History of the Office of The Judge Advocate General, USAF, 1 January 1966-30 June 1966, Historical Liaison Office, Air University, 1 September 1966, p. 64.
3. "The judicial power shall extend . . . to all Cases of admiralty and maritime Jurisdiction; . . ." Section 2, Article III, Constitution of the United States of America.
4. Suits in Admiralty Act, 46 U.S.C. 742, 41 Stat. 525, and Public Vessels Act, 46 U.S.C. 781, 43 Stat. 1112.
5. A tort is a noncontractual wrong for which a money judgment may be obtained in a civil court. Although torts ordinarily arise from negligent acts or omissions, a criminal act by which a person is injured is also a tort. It is at the same time a crime against the state, for which the actor may be fined or imprisoned, and a wrong against the injured individual, who may sue for damages in a civil court.
6. 28 U.S.C. 1940 ed, August 2, 1946, ch. 743, Section 410 (a), 411, 60 Stat. 843.
7. Administrative payment is made through agency finance channels. If the case is tried in a federal court and a judgment is obtained, payment is made by the General Accounting Office.
8. Public Law 89-506, July 18, 1966, 80 Stat. 206.
9. 10 U.S.C. 2734, 55 Stat. 880, and 57 Stat. 66, 67.
10. 10 U.S.C. 2733, Act of July 3, 1943, 57 Stat. 376, as amended.
11. Act of October 9, 1962, 76 Stat. 767.
12. See Claims Handbook, Air University, Air Command and Staff School, p. 114, footnote 9.
13. September 1, 1959, Pub. L. 86-223, 73 Stat. 453; April 8, 1960, Pub. L. 86-4111, 74 Stat. 16.
14. For types of claims which are cognizable under the Foreign Claims Act but not payable, see AFM 112-1, par. 121 f.
15. AFM 112-1, par. 126.
16. Claim of LaMorder, AFJALD HAF 67/10,142/NA.
17. For example, par. 5, Article VIII, North Atlantic Treaty Organization, Status of Forces Agreement, 4 UST 1792; TIAS 2846, and Status of Forces Agreement under the Treaty of Mutual Cooperation and Security Between the United States of America and Japan, 11 UST 1652, TIAS 4510.
18. 31 U.S.C. 240-243.
19. Such claims must "bear some relationship to the claimant's military service," *Lund v. U.S.* (1952 D.C. Mass), 104 F. Supp. 756.
20. Claim for property damage only of service members incident to service may be paid, *Feres v. U.S.* (1950), 340 U.S. 135, 71 Sup. Ct. 153, 95 L. Ed. 152.
21. See Joseph E. Krysakowski and Robert T. Holt's "Claims Incident to Use of Government Property," *JAG Bulletin*, Vol. VI, No. 2, March-April 1964.
22. John J. Powers, Jr., "The Military Personnel Claims Act," *JAG Law Review*, Vol. VII, No. 7, March-April 1965.
23. See History of the Office of The Judge Advocate General, USAF, 1 January 1966-30 June 1966, Historical Liaison Office, Air University, 1 September 1966, pp. 70-81.

Correction

In "Three Bullets on a Knife: Saga of the P-38" (January-February 1967), the photograph of a P-38J (on page 48) was incorrectly identified as a YP-38. The error was called to our attention by Captain Henry R. Kramer, 81st Tactical Fighter Squadron. The YP-38, second test model of the aircraft, was indeed called "Yippee," but so, apparently, was the 5000th production model of the Lockheed Lightning, which was the aircraft pictured.



AEROSPACE RESCUE AND RECOVERY— SOUTHEAST ASIA TO APOLLO

BRIGADIER GENERAL ALLISON C. BROOKS

SHORTLY before noon on 15 March 1966, the Gemini VIII capsule was traveling at approximately 17,000 miles per hour, 150 miles high, over Red China. At the same time an HC-54 of Aerospace Rescue and Recovery Service (ARRS) was traveling at 180 miles per hour, 1½ miles high, some 400 miles east of Okinawa. At 1222 hours local time, both these vehicles arrived at 25° 02' N, 136° W, and Gemini VIII, making a contingency landing, splashed down in the rolling swells of the Pacific. Moments earlier, the HC-54 crew had sighted the spacecraft descending, and the rescue crew commander quickly executed a standard pattern to put the pararescue team in the water. Within a few minutes, the first two swimmers were attaching the flotation collar to the spacecraft. A third pararescueman was then deployed. Thus, some 20 minutes after sighting, the spacecraft was secure, and the world knew that the astronauts were A-OK.

During the same week, from the rice paddies of South Vietnam's delta to the jungles of North Vietnam, other rescue crews in Southeast Asia (SEA) made 15 combat saves; and some 8000 miles away a Rescue HH-43B heli-

copter saved seven civilians from drowning during the floods in western Turkey.

Routine activity during this period included participating in two NORAD exercises, flying 12 orbits for tactical fighter aircraft transiting the Atlantic and the Pacific, and maintaining precautionary orbits for other operations of a classified nature. All these missions had one thing in common: they were performed by crews of the Aerospace Rescue and Recovery Service and were in response to mission requirements which are today—after two decades of service in peace and war—a way of life in Rescue around the world. Three hundred sixty-five days a year, ARRS is involved in planning for or conducting operations ranging from the rice paddies and jungles of SEA to the sophisticated aspects of astronaut and hardware recovery as an integral part of DOD participation with NASA in the U.S. space program.

For 19 years the command was known as Air Rescue Service. Then in January 1966 the name was changed to Aerospace Rescue and Recovery Service, to denote the increasing scope and diversity of its mission.

mission

As a major subcommand of the Military Airlift Command, ARRS constitutes the Air Force's primary search, rescue, and recovery force. Broadly stated, its mission is to provide a worldwide capability to search for, locate, and recover personnel and aerospace hardware in support of USAF and other DOD global aerospace operations. Rescue missions, carried out in all areas of the free world, fall into four broad categories: aircrew recovery, manned space flight recovery, precautionary and emergency search and rescue. On an average of more than 100 times every 24 hours, there is a requirement for rescue operations of one kind or another over a wide area of the globe.

The United States has traditionally placed a high value on human life. While the broad concept of search and rescue is essentially humanitarian, its military application provides many real and practical advantages. Throughout its history, ARRS thinking has been oriented to the recovery of downed combat aircrewmembers.

Since trained aircrew members represent an invaluable national resource, their rescue or recovery, especially in combat, is directly in the national interest. In the space program, the recovery of costly aerospace hardware is important to related research and analysis, and the return of high-value items that would otherwise be irretrievably lost is of definite monetary significance.

organization

Presently ARRS has over 90 units of various types at 84 locations in the United States and 17 foreign countries. Its headquarters is in Orlando, Florida. Overall command and control is exercised through five centers—three in the United States, one in Germany, and one in Hawaii. The 3d Group in Tan Son Nhut is the focal point for all Southeast Asia operations. Flying operations are carried out by 14 squadrons and 62 detachments, which are responsive to the ZI and overseas theater commanders' operational control in their respective areas. Rescue also operates several joint search and rescue (SAR) centers that provide professional know-how for the unified commands in their areas of responsibility.

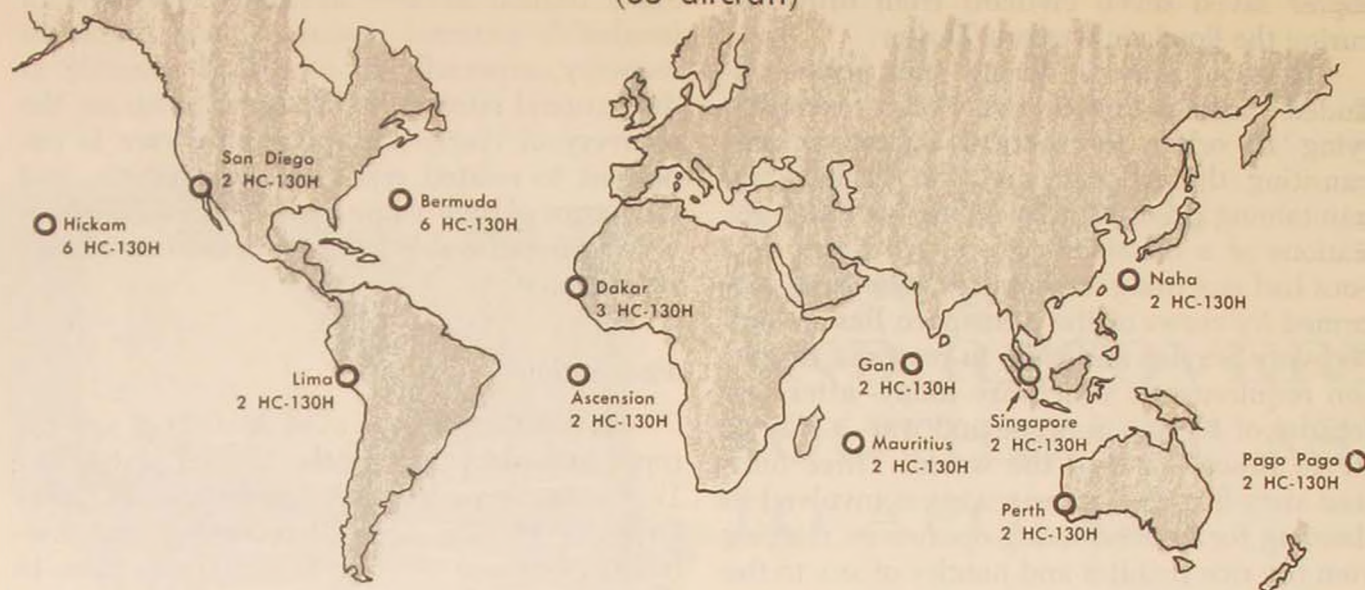
resources

Approximately 4800 officers, airmen, and civilians constitute the personnel resources of the command.

Equipment resources are presently undergoing a major modernization program for the first time since the Korean conflict. ARRS is authorized a total of 277 aircraft, 90 of them fixed-wing, 187 rotary-wing. Exclusive of different models, three types of fixed-wing and two types of rotary-wing aircraft comprise the current inventory.

For over 17 years an old workhorse and veteran of two wars has done yeoman service—the HU-16 Grumman Albatross. It has been the only fixed-wing aircraft capable of performing a rescue on water, and its effectiveness today will be readily attested to by over 80 aircrew members who have been recovered from the Gulf of Tonkin since 1964. Over the years it

Typical ARRS Deployment for Apollo (33 aircraft)



has proved to be a very versatile aircraft. It has a 2500-mile cruising range and can land on water, ice, or snow. Its usefulness is limited, however, by its slow speed, low altitude, and age, and it is being phased out.

The Boeing HC-97G Stratocruiser was especially modified in 1964 for rescue work and is still serving in limited numbers as an interim aircraft until ARRS units are fully equipped with the new HC-130H Lockheed Hercules. The Stratocruiser has done an excellent job, its range, speed, and altitude providing a substantial increase in capability over another old workhorse, the HC-54, which was utilized most effectively from 1956 until July 1966.

The modernization program, insofar as fixed-wing aircraft are concerned, is based on the introduction of the HC-130H. This aircraft will be the primary fixed-wing rescue aircraft for some time to come. It has substantial range and an average speed of 300 miles an hour. It can cross the Atlantic nonstop and the Pacific with one refueling and can remain airborne for more than 22 hours. Powered by four turbo-prop engines, it is fitted with specialized rescue equipment and has a capability for both surface-to-air and air-to-air recovery. Its relatively short landing and take-off distances provide added flexibility, which significantly increases the capability for rescue and recovery on a global basis. The HC-130H will play a key

role in the recovery of astronauts and aerospace equipment, particularly in combination with the new helicopters utilizing air refueling.

Of rotary-wing aircraft, the Kaman HH-43 Huskie has been in our inventory since 1961. It has been employed around the world in local base rescue (LBR) units and utilized effectively and extensively in SEA in both an LBR and aircrew recovery (ACR) role. A limited number of them have been converted to F models by the addition of armor plate and installation of a new and more powerful engine. Both versions in Vietnam are fitted with an extra-long 217-foot hoist cable which, with the forest penetrator, has made it possible to effect many rescues from the heavy jungles in that area.

The newest helicopter we have operational is the Sikorsky HH-3C/3E. The C models are assigned to Detachment 15, EARRC, Patrick AFB, Florida, the unit responsible for providing an air recovery force in the Cape Kennedy launch site area. The HH-3E model provides an all-weather amphibious capability and is one of the first aircraft specifically designed for duty in rescue and recovery operations. It is a long-range, heavy-duty helicopter with a relatively high cruising speed of 140 knots.

The HH-3 series is equipped with a 10,000-pound-capacity external cargo hook, a 2000-pound-capacity cargo winch, and a 600-pound

personnel hoist for use under a wide variety of sea conditions, as well as in jungle and mountainous terrain. It has a hydraulically operated rear ramp for straight on-loading of equipment or for personnel. These aircraft are being equipped with a refueling probe, and in combination with the HC-130H tanker version, they will provide a flexibility for search, location, and recovery of personnel and equipment on a scale heretofore not possible.

Another helicopter with increased capability and even more advanced rescue systems, the Sikorsky HH-53, will be introduced into the inventory early in 1967. This aircraft will be equipped for aerial refueling and will provide range, speed, altitude, and lift capability exceeding that of any previous operational rotary-wing aircraft.

precautionary and emergency missions

Any Air Force fighter pilot who has flown across one of the oceans is familiar with the DUCKBUTT, which is a precautionary orbit mission flown to provide navigation, communications relay, and on-the-spot rescue assistance for transoceanic deployment. In the Pacific there are 21 DUCKBUTT positions, and in the Atlantic 20. Several of these may be required simultaneously, depending on the nature of the aircraft deployments and exercises. As many as nine aircraft per day are required for these missions.

Major users are TAC, PACAF, USAF, and ADC. Even though Rescue aircraft are flying DUCKBUTT missions at oceanic and remote locations, an immediate scramble capability is required at each of the 12 squadron locations 24 hours a day. These alert aircraft respond to any emergency and are the initial forces deployed for emergency search purposes. Emergency response is also required for intercept and escort of lost or disabled aircraft, or for parachuting medically qualified pararescue teams to distressed personnel.

Depending on the circumstances, flotation or sustenance gear may be provided to survivors, or recovery may be made with the HC-130 surface-to-air recovery system or the HH-3 helicopter. These capabilities, combined with

the precautionary posture, constitute the normal day-to-day worldwide support provided to Air Force crews by rescue aircraft.

local base rescue

Local base rescue units are located at 62 bases in the United States and overseas. These units operate the HH-43 Huskie helicopter, and a detachment normally consists of two or three helicopters and 12 to 18 officers and men. Their primary responsibility is to perform the rescue function within a 75-mile radius of the air base on which they are located.

The Huskie was the first to use a new technique for suppressing aircraft fires. The unusual rotor configuration of this helicopter makes it admirably suited to its job. The rotor wash, which is directed slightly forward and swirls outward, enables firemen to make maximum use of the cooling blast of fresh air, which blows away smoke and helps spread the foam that smothers the fire. For this purpose, the Huskie carries fire-fighting equipment known as a fire suppression kit (FSK). It is a 1000-pound device with water and chemical agents that form about 850 gallons of foam. The system combines the speed and agility of the helicopter over rough terrain with the fire-fighting ability of a fire or crash truck. Since taking over the LBR mission, these units have saved more than 2000 lives.

hurricane evacuation

One little-known rescue mission that is primarily the responsibility of the Headquarters Aerospace Rescue and Recovery Service is hurricane evacuation. ARRS prepares the Joint Military Aircraft Hurricane Evacuation Plan (OP PLAN 507) for the Continental U.S., and it is binding on all military bases.

When a hurricane threatens, as many as 6000 military aircraft from 117 Eastern and Gulf Coast bases are programmed to deploy to 143 refuge bases throughout the United States. Continuous coordination with these 260 bases involves working out the many problems required to ensure an effective evacuation and reception. Consideration must be given to types

of aircraft involved, fuels required, ranges, runway lengths, and numerous other variables directly dependent on the nature of the threatening storm and the types and missions of aircraft in jeopardy. In 1966, during hurricane Alma, 944 aircraft were evacuated from 21 bases, 900 being moved in one 28-hour period. In 1964 and 1965 a total of 6735 aircraft were evacuated to refuge bases.

inland SAR

In 1961 the Chief of Staff, U.S. Air Force, appointed the Commander, Aerospace Rescue and Recovery Service, the executive agent for inland search and rescue operations. Under the provisions of the National SAR Manual, a Joint Services publication, ARRS is charged with the coordination of all SAR activities. The three ZI centers located at Robins AFB, Georgia, Richards-Gebaur AFB, Missouri, and Hamilton AFB, California, handle these missions. Dependent upon the nature of the incident, these centers can call upon any federal agency having the capability to assist. This includes other units of the Air Force, Army, Navy, Coast Guard, and Civil Air Patrol.

In addition, the centers are continuously in coordination with state and local governments, police, sheriff, and fire departments, local skin diver clubs, and other rescue organizations. Whether it be a lost hunter, fisherman, or private pilot, these three centers are charged with the responsibility of directing and coordinating the search. In prosecution of inland SAR missions, the Civil Air Patrol has consistently performed in an outstanding manner. These pilots make their service and aircraft available on very short notice, often leaving their places of employment for several days during the course of a mission. While they are reimbursed for gas and oil, they bear all other expenses themselves. Over the years their services have been invaluable on literally thousands of missions. During a typical year, 1965, the three centers participated in a total of 439 missions involving 6348 aircraft and 1170 people.

reserve units

In addition to the regular rescue units,

ARRS is also responsible for providing supervision of training and flying safety programs for five Reserve Aerospace Rescue and Recovery Squadrons located at Homestead AFB, Florida, Luke AFB, Arizona, March AFB, California, Portland IAP, Oregon, and Selfridge AFB, Michigan. Three of the reserve squadrons currently fly the HU-16 aircraft, and the two squadrons at Selfridge and March have been converted to the HC-97.

During the past years these squadrons have participated in almost every type of mission that ARRS has been required to support. In order to utilize these resources for pre-planned missions, reservists must volunteer to accept the flights, provide qualified crews, and obtain Continental Air Command approval to allocate the man-days required. In case of an emergency SAR mission, crews may be launched without prior approval, but CAC is notified as soon as practicable in the course of the mission.

Considering the nature of the reserve squadron operation and the fact that the reservists do not maintain an alert posture, their response and speed into action on actual missions have been remarkable. They have typical Rescue *esprit de corps*, and participation in these missions provides them realistic training and a real sense of belonging to the Rescue team.

space recovery operations

Although Rescue has provided recovery support to NASA since the first Mercury flight, NASA activities are expanding so greatly that by 1968 total requirements will outstrip present Rescue capability to meet both Air Force and NASA commitments simultaneously. NASA requirements are levied on Rescue by the DOD Manager for Manned Space Flight Support Operations. These requirements include helicopters to cover the launch pad, HC-130s in the launch abort area from Bermuda to the African Coast, and aircraft for contingency areas around the globe between 40° N and 40° S.

In the Atlantic and Pacific, air and naval task forces operating under the DOD Manager are broken down into two broad groups, each

First hookup of CH-3C with KC-130F tanker proves feasibility of aerial refueling technique.



of which covers half the world. The Commander, Task Force 130, exercises command and control from Hawaii, and CTF 140 from Cape Kennedy. Both report to the DOD Manager, who is located in Houston, Texas, with his NASA counterparts.

In typical deployment for an Apollo lunar mission, over 30 HC-130H aircraft will be involved, the majority deployed over a wide area of the world for periods ranging from seven to fifteen days. (See accompanying map.) The HC-130 is capable of flying well over 2000 miles and loitering for an acceptable period of time. Employing a sophisticated tracking gear, designated the AN/ARD-17, it can pinpoint and track the spacecraft to its landing area. This equipment operates in both the UHF and "S" band spectrum and provides a permanent record of tracking data. It furnishes visual indications of the strength and spectrum of the signal being received and provides an audio tracking indication. With four to nine HC-130s deployed in an array, a rapid series of cross-plotted positions can be established to obtain an accurate azimuth during a spacecraft re-entry and splashdown. Incidentally, this same

Medics hurry a wounded Marine from a 20th Helicopter Squadron CH-3C that has just set down on the helicopter landing pad at Da Nang AB, South Vietnam.



equipment has proved invaluable for locating downed aircrew members electronically at ranges heretofore unachievable, on a 24-hour basis under all weather conditions.

Rescue's ability to respond to a contingency operation was clearly demonstrated during the early landing of GT-VIII in the western Pacific, when the HC-54 actually observed the spacecraft before it hit the water. Since the Gemini program ended, detailed planning is under way for Apollo. This is a much more complex mission and poses more difficult recovery problems than have been faced before. Studies are in progress which point toward an all-air recovery force. The concepts are feasible, and significant dollar savings could be achieved over an extended period of time.

aircrew recovery

The most pressing mission today is aircrew recovery in Southeast Asia. After the Korean War, Rescue Service was reduced to an all-time low, and even the wartime mission clause was withdrawn from the mission statement. But in 1965 ARRS was once again given its traditional mission of rescuing combat personnel from hostile areas in time of war. With the introduction of tactical forces into the Vietnam conflict in 1964, the requirement for an aircrew recovery force was quickly recognized. Unfortunately, in the years following Korea, Rescue capability had been seriously impaired, and technology in the ACR area had not kept pace with the buildup and modernization of tactical forces. In 1963 the decision was made to undertake the first step in the modernization of the Rescue forces, and in early 1964 the first Rescue aircraft were introduced into SEA on a temporary duty basis. Since that time there has been a sizable buildup in men, aircraft, and equipment. During the past twenty months Rescue activities in that area of the world have expanded by leaps and bounds.

The mission narratives covering hundreds of rescues often read like the Hollywood script of a Western movie with the cavalry coming to the rescue in the final moments. Operating over some of the most difficult terrain and in some of the most hazardous weather in the

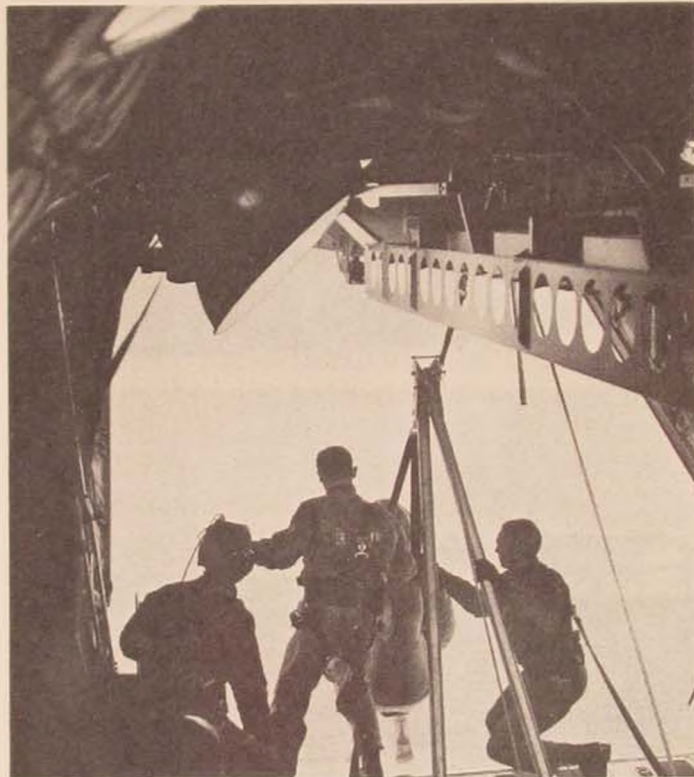
world, Rescue has established a record equal to or surpassing that achieved in the Korean War.

Working closely with the tactical forces of the Seventh Air Force, ARRS has employed a number of highly effective techniques and procedures. These are constantly being refined, as the introduction of new equipment and periodic changes in the hostile environment dictate. While many of the reports are classified because of their relationship to the tactical operation, a number of rescue missions have been covered in the press and other national news media. Statements such as the following describe typical missions:

... when we reached a hover and started looking we also received heavy ground fire ... the copilot kept us clear of the trees and while we were in a hover the "Sandys" (A1-E's) strafed to our right. They too received intense ground fire, taking several hits. The "Sandys" then laid a smoke screen with white phosphorous bombs, and strafed as we came in for the pick-up. Our paramedics saw the man and directed me until he was under us. The copilot again kept us out of the trees while we were hovering until we got the pilot on the forest penetrator and brought him up. ...

On the water, Rescue crews have been involved in many equally difficult recoveries.

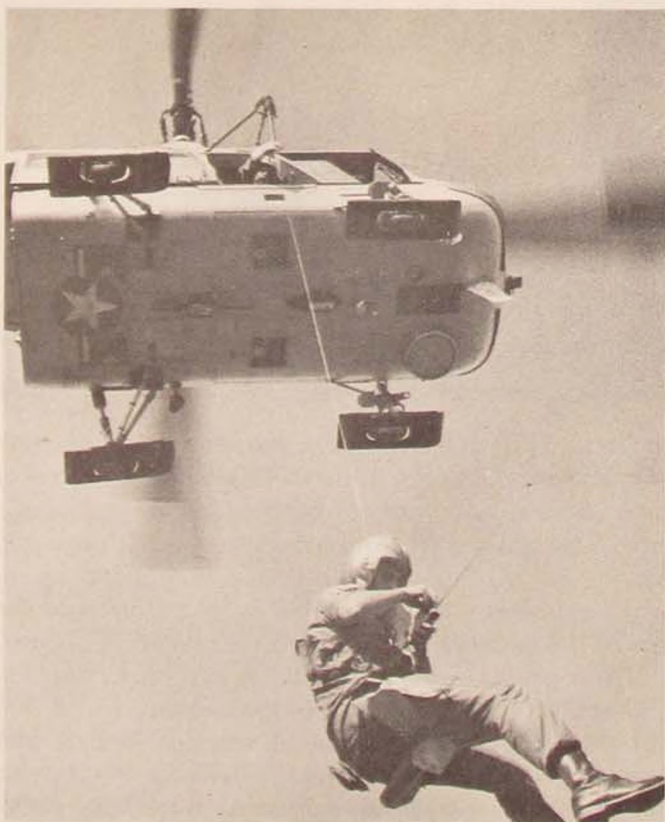
... the open sea conditions gave us a few bad moments, and as a result the aircraft experienced a badly damaged right elevator. Immediately after touchdown, all hell broke loose in the form of extremely heavy enemy fire from the shore. Several large explosions occurred within 50 yards of the aircraft, and the sound of small arms fire was continuous. As we approached the downed pilot, a pararescueman dove into the water with a rope tied around his waist. As other crew members attempted to pull the pilot into the aircraft, it was found that the rope that was fastened to his chute harness was tangled around his legs ... the radio operator raced back and with his knife cut the rope, and then assisted in bringing the pilot and pararescueman back aboard. A high speed taxi run was initiated directly away from shore. Several explosions were rapidly approaching the aircraft from the rear, and we made a quick 60° turn. Our new heading made



An HC-130H Hercules has its recovery yoke extended in readiness for a rescue mission. . . . In a test of the technique, a volunteer watches for the rescue aircraft. The scissors-like yoke mounted on its nose will clamp onto the nylon cable which he hoisted by inflating a balloon, the cable will be transferred to the rear of the aircraft, and a winch will reel him aboard. . . . In a practice rescue off Point Mugu, California, a "downed" pilot is reeled in after being lifted 500 feet from the Pacific Ocean. Aerospace Rescue and Recovery Service has had the specially developed rescue aircraft in worldwide operation since June 1966.



An HH-3E makes a practice rescue. . . . An Air Force HH-43 crew from Detachment 7, 38th Air Rescue Squadron, Da Nang, lifts an airman with a cable hoist designed to work well in the jungles of Vietnam.



for a difficult takeoff, but it was successfully accomplished followed by a routine return to base. Special notice must be taken of the unusual support provided by the Rescap aircraft. As we departed the area, I looked back and saw about a three mile stretch of shore that was completely blacked out by smoke, dust and flying debris.

The support provided by fighters is indicated by a typical comment:

The Skyraider pilots really did the work today. . . . They marked the area where the pilot was, and flew close cover for us. . . . It would not have been possible to conduct the mission without the A-1's excellent cover and fire support while we made our approach and pickup. The A-1 delayed the fifth vc attack long enough for our helicopters to dash in and out making the save.

The support provided by the tactical units of the USAF, as well as by comrades-in-arms from the Navy and the Army, has been uniformly superb. One unit in particular must receive special recognition. Operating day in and day out with the "Jolly Green" helicopters, the A-1E "Sandys" (also affectionately known as "Super Spads") have performed with the highest standards of professionalism and valor. In SEA today Rescue is truly a teamwork operation, and the "Jolly Green" and "Crown" crews have been proud to fly in the company of such gallant and dedicated men from all the tactical units.

While teamwork is the essence of all rescue operations, one segment of the team deserves special mention—the pararescuemen. These men, all volunteers, are highly trained in four specific skills: they are scuba qualified by the Navy, trained in all phases of parachute work by the Army, and qualified as expert medical technicians and survival specialists by the Air Force. After volunteering they go through approximately one year of very rigorous and intensive training before receiving the

coveted maroon beret. They provide the capability to go beyond the confines of the machine and effect a successful recovery under a wide range of weather and terrain conditions.

When he jumps into the open sea, the pararescueman's equipment weighs somewhere between 160 and 180 pounds, often more than the man himself. In addition to his scuba tank, he carries two parachutes, two different types of flotation gear, a medical kit, knife, shark repellent, radio, etc., all of which may be necessary to cope with the environment in which he finds himself.

Time and again pararescuemen have parachuted to the aid of injured survivors, and they have been increasingly employed in the space recovery program. They are a highly dedicated professional group, and some of them have given their lives in the course of carrying out combat assignments. A1C William Pitsenbarger was the first member of Rescue to win the Air Force Cross (posthumously), the award being presented to his parents by the Chief of Staff on 22 September 1966.

international cooperation

From Thule in the north to New Zealand in the south, Turkey to the east and Vietnam and Japan to the west, Rescue crews have served as unofficial good-will ambassadors in the performance of missions that accrue important dividends as by-products of the primary mission. They have given assistance over a wide area of the free world in many diverse situations. Indicative of the magnitude of this contribution to international good will is the simple fact that over 100 persons in 15 foreign countries have been rescued or provided assistance over the past year and a half. The value of this service cannot be translated into finite terms, but it rests firmly on its own merits as a magnanimous contribution of friendship and good will.

Several typical instances might be mentioned:

- In the summer of 1966 Captains James A. Darden and Robert S. Henderson rescued 37 Italian civilians in Aviano, Italy, flying their HH-43B helicopter under difficult and demand-

ing conditions in extremely adverse weather. For their selfless action they received the Cheney Award.

- Earlier that same year two pararescuemen of the 79th Aerospace Rescue and Recovery Squadron jumped into the open sea and rescued the survivors of a Japanese fishing vessel that had run aground during a storm near Guam.

- The 58th ARRS Squadron at Wheelus Air Base in Libya demonstrated the search and rescue capabilities of its HC-130H aircraft to a group of Libyan government officials, bringing the U.S. Ambassador's thanks for "a helpful adjunct to our diplomatic efforts."

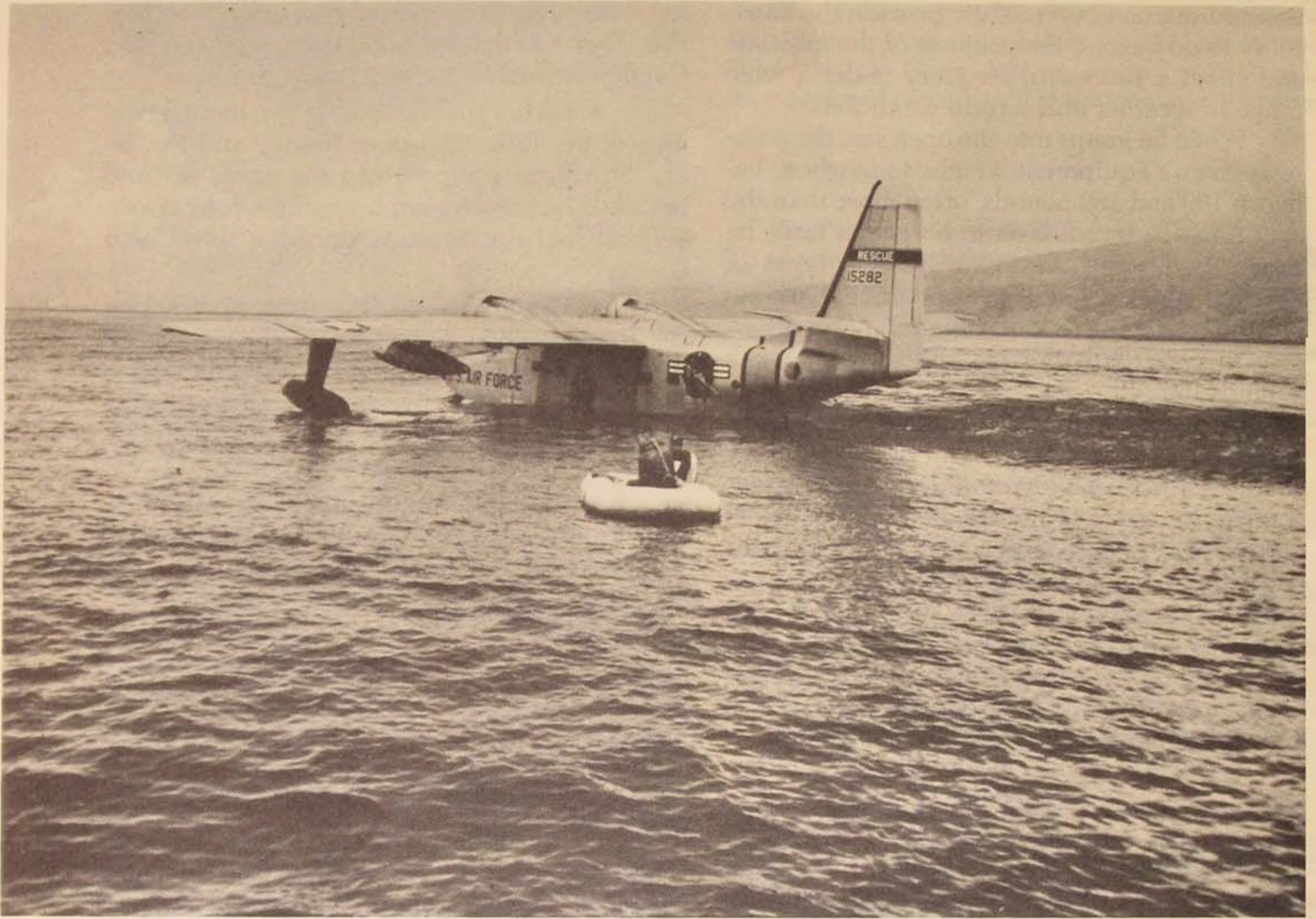
- Haiti has issued a stamp commemorating the ARRS assistance following a disastrous windstorm at the town of Dame-Marie.

- ARRS help in searching for and rescuing a Panamanian aircraft brought expressions of gratitude from a high official of the government of Panama.

In a very real sense, these and all our rescue activities represent a clear-cut example of the U.S. as a stalwart friend in time of need. They have been effective again and again as a tangible demonstration of our national principles of humanitarianism in both peace and war. Although it is difficult to assess the direct value of such actions, certainly tangible dividends do accrue to the United States Air Force—and in a broader sense to the United States. Few organizations have the opportunity to reap such rich human-interest dividends from such a modest investment. Letters and citations from U.S. ambassadors and citizens and governments of many foreign countries clearly indicate the importance of our far-flung rescue efforts.

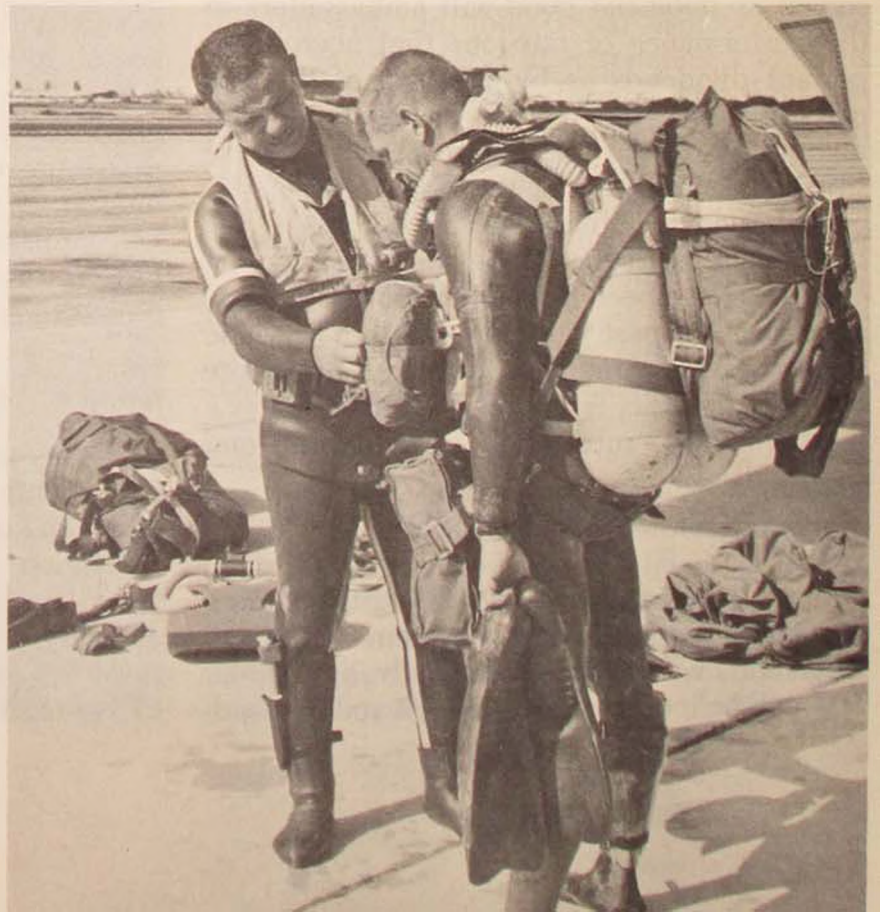
future developments

ARRS is in a period of major change. Requirements in all areas are increasing, and the command is presently involved in a major modernization program unequalled since its inception. The formation of the HC-130H/HH-3E and HC-130H/HH-53 air-refueling teams will form the basis of operations for several years to come. The HC-130H, as indicated previ-



Sea Rescue and Fire Alert

An HU-16B Albatross practices retrieving pararescuemen from the sea. . . . An ARRS pararescueman gets into his full complement of gear.



An aircraft emergency call sends rescue crewmen racing to their HH-43 Huskie at Tan Son Nhut airfield. . . . The twin-rotor Huskie hovers while a fire extinguisher bottle is hooked on. . . . The Huskie trains crews for their fire-suppression duty in Vietnam.



ously, provides a major increase in capability. The surface-to-air and air-to-air recovery systems, coupled with in-flight refueling of the helicopter, gives it a flexibility for rescue and recovery unequalled by any previous rescue aircraft.

Planning actions have been in progress for some time to develop concepts and define equipment for the period on through 1975. While current emphasis is naturally being placed on combat aircrew recovery in Southeast Asia, it is vital to look ahead to other pressing requirements that have been generated by the major air commands, DOD, and NASA.

Night recovery techniques, involving low light-level TV or passive infrared, are natural extensions brought about by concurrent developments in research and development. This will provide a quantum jump in capability, since it will essentially double the time in which Rescue has traditionally performed search, location, and recovery operations. Long-range studies under way envision a Rescue structure which will enable the flying units to respond even more effectively to the requirements levied on them.

A major study is under way of a recovery version of the V/STOL aircraft, which must possess a relatively low downwash velocity. Speeds around 400 knots and ranges well in excess of 500 nautical miles with internal fuel are typical of the considerations presently under study. In the ACR role there is a requirement to incorporate armament, terrain avoidance radar, a night-viewing system, and in-flight refueling. Consistent with state-of-the-art development, aircraft of this type could actually accompany tactical forces to the strike areas so that response for recovery operations would be immediate. Under certain conditions midair recovery may be feasible, and exploration along this line is under way. Surface-to-air recovery of packages, capsules, or personnel is already a proven technique. Recently Rescue HC-130s have completed several missions at ranges in excess of 4000 miles. Package pickups, midway during an 18-hour flight profile, were successfully executed in a routine manner.

One of the greatest lessons learned from a study of the post-Korean period is that de-

velopment of Rescue forces must keep pace with the development of the tactical forces which they support. In this regard, the 48th Aerospace Rescue and Recovery Squadron at Eglin AFB, Florida, is undergoing expansion. Ultimately it will be the Rescue Tactical Training Unit (RTTU) for five different types of aircraft and will be the centralized training agency for all new techniques, such as the air-to-air and surface-to-air recovery systems. Colocation with the Special Air Warfare and Tactical Air Warfare Centers provides a unique opportunity for development of concepts and doctrine and for joint testing and evaluation by the Tactical Air Command and ARRS.

Recently approval was received for the establishment of an operating location in Hq TAC. This will provide for close coordination and liaison on a first-hand basis with one of Rescue's biggest customers. In the conventional area, Rescue provides instructors to the United States Coast Guard School at Governors Island, New York. This relationship is the culmination of years of close cooperation and coordination between the USCG and ARRS on a wide variety of common objective missions.

Support of Apollo and other space programs, coupled with traditional requirements, fairly well defines the course for ARRS in the years ahead. ARRS has a logical mission in space along with the rest of the Air Force, limited only by the state of the art and space flight techniques. The basic requirement is valid and is receiving steadily increasing emphasis as man progresses farther into space. Rescue in space is a logical extension of the traditional humanitarian role, with certain added political and public-opinion impacts.

SINCE the organization of the Aerospace Rescue and Recovery Service in May 1946, rescuemen have saved over 12,000 people from certain death and 88 aircraft from destruction. In addition, direct aid or assistance has been provided to over 50,000 people and 59,000 aircraft. In total, over 111,000 different rescue missions have been accomplished during more than half a million flying hours. The pace keeps increasing, and the present rate now exceeds some

40,000 individual sorties of all types in a year. It is impossible to assess the morale value of this effort in finite terms or to calculate the tangible savings to this country of rescued personnel, yet whenever the spine-tingling "Mayday, mayday, mayday, mayday" is heard, Rescue forces will be on the way.

Rescue is receiving detailed attention and consideration at the highest military and political levels. Every effort is being made to justify the confidence placed in ARRS and to further develop and enhance its capability to respond rapidly and effectively around the world.

On 19 January 1966 President Johnson awarded the 38th Air Rescue Squadron the Presidential Unit Citation for extraordinary gallantry. The citation read in part:

. . . they repeatedly jeopardized their own lives by exposing themselves to hostile air and

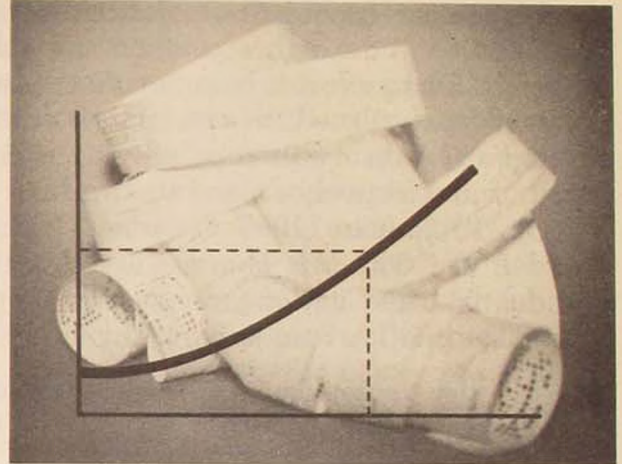
ground fire while flying unarmed aircraft in order to rescue survivors downed in hostile territory. . . . the extreme heroism displayed by this unit in effecting rescues under the most perilous of circumstances has had a most beneficial effect upon the morale of all who fly over hostile territory in Southeast Asia. . . .

In less than two years, ARRS has brought back over 500 combat personnel to fight another day, this number representing over three full wings of aircrew members.

Around the world, whether our recovery activities are in connection with sophisticated space operations or in rice paddies and jungles, Rescue crews are alert and ready to perform their duties quickly and efficiently in order "That Others May Live."

Hq Aerospace Rescue and Recovery Service

In My Opinion



ON ANALYSIS

MAJOR GENERAL GLENN A. KENT

TOO MUCH has been written by too many on how to do analysis. But too little has actually been accomplished by too few. At the risk of being placed in the first category, I will offer some remarks in the hope of enhancing the state of understanding as to how to go about achieving good analysis.

Simply said, the purpose of an analysis is to provide illumination and visibility—to expose some problem in terms that are as simple as possible. This exposé is used as one of a number of inputs by some “decision-maker.” Contrary to popular practice, the primary output of an analysis is not conclusions and recommendations. Most studies by analysts do have conclusions and recommendations even though they should not, since invariably whether or not some particular course of action should be followed depends on factors quite beyond those that have been quantified by the analyst. A “summary” is fine and allowable, but “conclusions” and “recommendations” by the analyst

are, for the most part, neither appropriate nor useful. Drawing conclusions and making recommendations (regarding these types of decisions) are the responsibility of the decision-maker and should not be pre-empted by the analyst.

Under the heading of “summary” one can write quite perceptively, stating that, within the factors we have been able to quantify, if such and such is true, then this is the outcome. But, most important, one is not required to go beyond those factors that have been “analyzed” and make a recommendation which surely is based in part on factors that have not. Of course there are the nonuseful recommendations. A common one of this type is something like “The subject requires further study.” Not only are such statements of little import, but such a conclusion is usually quite obvious without being stated.

So, to repeat, the job of the analyst is to provide illumination and visibility—to expose

the problem. This is so obvious that it hardly seems necessary to make the point. Still there is ample evidence to show that many analysts were surely not focused in that direction when they went about their work. In fact I have reason to believe that most card-carrying analysts would look upon the idea of omitting conclusions and recommendations as sheer heresy.

How can one go about exposing a problem? He thinks in the following terms: I am going to make a simple "analogue computer" of this problem. Now, this analogue computer is not an electronic marvel; it is nothing more than a curve (or curves) on graph paper. One can easily handle four variables: the dependent variable on the ordinate (usually the measure of merit) and three independent variables—one on the abscissa, another on a family of curves on each graph, and still another by having a family of graphs (actually one can handle more independent variables, since variables can be combined or aggregated—a "Reynolds number," for example).

So the idea is to construct an analogue computer. It is a computer since it tells the outcome (on the ordinate) for given values of the independent variables. Such a computer allows one to look at trends as shown by the slope and placement of lines. One should as a matter of course make all possible cross plots. That is, now make the variable that was once on the family of curves the running variable on the abscissa, and so on. Not all the cross plots will be useful, of course. But plot all possible combinations, and use those that provide the greatest visibility. The analogue computer should be exercised. It will tell what input factors drive whatever is being measured and how sensitive the answers are to these factors. Digital computers are quite useful in calculating points in constructing the analogue computer. But the print-outs of digital computers are not terribly useful for presentation. Our analogue computer is the way to present the results so as to expose the problem. The digital computer should be regarded as simply a means of relieving oneself of the drudgery of calculation.

This brings me to the next point. Many people who like to call themselves "analysts"

are really "calculators." They spend more time having calculations made on a digital computer than they spend in analyzing the results. They are "expanders" rather than "distillers" and can be identified easily by the pride which they exude when they present some "decision-maker" with a "five-foot" study and announce how many hours it took to generate all this material on some high-speed computer.

If an analyst is asked what is the effect of halving the circular probable error of a missile in attacking hard targets, he will derive simple statements such as: "If the CEP is halved, it takes only one-fourth as many missiles to have a certain assurance (damage expectancy) of killing a certain number of targets." Further, he will add that the ratio of four to one is independent of the hardness of the targets being attacked, the absolute value of the CEP, the assurance desired, and the number of targets. The "calculator" will do a number of war games and, if he is persistent, may discover that the ratio of missiles is about 3.948 for some particular set of circumstances. But rarely will calculations (particularly single valued war games as such) expose the universal truths. If at all possible, reduce (collapse) the problem to a simple formula or formulas and then show the solutions to these formulas by graphs or tables. Actually these graphs are the analogue computers we talked of earlier. The idea is the same, but I have described it another way for emphasis, in the forlorn hope that more and more people will believe in this approach and actually try it.

There are many examples where problems have been "collapsed" in an elegant and simple way. They will not be described in detail here. But the final results of two examples will be alluded to in order to whet the appetite of the curious and to demonstrate that complex problems can be made simple if "analysts" think about them for weeks rather than have "calculators" quickly call on a "programmer" to turn the problem over to an unimaginative electronic marvel.

Example 1: There is an optimum-sized missile for the U.S. to deploy in a hardened and dispersed mode—optimum in terms of pro-

viding surviving missile payload at least cost after a Soviet attack. The probability of survival (P_s) for the optimum-sized missile is given by the expression

$$P_s = e \exp - \left(\frac{1-x}{x} \right)^{\circ}$$

where x is the exponent in the formula that relates the cost of missile and its size as measured in payload. Collapsing the problem for finding the optimum-sized missile starts with the formula

$$C = (K) (W^x)$$

where C is the ten-year system cost in millions of dollars, K is some constant (about \$10 M), W is the payload of the missile in thousands of pounds, and x is an empirically derived exponent with a value of around .5. This means that, in the face of an enemy attack, the P_s of the optimum-sized missile will be about .368

($e \exp - \left(\frac{1-.5}{.5} \right) = .368$). Note that the P_s

of the optimum-sized missile is independent of the amount of payload we desire and the size and effectiveness of the Soviet attack, just so long as the restraint given in the footnote is met. No "calculator," particularly one armed with a digital computer, would ever stumble on this fact. You don't understand and believe it? Well, you never will if you insist on engaging in a profusion of calculations as a substitute for some deep thinking and elementary mathematics.

The problem can only be this simple if one accepts that the effectiveness of an intercontinental ballistic missile can be measured adequately by the number of pounds of throw-weight (payload) it can deliver. That in itself was something of a breakthrough. This seems simple and straightforward now, but it was very strong medicine for the "calculators" to swallow in 1958 that five surviving missiles with a 1000-pound payload each were equal in effectiveness to one surviving missile with a 5000-pound payload. The reaction invariably

^o"exp" means that $-\left(\frac{1-x}{x}\right)$ is the exponent of e . The only restriction on this equation is that the enemy must be able to attack each of our missile sites to exactly the same degree. Further, it is to be noted that there is a lower practical limit to the missile payload, which this equation ignores.

was, "It couldn't possibly be that simple"—but it was.

Example 2: One can do elaborate war games in air defense. It turns out that the results of these war games can be approximated closely by the formula

$$P_s = e \exp (-\rho I/B)$$

where P_s is the probability that a bomber survives the area bomber defenses and reaches the target, I is the number of interceptors in the game, B is the number of bombers, and ρ is an empirical constant that depends on the geography wherein the encounters take place, on the radar cross section of the bomber, the effectiveness of the interceptor radar, and the relative speeds of the interceptor and bomber. Whether or not the formula $P_s = e \exp (-\rho I/B)$ adequately represents the actual world of continental air defense is a moot question. Unfortunately, or fortunately, there is no actual experience for testing. Suffice to say, the formula does approximate the results of accepted war games. So if one believes the war games (actually they are "computer simulations," but the term "war games" adds a note of realism), he has to give some credence to the formula.

Let us see what an "analyst" can do with the formula. He can tell you that, when the expenditures on "terminal defense" are balanced with expenditures on area defense, the probability (P_s) of the bombers' penetrating the area defense is given by

$$P_s = \frac{C}{\rho WT}$$

where C is the cost of an interceptor and its associated control environment, ρ has to do with the effectiveness of the area bomber defense as described above, W is the number of short-range attack missiles (SRAM's) carried by the bomber, and T is the cost of negating a SRAM with terminal defense. The idea here is that "area defense" and "terminal defense" are both operating at the same "marginal return"—a term that has been in the vernacular of the economists for a long time. An analyst can derive additional simple truths: that, for every additional attacking bomber, the amount the defense must allocate to terminal defenses is an

amount of money equal to C/ρ , and the allocation to area defenses is an amount of money equal to $C/\rho \ln \frac{\rho WT}{C}$. (This is for the case where the defender is "balancing" his expenditures so as to negate the bomber at least cost by either shooting it down with area defense or negating with terminal defense the SRAM's launched from the bombers that survive the area defenses.)

These two examples are intended to show what is meant by "collapsing" problems. This is the real payoff in one's effort to provide visibility and illumination. This is where the analyst succeeds and the calculator fails. Notice that the word "analyst" was used rather than mathematician. Granted that a knowledge of differential calculus is useful if not necessary. But the big task is figuring out how to set the problem up so as to have something to differentiate in the first place. Mathematicians who can manipulate the formulas in a mechanical sense are as easy to come by as the calculators; but analysts aren't. As a matter of fact I have come to the conclusion that the makings of a good analyst are more apt to be found in a lawyer who has a smattering of mathematics than in a mathematician who is a calculator rather than a thinker. Since lawyers are not particularly well schooled in calculating, they are forced to think and reason, and this is a very good thing.

The best education for an analyst is in the school of doing. This presupposes that the person involved is alert, curious, and eager to work. Further, he should feel somewhat at home with integral and differential calculus. But, given this background, the best way to become an analyst—if there is indeed such a type as distinct from other people—is to work on problems. Guidance and assistance from someone who has been through similar studies are quite helpful. But, ultimately, good studies are produced by hard and earnest work. They are the result of going over and over and over some problem with a view to reducing and collapsing it on the one hand and providing illumination and visibility on the other.

Probably the best procedure for a student

who is preparing to embark upon studies called analysis is to review carefully the analytical techniques that were used to good effect in analyses already accomplished. By luck, one of these techniques might apply to the problem at hand. In my view the courses on analysis now being conducted at various places have far too much emphasis on statistical theory and the like, along with instruction in mathematical manipulations, and too little on case histories. The emphasis should be on how to think about problems so as to simplify them. I know of no better way to do this than to review what has been demonstrated in the past. Unfortunately, the textbook I am talking about has yet to be written, but a noble beginning would be for someone to publish a compendium demonstrating the better techniques that have been used to date.

Too many times the results of what was potentially a good analysis go down the drain because of poor presentation. This goes for both oral and written efforts. I have a theory that each listener or reader has a threshold for "naggers." "Naggers" are things that he does not understand. When his threshold is exceeded, he quits listening or reading. The "naggers" can come in several forms, all of them used by presenters at some time or another, for one reason or another. A common practice is to fail to delineate clearly how a particular curve was derived. Now, the ingredients for deriving the curve are almost always contained (submerged) somewhere in the prose—a little clue here and another clue there—and a determined sleuth can finally piece the whole thing together. The trouble is that most readers are not that determined, and they give up. The credibility of a curve will not be established with those who count unless they can reproduce, at least in concept, the points on the curve. Without establishing credibility, one has little or no chance of making any of the points he may have had in mind. The day has long since passed when one could get away with "Since the bar for System A is longer than the bar for System B, we should buy System A." The fact that the bar for one system is longer is of little import unless the decision-maker "believes" the analysis; and this belief

can only be established by the clearest exposition. Sometimes the lack of clear exposition is purposeful in order to submerge some awkward or shaky input. To think that such a practice can possibly pay off borders on idiocy.

Other times the lack of clear exposition in an oral presentation stems simply from a well-known and prosaic disease: the briefer doesn't know his subject. The curves were provided to him by someone else. He thought he understood them, and ostensibly did, until someone asked a question that wasn't in the script. Oral presentations also suffer many times from a plethora of charts and a paucity of message. The best illumination stems from a few charts that are well explained.

What are the fixes for these ills? The fixes can be summed up in one word: discipline. Air Force personnel should apply the same rigid discipline to analysis that they do to flying an airplane. The accident rate for analysis is quite high. However, these "accidents" are for the most part not as dramatic and personal as aircraft accidents, and consequently there is no concerted campaign to reduce the rate.

If nothing else, poor analysis efforts reflect adversely upon our professional image. But how do you apply discipline? You go over and over and over each bit of logic and each calculation. By "you," I mean *you*. If it is your study, then you should be able to reproduce, when called upon, any number in the study in a reasonable time without too much fumbling. You only really understand something after you have made the calculations yourself. If the study is so complex that you feel you simply can't master the calculations, then one of two things (or both) is wrong: either the study is too complex or you are a poor analyst and should take up another pursuit. A rule of thumb regarding simplicity is that "even generals must understand it." Many of the top people in the Department of Defense make it a point to understand important analyses in considerable detail. Rather awkward situations are created when the analyst and intervening echelons do not do likewise in advance.

After all, simplicity, in the interest of illumination, is what we are after. If you are asked to explain something and in lieu of a direct

answer you start out with "Well, it's rather complicated," you are losing altitude fast. Ambiguous answers to oral questions have the same fleeting value as the air above you and the runway behind you.

So the first part of discipline is to keep it simple. The second part of discipline is to explain fully. In a written text, for each graph or table, one should have a facing page (or pages) with three sections: (1) a section that describes the purpose of the graph; (2) a section that describes the basis for computations, including all values for inputs and assumptions; and (3) a section that tells the reader what message is to be gotten out of the graph or table. Now, if you find it trying and difficult to write section 3, then you might give serious consideration to omitting the graph in the first place. Exercising this discipline in the written report also helps any oral presentation, particularly if the writer is also the presenter—and he should be. At the risk of being repetitious: you learn the details only by getting your hands dirty in the actual derivation of the report. A deep-tanned colonel with a resonant voice is no substitute for a pale-skinned major who has not had much sunshine because he is the one who has been doing the dirty work.

IN CLOSING I would like to go back to the matter of whether or not to include conclusions and recommendations in analyses. Decision-makers, with good reason, often feel that their responsibilities are being eroded in some fashion or another by the analysts. This concern sometimes takes the form of, "These analysis studies will never take the place of military judgment." The rejoinder by the analyst to this charge should be, "Sir, my hope is that a decision by you, based on your excellent judgment aided by my elegant analysis, will be better than a decision based on your judgment alone. I can hardly believe the aid afforded by my analysis could be counterproductive." But to be confident that analysis is not "counterproductive" is sometimes most difficult, particularly if conclusions and recommendations are included. Besides that, the analyst can't make his statement in the first place unless he has been careful

not to pre-empt the decision-maker.

As stated earlier, the prime purpose of an analysis has to do with providing illumination on the utility of a particular weapon system or piece of equipment. This illumination provides the basis for the Air Force proposing (or not proposing) that the system should be developed and procured; that is, its utility is such that the Department of Defense should (or should not) spend money and resources to acquire it. Said

another way, analysis provides a basis for decision on whether or not certain equipment is to be introduced into the operational forces. Action and decision-making center around proposals. To paraphrase Shakespeare slightly, "The proposal's the thing wherewith we'll tap the coffers of the king." The central question is whether or not the proposal is worthwhile. Analysis, hopefully, provides added insight on this all-important question.

Hq Air Force Systems Command

REFLECTIONS ON THE "MILITARY MIND," THE MILITARY, AND ITS CRITICS

LIEUTENANT COLONEL CHARLES KONIGSBERG

IN his address to the 1966 graduating class of the Air Force Academy, Secretary of the Air Force Harold Brown asserted the hope that there "is such a thing as a military mind"—meaning, in his further words, "officers who are professionals in military affairs . . . [who] have an outlook that is conditioned by the requirements of their profession just as the lawyer or doctor must have a legal or medical outlook."

The good sense of this view is so readily apparent, and so clearly beyond argument at this point in our defense experience, that one must wonder why profound reservations persist in some quarters concerning the capacities, the roles, and the influence of military men armed with their supposed "military minds." It is the purpose of these reflections to examine some of the factors contributing to the continuing reservations of our critics and suggest ways by which we can invalidate those reservations.

Evidently the critics to whom Secretary Brown's remarks were addressed have been motivated by something more than considerations on the legitimate application of the lessons of military training and experience to defense problems. Indeed, we are once again reminded that a persistent and pervasive strain in American thought, since before our inception as a nation, has been an "antimilitary" bias. This bias accompanied many of our early colonists across the ocean and was reinforced by acts of British imperial forces in our prerevolutionary period (hence, for example, the antipathy, later embodied in the Constitution, to quartering troops in private homes without consent or law) and by several abortive schemes to initiate an American monarchy or dictatorship. The bias was reinforced also by popular reaction to the organization of the somewhat "militaristic" Society of the Cincinnati and to the prominent role of many ex-officers of the Revolutionary War in helping

to bring about the Constitution and establish the new federal government on enduring foundations.

In such manner and on such sandy historical foundation was the antimilitary bias introduced into American thought. As Major William E. Simons notes in a recent article in *Air University Review*:

Without historical evidence of a civil threat from the military, one is left to conclude that the American concern for civilian control has been conditioned largely by the mistrust of military attitudes and mental processes.¹

That has been the rub, of course: "mistrust of military attitudes and mental processes." We can say, however, that the cruder, stereotypic devil of the "military mind" is no longer given credence by any significant sector of American opinion (or opinion-makers), despite such works in recent years as *Dr. Strange-love*, *Seven Days in May*, *Fail-Safe*, *The Warfare State*, *The Passion of the Hawks*, and *The Power Elite*. These works reflected (or exaggerated) the old stereotype of the "rigid, inflexible, unimaginative, tradition-bound" man-on-horseback with "illiberal value preferences" and a "strong inclination toward ultra-nationalism and ethnocentrism"; a parochial ultradisciplinarian, "lacking in inventiveness," abhorring complexity, assuming an "authoritarian approach to social and political issues," "unable to understand the temporizings of politics," and in the end "tending to see critical decisions not as moral choices but as technical problems." These views, by and large, are no longer respected or accepted, and the American military has been accorded a large measure of earned respect in the contemporary period, a respect based, as Secretary Brown emphasized, on professionalism in military affairs.

But mistrust continues. In the same issue of the *Review*, Dr. Gene M. Lyons, writing with sympathetic understanding on "Liberal Education in the Military" (p. 90), reflects this mistrust in his reservations on the ability of those in the American military education system to help develop men "with a driving sense of inquiry as well as a deep devotion to duty."

In his critique, Dr. Lyons—whom we may take as representative of friendly critics of the military—discussed Major Simons' book, *Liberal Education in the Service Academies* (1965), from which the Simons article quoted above was adapted; but Dr. Lyons had in earlier writings expressed a similar and not uncomplimentary disenchantment with the capacities of "The Military Mind" (*Bulletin of the Atomic Scientists*, November 1963) and its role in "The New Civil-Military Relations" (*American Political Science Review*, March 1961). While conceding and generally applauding a significant degree of "civilianization" of the military, Dr. Lyons' reservations appear to derive from his view of the military mind as a "model produced by a particular set of career demands [though] not exemplified by everyone who has lived under these demands. . . . Nevertheless," Dr. Lyons argues,

there is a military mind and all military men, to one degree or another, possess it. It is a mind that is used to order and predictability, that insists on decisions being made, that cannot tolerate procrastination, that is comfortable in the manageable world of a military post and often unconsciously makes over any other setting . . . with the same characteristics of punctuality, rank and simplicity. . . .

Within these terms, the military mind is largely a product of the military system, the repetitious training, the requirements of obedience, the instilling of assured responses to known stimuli, and the development of trust through a respect for position and hierarchy. The system, in turn, is essentially determined by the demands of combat. . . .²

An understanding critic, Dr. Lyons shuns the stereotype but again expresses serious reservations in view of the combat-oriented military environment and development process:

There can be no question about the wisdom of rigorously indoctrinating habits of loyalty and response as preparation for combat responsibility. The real question relates to the attitudes and perspectives on non-military—especially political—issues that this kind of professional training develops. . . .³

As he had put it in an earlier article,

... however "civilianized" military officers may become, the profession itself will continue to be anchored in the distinct nature of its trade, the process that has so succinctly and meaningfully been called the "management of violence" ...⁴

And, hence, "The pervasive requirements of combat set limits to civilianizing tendencies. ..."⁵

We must concede to Dr. Lyons much of his analysis. Combat considerations have predominated with us, as indeed, for the most part, they have had to and must continue to. This was Secretary Brown's point and a view which Dr. Lyons fully shares. And yet, "combat considerations" have come to involve so much more than what the traditional experience connotes. More generally, a larger and perhaps unresolvable problem is created: What *are* "military" and "nonmilitary"? How and where to draw the line? It is obvious, in any case, that we must learn to broaden our strategic and tactical perspectives without diminishing our traditional combat competence.

But we must recognize also that in the more immediate, day-to-day context certain attitudinal consequences may result from our necessary combat orientation, especially for those who have had appreciable combat experience. (The matter is a particularly important one now that so many men are acquiring combat experience in Vietnam.) In the combat environment and in much of the training for combat, it is often, and quite literally, a time "not to make reply . . . not to reason why." That is the way it must be. One cannot *then* take time out to examine "all sides of the issue," to qualify and equivocate—to write papers. There is, in other words, not the time in the combat situation to view things as the complexities that they are.

The combat situation, then, compels rejection of complexity and demands simplification—often, if not invariably, *oversimplification*. Things tend to be viewed in a straight black-and-white, either-or fashion and the grounds for action taken accordingly. This is the *necessary* combat pattern of thought and behavior, understandable, and not difficult to accept. What is perhaps not so well known or readily

grasped is that such combat experience, in satisfying certain instincts and reducing or eliminating life's normal complexities, becomes psychologically and intellectually attractive to many of those involved. It is far easier to live life on this black-white, simplified, either-or level of view, emotion, and decision-making. This component of the combat experience helps to explain why some men have such a difficult time readjusting to the noncombat environment of complexities and complicated human relations; also why some of us, consciously or unconsciously, may seek to carry over the combat approach and perspective into the noncombat situation.

However, serious difficulty may arise if and when this occurs. We may insist on simplistic, combat-type modes of thought and response in situations in which the "grays" always predominate over the blacks and whites, in which complexities and subtleties must be confronted. In such situations where qualifications, equivocations, and the pursuit of several alternatives may be essential (and where the "driving sense of inquiry," of which Dr. Lyons wrote with concern, may and should be encouraged), failure to do so may aggravate rather than simplify a problem and its resolution. It may, indeed, inhibit or complicate accomplishment of the combat-related mission.

It behooves us to be aware of these difficulties. We must be conscious of the degree to which our combat training and experience may shape our general thought and our modes of response. We must adjust and readjust as we move between the combat and noncombat situations. And this need is particularly pressing in the modern period when so much with which the military is concerned lies somewhere between, or partakes of both, the combat and noncombat.

It is apparent that while responsible critics may no longer insist upon the stereotype of the military mind, they retain, nevertheless, serious reservations about our intellectual capacity, conceiving it, as they do, to be limited by our training and experience. This would seem to fall under the sociological rubric of "trained incapacity," "professional deformation," or "occupational psychosis." On this basis, "combat

mentality" would perhaps more accurately describe their conception than does "military mind."

But it need not be so. The point is not that we should become noncombat oriented but that we must develop the ability to adjust as appropriate, to turn it off and on, so to speak. Though observers of the modern military like Dr. Lyons appear to doubt it—hence their continuing reservations—this *can* be done; and it must begin with our awareness and understanding of the problem.

What we have discussed heretofore relates primarily to the possible influence of combat training and experience. But, to state the obvious, there is more to the military life and profession than that. For one thing, we are also encompassed in a vast bureaucratic structure, and in common with all large-scale bureaucracies (civil or military, government or private) ours, too, tends to develop a life of its own, creating virtually irresistible imperatives to insure its continued and unaltered existence.

This, also, must be fully comprehended about the environment in which we operate. The setting throughout most of our professional lives is a *bureaucratic* one, the adverse effects of which may be further heightened by the necessarily more rigid, hierarchical loyalty and response requirements of military organization. It is this bureaucratic condition which may in the end be more difficult to overcome or to counter than the problem of the "combat mentality."

Although, once again, the stereotypic references to military characteristics are no longer insisted upon, we must, if we are to be honest with ourselves, acknowledge that ground for reservation and room for self-improvement still exist in our bureaucratic home. Consider, for example, how often we hear those very pointed admonitions: "Don't make waves!" "Don't rock the boat!" Certainly established ways and concepts must be respected. But it is not an argument for revolution or radicalism in the military system—it is not a challenge to traditional authority/loyalty concepts and arrangements—to suggest that *as in any organization*, no matter how successful, policies and practices can be improved and that, if they can be, they

should be. Reducing the "Don't make waves!" pressure would also help to encourage the "driving sense of inquiry" that thoughtful critics like Dr. Lyons believe is in short supply among us. The really crucial point, moreover, is that any system without the means for and encouragement of *change toward improvement* is, in the end, without the means of its own *preservation*—an axiom well known to students of political science and sociology and fully relevant in the present context.

It is sometimes discouraging to note the pervasiveness of the "Don't make waves!" theme in all bureaucratic settings. I confess to my own irritation at times at having to face up to new ideas and suggest new ways. On reflection I remind myself, and I do try to act in the awareness, that those policies, practices, and their organizational structure which I had been defending at the moment were at one time—and not very long ago—seen as "radical innovations" arising from some man's visionary and perhaps even irreverent dream of something better. No doubt this gentleman was repeatedly warned not to rock the boat. But should we not try to remember that "today's practical view is, almost always, yesterday's unfamiliar theory; and tomorrow's practical view will for sure be drawn from today's long-haired theories?" Billy Mitchell and those who fought for an independent Air Force are obvious examples. Where would we be today without them? (And, after all, you sometimes do have to rock the "vehicle" to get it out of the rut.)

We have heard so much in recent years about "creative leadership" and the encouragement of creative thought and practice, yet the refrain continues: "Let's not rock the boat." I'm reminded of the directive issued by a major headquarters concerning an education and training program, the mission of which would be to help develop "future creative leadership" (par. 1a) but "in conformity with existing policies and practices" (par. 2f). Apparently the inherent contradiction was overlooked. And there is reflected in this little tale the not uncommon tendency to be all for creativity so long as one's own system is not challenged.

We must face it. There is a contradiction or paradox—and a very difficult problem to

contend with—in any organization, but particularly the large bureaucracies, which seek to develop and allow operating room for creative thought by the inquiring mind, for innovation by the creative person. The status quo is placed in danger—almost automatically so, we might say. And so it is not surprising, though unfortunate, that an organization professedly dedicated to “creative leadership” is often highly disturbed by any real sign of it. Yet we cannot encourage creativity in our military bureaucracy any more than can the personnel in any other large-scale organization without to some degree jeopardizing established ways and policies. It is an acceptable risk. *The gain will outweigh the risk.* If we are unwilling to accept the hazard, then we should not delude ourselves about wanting creative leadership. It would be self-deceptive to believe otherwise; and it would provide grist for the mill of our critics.

I believe that we do want and must encourage truly creative leadership in the military, and that we must have a system which facilitates its development and which offers opportunities for its expression. In addition to the manifest benefits, active efforts in this regard would unquestionably help us improve the retention rate of many promising young officers who otherwise depart for what they anticipate as “greener pastures” in terms of greater job satisfaction. I believe that the officers, younger and older, who would fill the bill are level-headed enough not to require external restraint on their innovating efforts. If we keep in mind that the crucial requirement of any system is the fulfillment of its function, the accomplishment of its mission, and not alone the continuation of existing structure, personnel, policy, and practice, then we can appreciate that one can be *both* creative and a good “system man,” inventive yet organized, critical yet disciplined, challenging yet subordinate, questioning yet respectful. . . . There really is no reason whatever that the military cannot liberate the critical intellects, the inquiring minds, among its personnel and thus ensure the means of even greater success and the preservation of its proper influence, as well as confound its critics.

In a sense, we really have no choice in this regard. Either we do develop such creative leadership and offer increasing opportunities for its expression, or we shall continue to see our influence diluted, the military voice increasingly muted, and the views of our critics vindicated. A proper degree of “wave-making” and “boat-rocking,” prudently pursued, will help keep the military ship on course to its own salvation.

It is possible, of course, that nothing we manage to do by way of improvement along the lines suggested will ever fully satisfy the critics of the military, given the strong, persistent antimilitary bias in American thought, and given that it is we who “manage the violence” of the awesome, unprecedented armed might of the United States. In the present era of rapid change—of general instability, uncertainty, and tension—it is not surprising that the old fear of the military mind renews itself. In the soil of fear and uncertainty, old biases inevitably take new root.

WHAT has been presented here was written out of the desire to help us understand ourselves better. If we do, and if we pursue efforts toward self-improvement and toward a more effective accomplishment of our defense mission, the biases will be disproved.

It is important that, along the way, we do not overplay our recognized vital role—it speaks plainly enough for itself—and we should be leery of misconceived claims that in the pursuit of our military function we are “guarantors of freedom,” etc. Our role is to help ensure national *security*. As Professor William T. R. Fox and others have pointed out,

Security is a word used to describe the efficiency with which the basic values of the self are protected (or are *felt* to be protected); security is not itself one of those values. . . .⁶

The role of the American military is to help ensure the physical survival of our society, in the manner analogous to the doctor who helps his patients survive but who cannot determine or guarantee the nature or quality of life the patient leads thereafter. The important distinc-

tion is between "necessary" and "sufficient" conditions. The military performs the absolutely *necessary* function of preserving the physical bases of American society, but this alone is not *sufficient* to guarantee freedom or the general character of our society.

This is not to imply to any degree that we are not or should not be committed to and involved in our society as a democratic system. Clearly we are both involved and committed—as military men who have taken the oath to the Constitution of the United States and as individual citizens appreciative of the manifest benefits of a free society. Moreover, as Professor Fox expressed it:

The new era also requires, since the soldier and statesman must now work together to

elaborate national security policy in peace as well as in war, an understanding on the part of the military of the values of the civil society they are committed to try to conserve. . . .

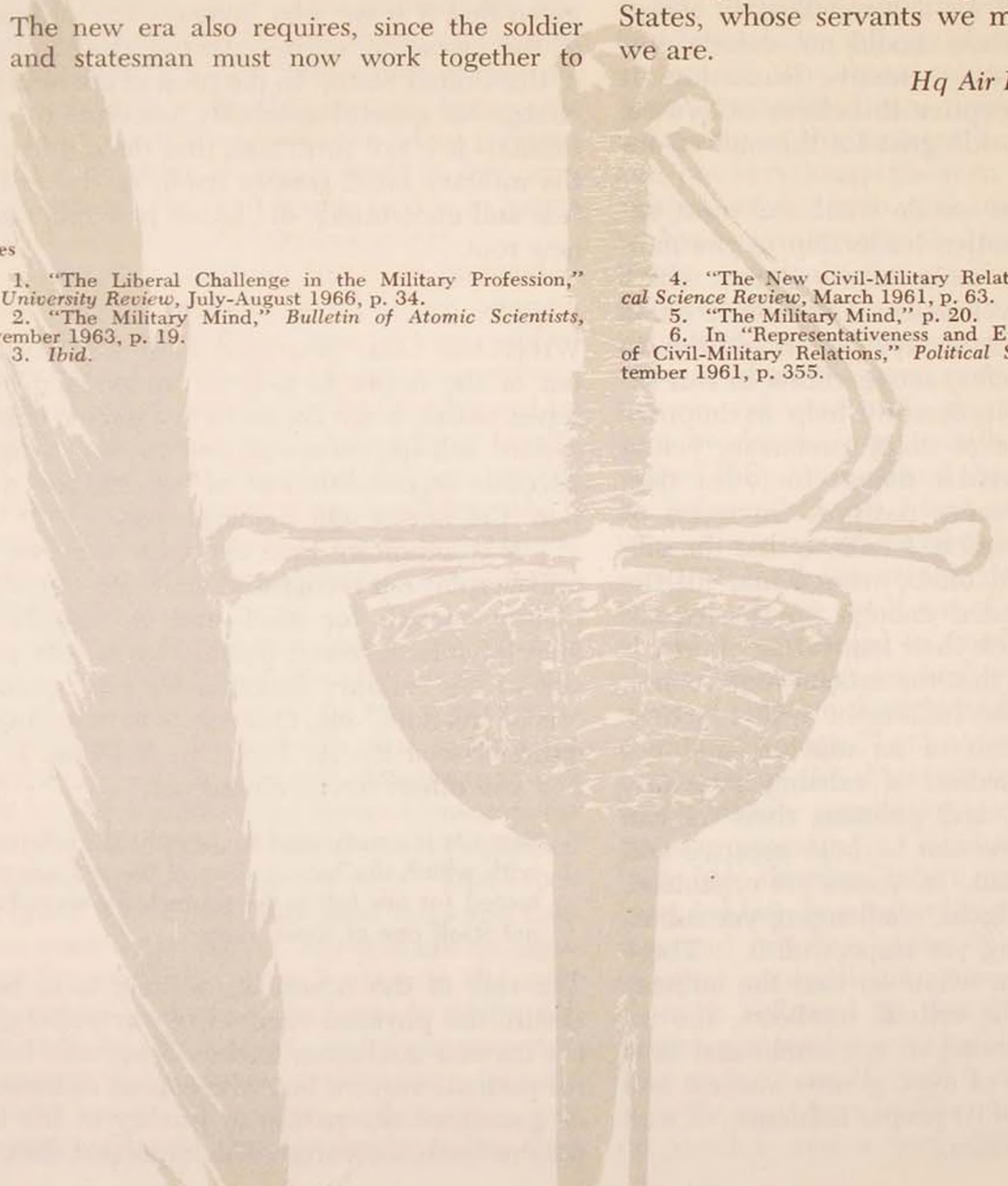
We have *demonstrated* that understanding. As President Johnson recently observed: America's fighting men are "thinking men . . . stern in their respect for our democratic values." Let us continue to justify such recognition. Let us take justifiable pride in the continuing fulfillment of our crucial military mission. Let us make every effort to enhance our abilities to accomplish that mission more effectively and to continue to be worthy of the trust reposed in us by the people of the United States, whose servants we must never forget we are.

Hq Air Defense Command

Notes

1. "The Liberal Challenge in the Military Profession," *Air University Review*, July-August 1966, p. 34.
2. "The Military Mind," *Bulletin of Atomic Scientists*, November 1963, p. 19.
3. *Ibid.*

4. "The New Civil-Military Relations," *American Political Science Review*, March 1961, p. 63.
5. "The Military Mind," p. 20.
6. In "Representativeness and Efficiency—Dual Problem of Civil-Military Relations," *Political Science Quarterly*, September 1961, p. 355.



Air Force Review

AIRDROP

MAJOR WILLIAM BENDER, JR., AFRes

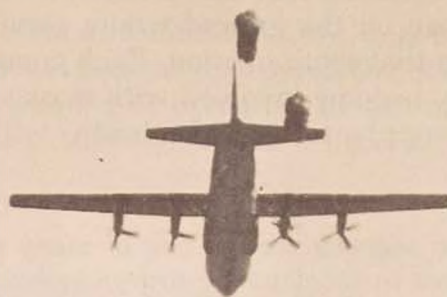
WHEN man was first impelled to drop things from military aircraft, he was chiefly concerned with messages. In the typical World War I story, the scout plane zoomed over the beleaguered troops and threw down a note—customarily tied to a wrench—which said reinforcements and ammunition were on the way.

Today the situation has changed drastically. The plane now drops the reinforcements and ammunition, along with howitzers, jeeps, fuel, medical supplies, rations—and maybe even the wrench, if it's needed. Messages can be left to the communications experts.

Troops and supplies must be delivered fast, accurately, and in serviceable condition. These three qualifications explain why several millions of dollars worth of research studies and a vast amount of thought and analysis

are being directed toward airdrop today by Air Force, Army, and civilian investigators. They also explain a considerable number of trial-and-error attempts at finding solutions—efforts that have produced about a dozen different systems which seem to be workable but are quite far from being ideal.

Finding ways to drop goods and people safely began early in aviation history. The British dropped supplies to their forces at the siege of Kut-el-Amara in 1915 and, later, on the Indian northwest frontier. U.S. Marines airdropped medicine and supplies to our troops during the Nicaragua campaign of 1927. But airdrop really came of age in World War II and the Korean War, when mission demands led to the development of the standard system which is still, with certain modifications, in use.

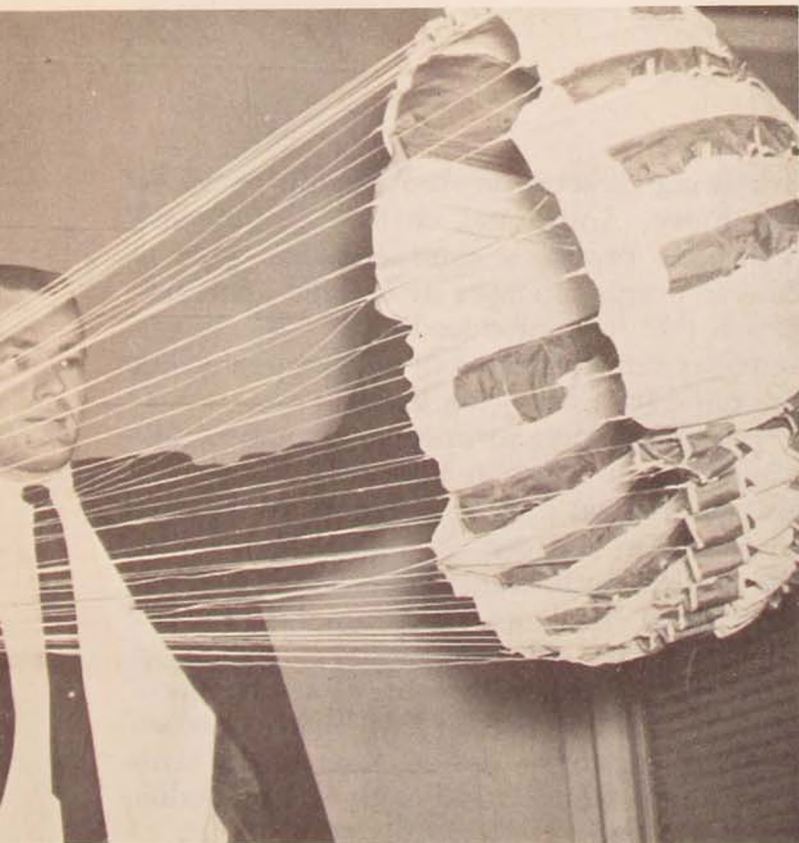


The outbreak of combat in Vietnam introduced new opportunities for employing airdrop: to strengthen hamlet defenses, support special forces, and provide the mobility and speed to contact and destroy insurgent forces.

The growing emphasis on limited-warfare techniques, the dispersion and rapid concentration of troops called for by nuclear-warfare tactics, and the continuing prospect of small-scale actions in some of the more inaccessible regions of the world are compelling factors which appear to be pushing airdrop systems toward rapid change.

It has been estimated that the so-called standard parachute delivery system can fulfill nine out of ten airdrop mission requirements, even in Vietnam. But that is small consolation to the man on the ground whose survival depends on that tenth mission. Each commander who may become involved with mass assaults, aerial resupply, or special missions will there-

A project engineer studies one of many parachutes used to develop new airdrop techniques.



fore find it imperative to keep abreast of the progress being made in airdrop technology, an aspect of operations likely to undergo radical changes in the very near future. At the Aerodynamic Deceleration Systems Conference at Houston in September 1966, several professional papers revealed that the subject of airdrops is receiving an increasing amount of scientific attention.

Ground forces remain the ultimate beneficiaries of virtually all airdrops. Maurice P. Gionfriddo, chief of the Aeronautical Systems branch of the Army's Natick Laboratories, has summed up the ground forces' interest:

Airdrop is used mainly to support the conduct of two types of military operations: mass assault . . . and resupply. In either type of military operation, but especially in resupply, airdrop competes to a great extent with other forms of mass transportation (truck, air transport, helicopter transport, etc.).

The key word here seems to be "compete." An airdrop, unless there are no feasible alternatives, needs to be judged in comparison with other means of transportation. It must be competitive with these other methods in cost, speed, reliability, simplicity, and manpower. If the receiving unit must expend considerable manpower to make gainful use of the airdropped supplies, or, as with the ground proximity extraction system (GPES), must have special ground equipment on hand to extract the cargo from the aircraft, these aspects may become controlling factors.

In Gionfriddo's opinion, airdrop is *not* competitive at the present time. What, then, is the Air Force doing about it?

systems development

A dozen different systems and subsystems have been created in recent years. Each is designed to speed the ultimate goal of bringing airdropped supplies within arm's length of the man who needs them. Each new system has solved one or another of the basic requirements encountered in airdrops, but none has been able to cope with all the complications that can arise.

It soon becomes apparent that certain

actual or potential requirements that can be made upon airdrops conflict with one another. Thus it is doubtful that any single system can be created that will meet the needs of every possible contingency. This is not so much an indictment of our technology as it is an indication of the rising expectations of our ground forces as to the aid that can be gained through airdrop.

For review, here is a partial list of those factors that demand consideration in planning airdrops and airdrop systems:

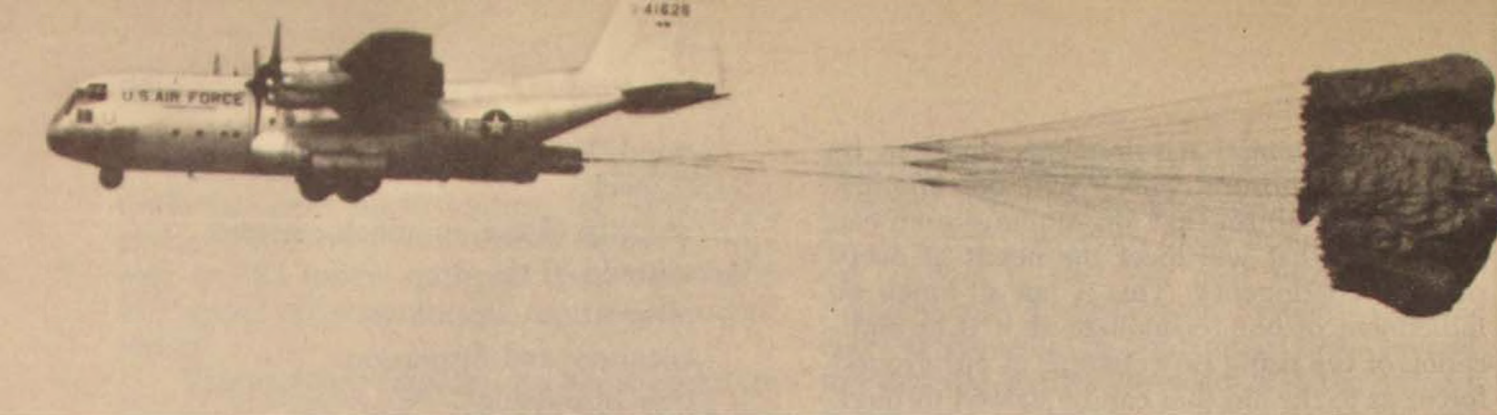
- urgency of the delivery
- amount of cargo required
- type of cargo required
- size, physical condition, and geography of the drop zone (DZ)
- ease of locating the DZ
- speed, capacity, and vulnerability of the delivery aircraft
- identification of the receiving unit

- wind direction and speed at ground level
- security of the approach corridor
- altitude of the drop
- all-weather capability
- accuracy and dispersion
- type of mission
- degree of secrecy required
- frequency of delivery
- impact speed of cargo
- capability of receiving unit (for moving cargo off the DZ, unpacking, assembling, etc.)
- time for packing and rigging the shipment
- versatility of the total system.

Under certain conditions, any one of these factors could become the controlling consideration in planning or executing an airdrop. This creates a situation in which a little experience

Making a pass over the drop zone at approximately five-foot altitude, a C-130 deploys a parachute that unloads a 3-ton truck by the ground proximity extraction system (GPES).



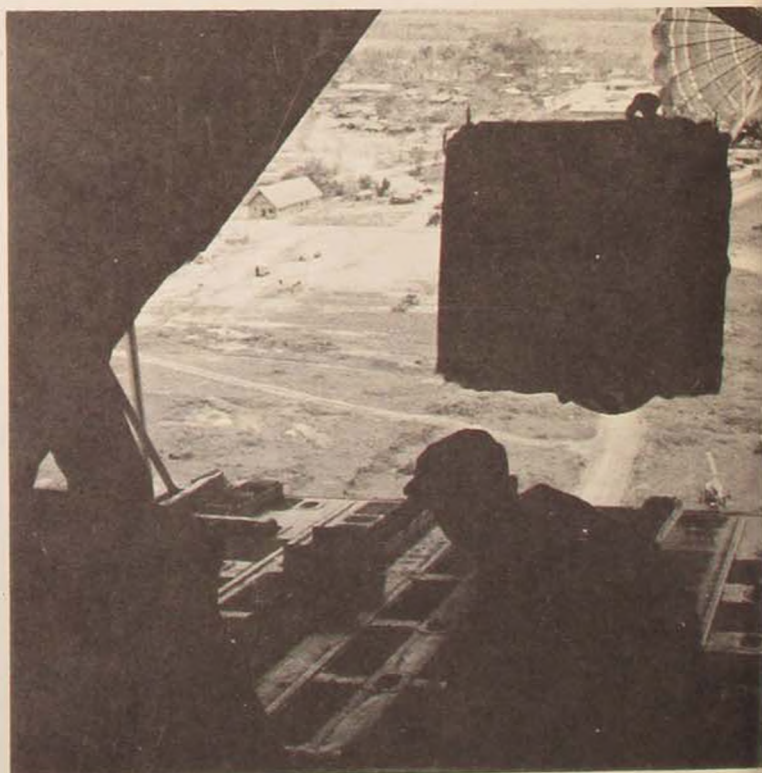


Three main 64-foot parachutes extract a 10,000-lb load. The MAINS extraction system can handle 90 percent of an air-mobile division's requirement.



At less than 20 feet from the ground, an XC-142 "Flying Dump Truck" opens its cargo doors and noses up, letting gravity take over the 1500-lb packages, which are padded to stand the bump.

Using the PLADS airdrop technique, a 315th Air Division C-130 Hercules drops supplies to the Army's 1st Cavalry Division at An Khe, South Vietnam.



can be a dangerous thing: an articulate champion for any single factor could exert inordinate influence on the final system that is developed.

Engineers feel confident they can design an airdrop system to meet any specific requirement. What boggles them is the absence of clear priorities to indicate which factors are essential, which are desirable, and which are just freakish complications that ought to be dismissed entirely. Until that kind of guidance is forthcoming from the highest command levels, money will continue to be spent—possibly even misspent—in creating a whole arsenal of different systems, each appropriate for a severely limited situation.

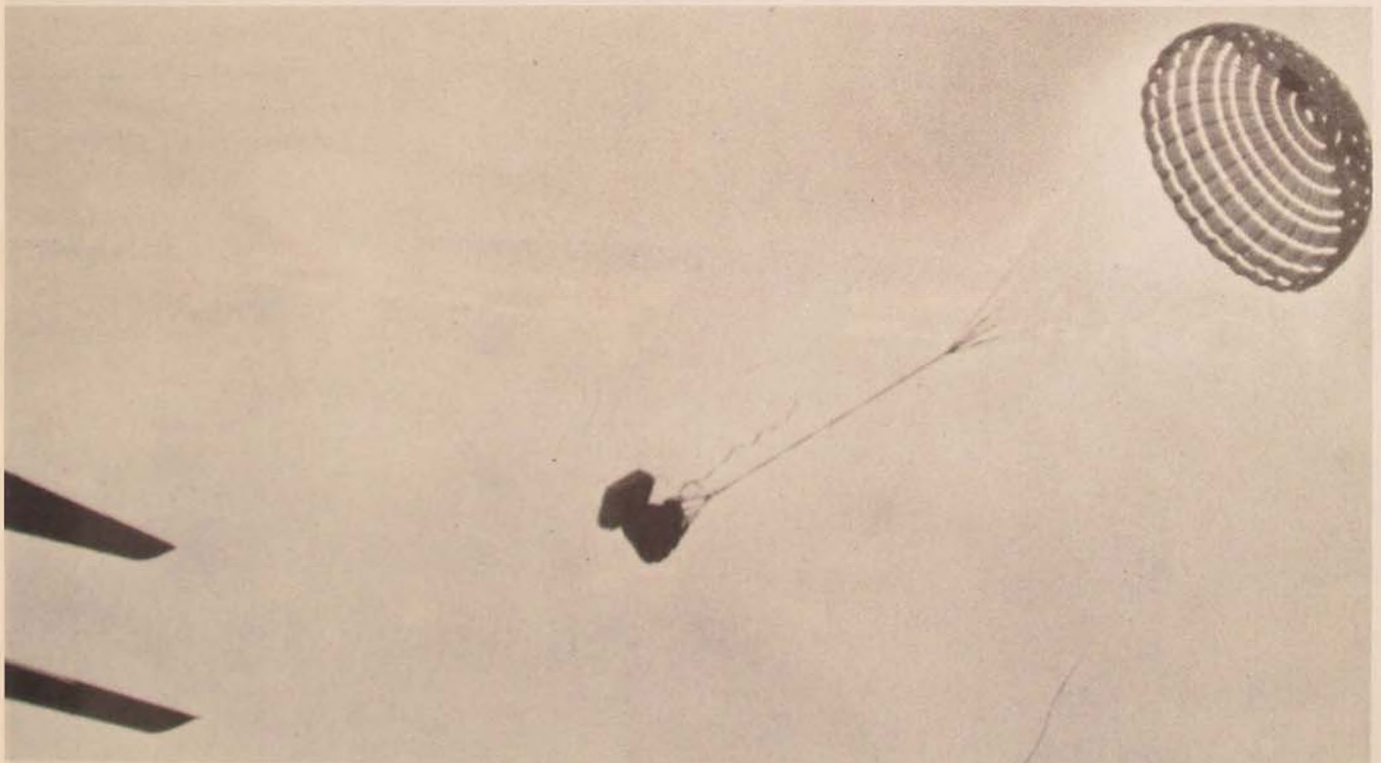
Ralph J. Speelman, until recently project engineer with the Delivery and Retrieval Division, Research and Technology Division, AFSC, estimates that at least 90 percent of airdrop requirements can be handled by the so-called "standard system." He says it is the other 5 to 10 percent of requirements that is leading to the plethora of new systems. Speelman thinks it is important to begin reducing the sheer num-

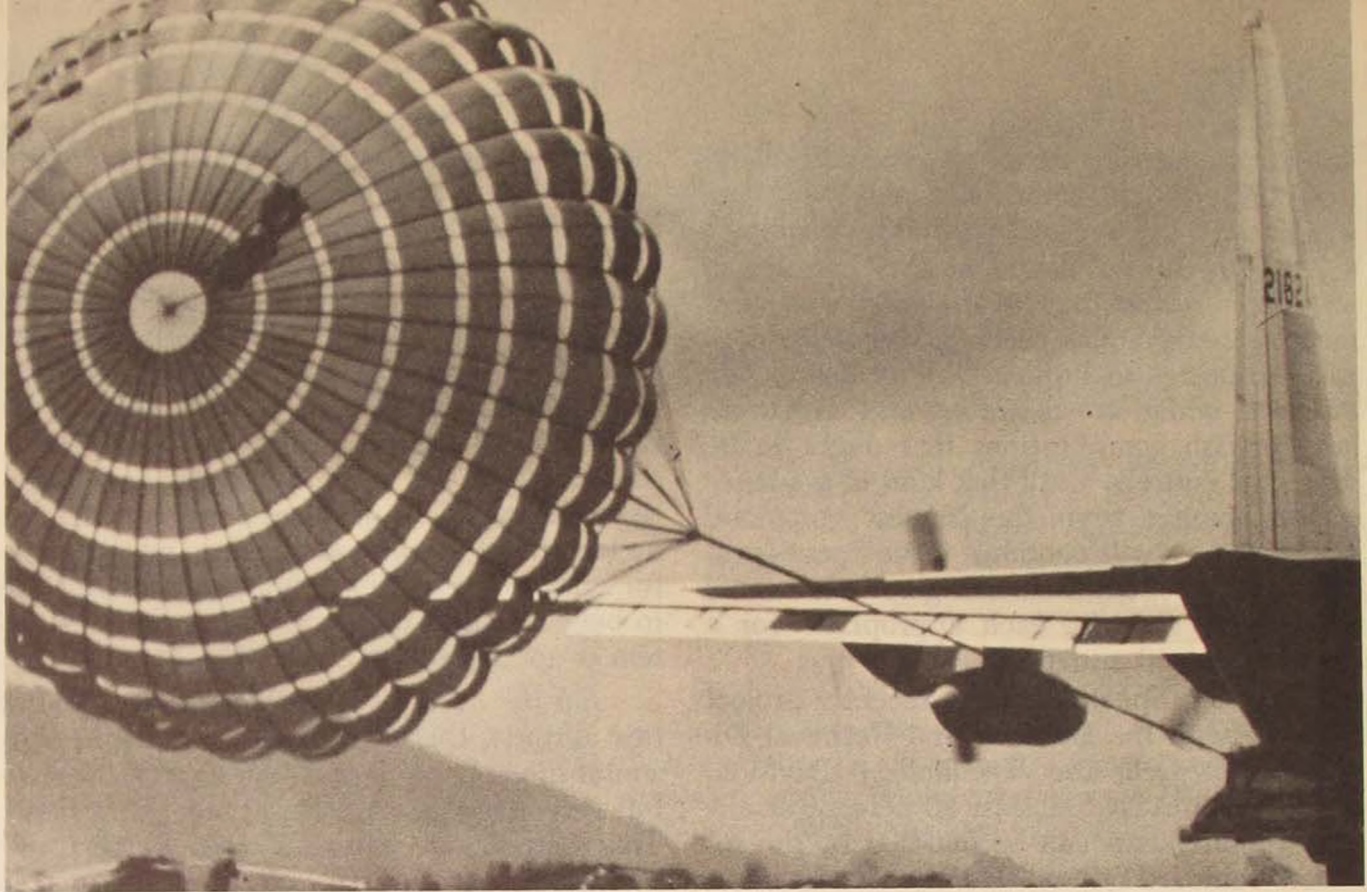
ber of systems or risk overloading the Air Force with too great a variety of hardware and procedures, each with limited applicability.

One of the most crucial factors in airdrops is the altitude at which the delivery aircraft can, or must, fly in order to make its drop. As a working guide, drop altitudes have been divided into four ranges: on the deck; below radar and antiaircraft artillery (AAA) exposure; conventional; and high. Managers and scientists working on the problem think we will need no less than four different airdrop systems, one for each altitude range, although they still like to believe that a single, ideal, all-purpose system is not altogether impossible.

On the deck: zero to 20 feet. Dropped at this altitude, the cargo has considerable horizontal speed upon impact, but its vertical, free-fall velocity is low—25 to 30 feet per second. This method eliminates the need for recovery parachutes, reduces the time for preparing the load to be dropped, and increases the total net weight of delivered cargo. At this altitude aircraft are not vulnerable to radar detection, and

Supplies are delivered by a C-130 using parachute low-altitude delivery system (PLADS).





With LAPES (low-altitude parachute extraction system), platform-mounted loads are pulled from a C-130 transport at about five-foot altitude. The system is used for resupply to narrow drop zones.



surface winds do not affect drop accuracy. However, there are positive restrictions on the nature of the dz, and the delivery aircraft become highly vulnerable to hostile small-arms fire.

Below radar and AAA exposure: 20 to 500 feet. The upper limit of this range is variable. It marks whatever point, under local conditions, enemy radar and ground fire become effective. When the drop is made from this altitude, chutes or other devices for retarding vertical velocity become necessary, and thereby the net weight of the cargo is reduced. But there are fewer restrictions on the physical nature of the dz. Time must be allowed for packing and rigging the cargo. Surface winds have only a minor effect on accuracy.

Conventional: 500 to 1500 feet. At this conventional drop altitude, again the lower altitude is variable. Surface wind becomes a distinct problem in the survivability of the item delivered, and wind at drop altitude has a significant effect on accuracy. Accuracy begins to diminish. Today, this is the best all-purpose altitude for dropping personnel and cargo and is the range used for standard system drops. Improvements are being explored in order to reduce the upper figure to as little over 500 feet as possible.

High: above 1500 feet. The upper portion of this high range reflects the operational ceiling of the delivery aircraft and is of special interest. It is particularly suitable for all-weather operation. Wind drift becomes a major problem, but some compensation can be effected by various control devices.

airdrop systems

A score of private corporations have joined with Air Force and Army specialists to develop the dozen different airdrop systems that have been adopted to date. Each system fits one of the four altitude ranges.

Although details of the engineering considerations that go into creating an airdrop system would have little value in this review, a few items can be mentioned to show the nature of the problems encountered. — At the lower altitudes, the speed of parachute inflation

has a striking effect on the size of the drop zone. Engineers calculate that cutting 1½ seconds from inflation time will save 300 feet in ground distance. — Trajectory analysts, tackling the question of the conventional drop altitude for personnel, found they could reduce it to 375 feet with a 99.99 percent possibility of safe impact. The added provision for a reserve chute, however, increased the drop altitude to 625 feet, still 125 feet less than previously thought necessary. An associated problem is to determine altitudes and minimum dispersion techniques for airdropping personnel and cargo from the same aircraft on the same pass.

Under the present state of technology, airdrops from more than 20 feet altitude require parachutes, but engineers envision future use of rocket decelerators, unusual protective packaging techniques, or other devices for absorbing vertical impact. A breakthrough in one of these directions could conceivably be a tremendous aid in preserving the secrecy of small units operating in enemy territory.

The delivery systems now (or nearly) on hand offer commanders considerable diversity for planning and conducting airdrops. Indeed, there may be, as Speelman suggests, too much diversity, for the logistics of maintaining all available systems in a “go” condition would seem to be prohibitive. Let us briefly describe some of these systems.

Ground proximity extraction system (GPES). Altitude: 0 to 20 feet. This system is designed so that ground equipment hooks the cargo as the plane flies by and yanks it out of the cargo compartment. The technique resembles the hook-and-cable system employed in carrier landings, with the aircraft literally flying out from around the cargo. A single system can bring in 2500 to 12,500 pounds per pass. Connecting two systems in tandem doubles the per pass capacity. Loads of known weight will land within 25 feet of the target 90 percent of the time. Delivery sites are limited to those with geography suitable for a low-level pass and are further limited by the requirement for specialized ground equipment and the need to move the cargo and reset the ground equipment between passes. Alternate landing sites would need to meet the same prerequisites.



In Operation Junction City in Tay Ninh Province, February 1967, the Air Force scored a first-paradropping the 173d Infantry Brigade into the combat area, then its supplies and equipment.

Low-altitude parachute extraction system (LAPES). Altitude: 0 to 20 feet. Although the geography of the DZ must permit the necessary low-level pass, LAPES does away with the need for specialized ground equipment. Extraction is accomplished by parachute. During final descent and approach, the aircraft deploys a drogue. Then, on signal from an operator, the drogue rapidly deploys the extraction parachute, which, in turn, is rigged to the cargo platform by a Y-shaped nylon bridle. An alternate system deploys the extraction parachute in a reefed condition. Electrical dereefing allows the chute to inflate and extract the load. Six seconds after this force transfer, the load is at rest on the ground. The system can deliver single loads varying from 2500 to 34,000 pounds and sequential loads having a combined weight of up to 48,000 pounds on a single pass over the DZ. By being independent of any ground equipment, the DZ can be changed even after the mission is under way. Accuracy in delivery varies with the experience and proficiency

of the crew. A misjudgment of altitude (which would fail to unload the GPES cargo) could seriously damage cargo airdropped by LAPES.

Parachute low-altitude delivery system (PLADS). Altitude: 200 to 300 feet. During its run toward the target, the aircraft deploys a reefed parachute, which is inflated at the desired release point. Extracted from the aircraft by the chute, the cargo makes a semiballistic type of descent, striking the ground at about the same instant its forward motion is arrested. The system can deliver 500 to 4000 pounds of cargo on a single pass. Accuracy, although dependent on crew training and experience, will put about 90 percent of all loads within 25 feet of the target. There is a high ground-impact velocity: 70 to 90 fps. This makes the wind factor relatively insignificant but dictates special shock-absorbent packaging and limits the types of supplies that can be delivered by this procedure.

Container delivery system (CDS). Altitude: 300 to 400 feet. Up to twelve fabric sup-

ply containers, holding 500 to 1500 pounds of cargo each, can be dropped on a single pass. Parachute descent produces a ground impact of 40 to 50 fps. The first container will strike within 150 feet of the target 90 percent of the time, and the remaining containers will fall within 300 feet of the first one.

MAINS extraction system. Altitude: 300 to 400 feet. MAINS (referring to one or more "main" recovery chutes) has some similarity to LAPES. A drogue chute is deployed during the target run and at the desired point extracts the main recovery chute(s), which in turn pull the cargo from the aircraft. Loads weighing 2500-12,500 pounds will impact at 25 to 30 fps. Estimated accuracy is within 150 feet of target. The rate of descent causes surface wind to become a significant factor; winds much over 15 knots are likely to cause toppling and rolling, conditions which may not be acceptable for some types of cargo. However, the tonnage capability of the MAINS system is such that it can handle satisfactorily more than 90 percent of the materiel required by an Army airmobile division.

High-speed delivery system. Altitude: 500 feet. Designed to enable fighter aircraft to deliver urgently needed supplies, the high-speed system employs an aerodynamically shaped cylinder as the container for 100 to 500 pounds of cargo. As many as four of these cylinders can be carried in external racks. Upon being dropped, the tail cone detaches to release a parachute, which lowers the container at 30 to 35 fps. Estimated accuracy is 300 feet from target.

Standard system. Altitude range: 550 to 1500 feet. The standard system is undergoing continual modification and remains the workhorse of all airdrop techniques. At its present stage of development, it can handle an estimated 90 percent of the requirements for airdrop of cargo and all requirements for airdrop of cargo and personnel combined. Single parachutes and clusters can be used to handle cargo up to 35,000 pounds on a single pass. Wind, weather, and vulnerability to anti-aircraft fire are serious considerations.

Steerable parachute airdrop system. Altitude: to operational ceilings. By use of a

special parachute canopy, a battery-operated steering mechanism, and a ground-based transmitter about the size of a cigarette carton, the dropped cargo will "home" on the transmitter. Accuracy is estimated at about 200 feet. The system permits silent, out-of-sight delivery, but is—at least potentially—vulnerable to hostile electronic countermeasures. It handles cargo weighing from 500 to 2000 pounds. Impact speed: 25 to 50 fps.

High-altitude delivery system. Altitude: to aircraft ceiling. A two-stage recovery system is used. The first stage drops at 100 fps, dragging a reefed parachute. A pyrotechnic fuse, or an electronic dereefing mechanism which can be controlled from the ground, is employed to dereef the chute just before impact. This reduces the landing impact to 25 fps. Accuracy varies. With a drop from 5000 feet altitude, there is a 90 percent chance the load will come within 200 feet of the target. Drops from higher altitudes will have a correspondingly greater chance of error. Use of the ground-controlled dereefing mechanism permits a last-minute decision whether to save the cargo if on target or allow it to destroy itself if it appears headed for enemy-held territory.

Several additional subsystems regarding parachute design, extraction lines, and extraction hardware are also being pursued. The possibility exists that innovations may occur here that could trigger the development of entirely new systems for airdrops.

EXCEPT for the high-speed delivery system, all the procedures described here are being developed principally for use with the C-130. Considerable adaptations will be needed to convert these methods to the C-141. Still greater changes will be necessary before the systems can be used with the upcoming C-5A, and there is serious question in the minds of the engineers whether such extensive adaptations would be wise, economical, or even desirable.

The promise of new planes for airdrop, however, is supported by impressive figures: using the standard system, the C-5A will be

able to unload 100 tons of cargo on a single pass over delivery areas where it cannot land.

New v/stol aircraft will probably play a considerable role in reducing or eliminating airdrop with its attendant penalties of packaging, breakage, and dispersal. At less than 20 feet altitude the XC-142 can open its cargo doors, put its nose up, and let gravity do the rest. The technique has won it the somewhat irreverent appellation of "the Flying Dump Truck." But it is one more resource that can be applied to airdrop requirements.

From this cursory description of the different airdrop systems, it should be evident that some system can be worked out to meet almost any finite set of requirements. If there is a fault in this mode of development, it lies in the uncontrolled number of different systems that can result—all of them based on apparently good reasoning and all of them meeting tangible requirements. (However, such growth bears an uncomfortable resemblance to a railroad that elects to create a different boxcar for every shipment.)

The problems associated with having multiple systems available cause complications for the recipient ground forces as well as for the Air Force. No longer is it sufficient for a unit commander to clamor for delivery. He must furnish a sizable amount of information having a direct bearing upon the manner in which that delivery can be made. Is there proper equipment to handle a CPES delivery? Does he control enough ground around the DZ to allow for errors in accuracy? Is he willing to reveal his position in order to get resupplied? Can enough personnel be assigned to the task of clearing the DZ to permit multiple drops? Is there an electronic device in operable condition to permit a high-altitude

or steerable drop under cover of darkness?

He must also furnish information about any limiting features in the landscape around the DZ that would rule out a low-level approach. Is there any chance an alternate DZ might be chosen once the delivery plane is en route? Can he furnish a secure approach corridor or some other form of protection for the cargo aircraft as it comes in low and slow?

These and quite a few other questions now must be answered before any one delivery system can be selected to fulfill a mission.

The report by Captain R. J. Ducote and Mr. Ralph J. Speelman at the Deceleration Systems Conference concluded on this note:

This arsenal of delivery systems will undoubtedly, and hopefully, be reduced in quantity, not by arbitrary decisions but by breakthroughs in systems currently under development or entirely new approaches to the problem which will provide a broader range of system abilities without loss of particular capabilities. Current system capabilities such as accuracy and capacity are constantly under investigation for possible improvement to facilitate system combination or elimination.

For the time being, however, there is no single system capable of meeting all requirements, and since no two available systems have identical characteristics then a decision as to which to eliminate, if any, can only be made by the organization which will use these systems based on consideration of the risks and costs involved.

Hq Aeronautical Systems Division, AFSC

Acknowledgment

Data for this article were furnished by Captain R. J. Ducote and Mr. Ralph J. Speelman from their report to the Aerodynamic Deceleration Systems Conference, September 1966.

Military Affairs Abroad



SOME POLITICO-MILITARY ASPECTS OF THE SINO-SOVIET RIFT

MAJOR NICHOLAS P. VASLEF

The enemy of my enemy is my friend.
(old Arab saying)

THE past several months have seen an unprecedented animosity between the Soviet Union and the Chinese People's Republic (C.P.R.) in all areas of political, military, economic, and sociological affairs. The Sino-Soviet rift, beginning in 1956 with the denunciation of Stalin in the U.S.S.R., widening with the withdrawal of Soviet technical advisers in 1960, and culminating in the rampages of the Chinese Red Guards ever since the summer of 1966, now seems irreconcilable.

While the rift began on ideological grounds shortly after Nikita Khrushchev's denunciation of Stalin at the Twentieth Congress of the Communist Party of the Soviet Union in 1956, it has since developed into a struggle embracing principles and characteristics more nationalistic than ideological. As Dr. Hugo Portisch, the editor-in-chief of the *Wiener Kurier* (Vienna Courier) points out: "It is not just an ideological difference between Russia and China. It is a nationalistic power struggle."¹ Ideology may have been the reason for the incipience of the rift, but the Soviet-Chinese confrontation has been extended to

the political, diplomatic, economic, military, and educational spheres, with each side attempting to place the blame on the other for creating a split in the monolithic structure of the Communist Parties of the world.

There are several politico-military points of conflict between the U.S.S.R. and the C.P.R. that focus on the nationalistic rather than the ideological character of the rift, even though lip service is paid by both states to the precepts of Marxism-Leninism, with the Chinese adding the names of Stalin and Mao Tse-tung to their list of Communist theoreticians.

One of the conflicts has to do with the international boundary between the U.S.S.R. and the C.P.R., which stretches for a distance of over 4000 miles from Afghanistan and the Pamir Range to Vladivostok and the Sea of Japan. The Chinese have accused the Russians of provoking over 5000 border incidents along this desolate line in just one year.² In turn, the Soviet government in a declaration of 21 September 1963 accused the Chinese of violating the Soviet frontier an equal number of times and of even carrying out "attempts

at 'occupation' of certain small sections of Soviet territory."³ The rugged terrain, lack of a natural boundary, and the low density of population make this border particularly conducive to violations, both intentional and unintentional.

Unlike the 3000-mile-long unfortified boundary between the U.S.A. and Canada, the Russo-Chinese border has never been without a certain number of forts and troop concentrations. The history of this boundary dates back to 1689, when the relatively young and dynamic dynasties of the Russian and Chinese Empires signed the Treaty of Nerchinsk, the first treaty ever signed by the Middle Kingdom with a European power. The Romanov dynasty, established in 1613, and the Ch'ing (Manchu) dynasty, established in 1644, were in the throes of consolidating their respective political power; consequently, any seemingly equitable and mutually agreed-upon boundary was to the advantage of both countries. Between 1689 and 1864 nine treaties were ratified in which the establishment of the Russo-Chinese border was either the exclusive subject or the major point. In addition, between 1896 and 1909 there were no less than eight agreements with respect to the construction of the Chinese Eastern Railway, which also touched upon questions of boundaries and the stationing of Russian troops along the right-of-way. Beginning in 1913, there were some half-dozen agreements or declarations concerning the autonomy of Outer Mongolia. Finally, there were numerous treaties signed between Russia, other European powers, and China with respect to trade, concessions, open ports, right of residence, and leases.⁴ These are commonly called the "unequal treaties." The government of the Chinese People's Republic has now gone on record in declaring all former treaties with Western powers as "unequal treaties" and has further stated that the question of the boundary between the U.S.S.R. and the C.P.R. is not yet satisfactorily resolved. For example, on 8 March 1963, *Jenmin Jih Pao*, the Chinese daily newspaper, recapitulated the different types of aggression that had been suffered by China. While passing lightly over Hong Kong

and Macao, it directed the strongest attack against various cessions to Russia, including the Treaty of Aigun (1858), by which China ceded 185,000 square miles west of the Heilungkiang (Amur) River to Russia, and the Treaty of Peking (1860), which relinquished 347,000 square miles in today's Soviet Central Asia region, as well as the provinces of Amur, Ussuri, and the area of (and including) Vladivostok.⁵ A year and a half later Mao Tse-tung mentioned these areas, adding: "We have not yet presented our bill on this score."⁶

It would be preposterous to assume that the U.S.S.R. would be interested in adjusting its borders in favor of the C.P.R. To the Chinese, however, it is a case of *territoria irreidenta*, a touchy point of national pride that is just one more matter of rancor against the Soviet Union.

The question of Outer Mongolia is also a possible point of conflict. Outer Mongolia gained its autonomy in 1913 with a joint Russo-Chinese declaration, which also acknowledged the fact that Outer Mongolia was under Chinese suzerainty and a part of the territory of China. In 1924 the Mongolian People's Republic (M.P.R.) proclaimed its independence, and in 1945 the Nationalist Government of China recognized the Mongolian People's Republic, as did Red China later. Yet, as Vice-Premier Chen Yi has said: "There are Han chauvinists in China, who have always refused to recognize the Mongolian People's Republic," that the Mongolian leaders have been following the Soviet "revisionists" in opposing China, but that "it is for the Mongolian people themselves to decide whether cooperation with China is more in their interests."⁷

It should be borne in mind what Mao Tse-tung said in 1936: "When the people's revolution has been victorious in China, the Outer Mongolian Republic will automatically become a part of the Chinese federation, at their own will."⁸ Despite Red China's recognition of Outer Mongolia, it is doubtful that Mao's words have been forgotten.

It does not seem plausible that China would try a military venture in Outer Mongolia, but Peking may attempt to bring Outer

Mongolia back into the Chinese sphere of influence by provoking border clashes with the intention of serving notice to the M.P.R. that it had best change its allegiance. The Chinese argument that Outer Mongolia was traditionally Chinese, that it was only under pressure and duress that the Chinese Communist government recognized its independence, would hardly be accepted by either Outer Mongolia or its protector, the Soviet Union.

The Sino-Indian border is another potential trouble spot that has not yet been resolved. During the Sino-Indian border war of 1962, the U.S.S.R. supported India by supplying aircraft. This fact alone strengthens the belief that the Sino-Soviet Treaty of Friendship, Alliance, and Mutual Aid of 1950 is now essentially abrogated.

Concomitant with these border conflicts with the U.S.S.R. is the Chinese feeling that the U.S.S.R. has intruded into what traditionally has been the Chinese sphere of influence, namely, southeast and central Asia. There is a conjecture that in North Vietnam Soviet influence may be on the rise, and in North Korea the leadership is turning to a more neutral stance rather than favoring China. The Japanese Communist Party also seems to be lending more support to Soviet policies than formerly. The C.P.R. has always regarded the territory of former Indochina as being within its sphere and deeply resents the wooing away of these areas by the U.S.S.R. In central Asia, Mongolia is politically closer to the U.S.S.R., fearing that a closer relationship with Peking might ultimately result in the loss of its independence, at the same time realizing that one reason the U.S.S.R. promotes its independence is to use Outer Mongolia as a convenient buffer state. The Soviet role in bringing together India and Pakistan at Tashkent in 1965 is also viewed by the Chinese as an unwarranted intrusion into their sphere of influence.

The history of Sino-Soviet military cooperation can hardly be looked back on with fondness by the Chinese. The systematic looting and dismembering of Manchurian industrial plants at the close of World War II by

the U.S.S.R. marks the beginning of this "cooperation." To be sure, great promises were made in the 1950 treaty, but Soviet insistence on holding Port Arthur somewhat dampened Chinese enthusiasm, even though the port was returned in 1955, two years after Stalin's death. The Korean War cost China 400,000 casualties, and one theory is that China intervened at the suggestion of Stalin, who miscalculated American military strength.⁹

Subsequent Sino-Soviet cooperation included the defense conference of 1957, at which the U.S.S.R. allegedly promised China a "sample atomic bomb," an atomic reactor (which became operational in 1958), and facilities for training Chinese physicists at the Joint Institute of Nuclear Research, Dubna, U.S.S.R. It is believed, too, that the U.S.S.R. promised China extensive military aid in the form of weapons and armament plants. In 1958, however, the U.S.S.R. apparently insisted on control of Chinese A-bombs and missiles, and on 20 June 1959, according to the Chinese, the U.S.S.R. broke its agreement to supply the atomic bomb.

It is possible that the U.S.S.R. wanted to create a "Far Eastern Defense Pact," similar to the Warsaw Pact, providing the Soviet military with extensive controls over all aspects of the Chinese military establishment. The Chinese refused.

The final collapse of Sino-Soviet military cooperation came in July 1960 when the Soviet Union abruptly withdrew "all its military and most of its civilian technicians and advisers."¹⁰ Since then, Soviet citizens have been leaving Red China in a steady stream, and it is doubtful that many, if any at all, remain at this time. Too, the supply of weapons seems to have been terminated completely.

Military information from Red China is most difficult to obtain. Still, recent books and articles contain statistics on the Chinese Communist armed forces that have only slight deviations. The danger is that all these figures may have come from a single source and were altered slightly to give the appearance of having been obtained from different sources. In any case, the Chinese Army today purportedly has some 2,600,000 men in 130 combat divi-

sions, or 155 divisions in all. The Navy is small at present, but Peking has embarked on an ambitious naval construction program. The Chinese Communist Air Force has around 2500 to 2600 aircraft: Mig-15s and -17s in large numbers, some seventy-five Mig-19s, and possibly one squadron (12 to 15 aircraft) of Mig-21s. The bomber force includes approximately ten Tu-16 jets, three hundred obsolescent medium-range Il-28s, and some old Tu-4s.¹¹

China's State Aircraft Factory is currently manufacturing Mig-17s and two-seat Mig-15 trainers, but "engines, radio, instruments, and certain other items of equipment are imported from the USSR, which also supplies technical assistance."¹² The accuracy of the last statement, however, is in grave doubt, in view of what has already been said. If, in fact, Soviet military assistance has been as completely cut off as is believed, the Chinese military industrial complex is in serious trouble, being incapable of independently producing all the necessary components required of a modern military machine.

In October 1964 Red China conducted its first nuclear test. It was followed in May 1965 by a second, and in May and December 1966 by the third and fifth, the latter two devices containing thermonuclear material. The fourth test, in October 1966, involved the firing of a nuclear-tipped missile. While not unexpected, Chinese entry into the exclusive nuclear club has understandably caused concern, no less in the U.S.S.R. than here. The fact, however, of being scientifically capable of exploding a nuclear weapon does not mean that Red China has the capability of either full-scale production or a method of delivery at this time. Too, there have been reports that China is short of uranium. If true, then China will be severely handicapped in its atomic development. One report states that "at the most, the Chinese Reds may be able to make three atomic bombs a year. If the Peiping regime cannot solve the technical problems of converting U-238 into Plutonium-239 or in using Thorium, its development of nuclear weapons will be strictly limited."¹³ To date, there seems to be no precedent for using thorium to make

atomic bombs, and it is doubtful that the Chinese with their primitive industrial plant can succeed.

It is not necessary to examine the military strength of the U.S.S.R. but merely comment on the fact that, in addition to more men, the Soviet armed forces have the utmost in modern equipment, from tactical firearms and short-range missiles to a strong coastal navy and submarine fleet, to the latest aircraft and, lastly, a sufficient stock (presumably) of intercontinental ballistic missiles and intermediate-range ballistic missiles.

The meeting in Moscow of all the Eastern European (plus Cuban) Communist leaders in mid-October 1966 undoubtedly had on its agenda the discussion of the alienation of China in addition to policy matters with respect to the war in Vietnam. At the same time President Johnson attended in Manila a seven-power conference on Southeast Asia. While the Chinese Communists attacked the Manila conference with the usual diatribe against American imperialism, the U.S.S.R. maintained a discreet silence.

Negotiations on further exchanges between the U.S.A. and the U.S.S.R., including air routes, nonproliferation of nuclear weapons, and so on, are now in the realm of feasibility, as stated by President Johnson in his last State of the Union address. It is true that the U.S.A. and the U.S.S.R. have serious differences, but in a *Real-politik* situation these discordances can be minimized and temporarily ignored, and agreements can be made on points of least resistance.

Militarily, the question of Vietnam is the most important one today facing the U.S.A., the U.S.S.R., and the C.P.R. Accused by the Russians of interfering with Soviet attempts to supply the North Vietnamese, and in turn accusing the Russians of splitting the unity of the world Communist movement and of cooperating with the U.S.A. to "dominate the world," the Red Chinese may be facing a dilemma as to the extent of their commitment to North Vietnam. Although the Chinese stress the points that each country can be liberated mainly "as a result of its own people's efforts," that "revolution or people's war

in any country is the business of the masses in that country," and that "foreign aid can only play a supplementary role,"¹⁴ there is always the possibility that the Chinese may intervene in Vietnam in an attempt to prove that the C.P.R., not the U.S.S.R., is the protector of North Vietnam. The Chinese may want to demonstrate that Soviet help is not needed and that China itself is capable of extending whatever aid is necessary. In view of the paucity of Chinese industry, this assistance, if rendered, would have to be mainly in terms of manpower, and it would help solve several Chinese problems:

- Much-needed propaganda would be supplied to China, focusing attention on external problems rather than internal.
- The Red Guards would have a new center of attention.
- Defense Minister Lin Piao could place the People's Army of Liberation in the forefront and thereby help consolidate his own position and that of Mao Tse-tung.
- It would show China's Communist Far Eastern neighbors that the proximity of Red China is such that it must be to China and not to the U.S.S.R. that they must turn. This is particularly true now that North Korea is adopting a more neutral line between Peking and Moscow.

The following conclusions can be reached with respect to the Sino-Soviet rift and the role of the U.S.A.:

(1) The Sino-Soviet rift seems to be irconcilable, unless there are drastic changes in Chinese leadership and policies toward the U.S.S.R.

(2) The U.S.S.R. fears the future military potential of Red China and is striving to keep it within bounds, lest the Chinese threaten Soviet frontiers in Asia and eventually attempt to take over Outer Mongolia.

(3) Neither the U.S.A. nor the U.S.S.R. would like to see the Chinese enter the Vietnam war: the U.S.A., because it would mean a prolongation of the war and a substantially larger drain on manpower and military equipment; the U.S.S.R., because it would undermine Soviet world leadership in the Communist movement, as well as provide a danger of provoking World War III in the event of irrational action on the part of the Chinese.

Two of the four tasks of American foreign policy are "to deter aggression," and "to bring into more normal relations our ties to the nations now under Communist rule: The Soviet Union, Eastern Europe, and ultimately China, when the Chinese are prepared for that kind of a relationship."¹⁵ An East-West détente can accomplish both these objectives, for by pressure from all sides Communist China may indeed decide to embark on a foreign policy course more in keeping with a type of relationship desired by the United States of America.

United States Air Force Academy

Notes

1. "What's Really Going On Inside China," *U.S. News and World Report*, Vol. 61, No. 11 (12 September 1966), p. 53. Dr. Portisch is the author of *Red China Today* (Chicago: Quadrangle Books, Inc., 1966).

2. Malcolm Mackintosh, "The Sino-Soviet Dispute," *Survival* (London: The Institute for Strategic Studies), Vol. 7, No. 7 (October 1965), p. 248.

3. From the Declaration of the Soviet Government, 21 September 1963. Quoted in Alberto Ronchey, *The Two Red Giants—An Analysis of Sino-Soviet Relations* (New York: W. W. Norton and Company, 1965), p. 65.

4. Akademiia Nauk SSSR, *Russko-Kitaiskie Otnosheniia, 1689—1916* (Moscow: IZD. Vostochnoye Literatry, 1958). (USSR Academy of Science, *Russo-Chinese Relations, 1689—1916*, Official Documents.)

5. Ronchey, p. 67.

6. Quoted from *Pravda*, 4 September 1964.

7. "China's Foreign Policy, Press Conference with the Chinese Foreign Minister, Chen Yi, 29 September 1965," *Survival*, Vol. 7, No. 9 (December 1965), pp. 325—26.

8. Edgar Snow, *Red Star Over China* (New York: Random House, 1937), p. 99.

9. Malcolm Mackintosh, "Military Aspects of the Sino-Soviet Dispute," *The Russian-Chinese Rift: Its Impact on World Affairs*, ed. Irwin Isenberg (New York: H. W. Wilson Company, 1966), p. 41.

10. *Ibid.*, pp. 42—45.

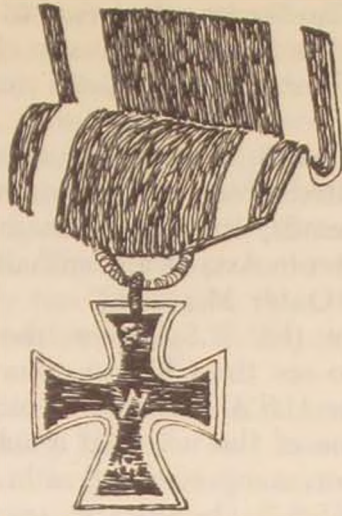
11. See Ralph L. Powell, "Military Affairs of Communist China," *Current History*, Vol. 51, No. 301 (September 1966), p. 141; Mackintosh, "The Sino-Soviet Dispute," *Survival*, pp. 248—49; "Red China," *Time*, Vol. 88, No. 11 (9 September 1966), p. 31.

12. *Jane's All The World Aircraft, 1965—66*, p. 26.

13. "Mao's Nuclear Base and Prospects," *Free China Review* (Taipei, Taiwan), Vol. 16, No. 7 (July 1966), pp. 34—38.

14. "Lin Piao on the 'People's War,'" *Current History*, Vol. 51, No. 301 (September 1966), p. 180.

15. Walt W. Rostow, "Four Tasks of Foreign Policy," from an address to the National Foreign Policy Conference for Educators, Washington, D.C., 16—17 June 1966.



CIVILIAN CONTROL IN THE GERMAN ARMED FORCES

CAPTAIN HERMANN HAGENA, *Air Force of the Federal Republic of Germany*

IN AUGUST of 1966 the resignation of two of the highest-ranking German generals focused worldwide attention on the German armed forces, the *Bundeswehr*. Lieutenant General Werner Panitzki, *Inspekteur der Luftwaffe* (a position similar to Chief of Staff, United States Air Force), and General Heinz Trettner, *Generalinspekteur der Bundeswehr* (roughly comparable to Chairman of the Joint Chiefs of Staff), offered their resignations. The resignations were promptly accepted by Kai-Uwe von Hassel, Minister of Defense and peacetime Commander-in-Chief.¹ Both generals were retired with full military honors.

The double resignation, without precedent in German military history, was remarkable enough. The events that followed heralded the changes that democratic process has brought about since the days of Moltke and Schlieffen. Both Panitzki and Trettner were invited to appear before the Defense Committee of the *Bundestag*, where they had an opportunity to explain to the committee members the reasons for their resignations. Their testimony, given in the presence of their former commander, revealed considerable differences of opinion between the civilian and military leaders of the *Bundeswehr*. It brought to light the fact that cooperation between military and civilian departments was often far from ideal and that

continued efforts were necessary to create an effective team. Last, and perhaps most important, the generals' testimony raised the question of just how much and what type of civilian control was necessary and practical in the *Bundeswehr*.

There was, of course, also the usual amount of informed and uninformed speculation over the true motives of the resigning generals. Some praised the generals for their devotion to duty. Others called their action a revolt,² implying that the generals had meddled in politics; that they had tried to gain more power for the military through illegal pressure. While this argument may be left to the historians to be settled, a look at the events leading up to the resignations and at the public statements of Trettner and Panitzki is in order.

While the two generals resigned almost simultaneously, they did so for different reasons and under different circumstances. Panitzki acted in the face of possible suspension. His F-104 Starfighters had experienced a dismal year in 1965. In addition, the tragic death of a pilot who ejected over the North Sea and drowned in the vicinity of several German naval vessels in good weather resulted in public charges that the sea survival equipment of German pilots was inadequate. Panitzki was held responsible by von Hassel for the fact that an

1. See Article 65a of the constitution (*Grundgesetz*) of the Federal Republic of Germany.

2. Typical of this attitude was a cover story carried by the influential news magazine *Der Spiegel* entitled "The Generals' Revolt," 29 August 1966.

important report on this matter had not come to his attention. At this point Panitzki offered his resignation and forced the Minister's hand by granting an interview to the *Neue Ruhr-Zeitung*, in which he presented his view to the public. Panitzki charged, and later amplified his charges before the Defense Committee, that he had asked in vain for a central system management instead of the present bureaucratic administration, which, in his opinion, was too unwieldy for a modern and sophisticated weapon system like the F-104G Starfighter.³ He also testified—and this charge was politically more damaging—that a full report on the Starfighter prepared by his staff had not reached the Defense Committee of the *Bundestag* in its original form. Von Hassel rejected this charge, explaining that the changes made in the report in question had only been editorial in nature.

Trettner's resignation came shortly after the Minister of Defense allowed members of the armed forces with long enlistments to join the Union of Workers in Public Service, Shipping and Transportation. While the Minister probably did not have much choice in the matter (he was faced with a court injunction ordering the admission of unions to military installations), Trettner resented the fact that an order of this importance had been given without his prior consultation.⁴ In his testimony he was highly critical of certain procedures within the Ministry. He particularly objected to the fact that in the Minister's absence he had to take orders from a civilian deputy, who was a career civil servant. (Article 65a of the constitution makes no provision for a civilian deputy to the Commander-in-Chief.) He argued that as long as a military deputy of the Minister was politically unfeasible, the highest-ranking general officer of the armed forces should have at least the same status and protocol standing as the Minister's civilian deputy. It was evident from Trettner's remarks that his relations with the incumbent civilian deputy minister, Karl Gumbel, had been far from good.

At this point it may help in understanding

3. His views were supported in an interview given by Brigadier General Krupinski, one of the few general officers current in the F-104 aircraft, to *Der Spiegel*, 5 September 1966.

4. As far as the author can tell, the effect of union activity on the unit level has been minimal in the first half-year.

the situation to examine the concept of civilian control of the armed forces. In the rearming of Germany after the war, many Germans were fearful lest the new *Bundeswehr* should regain the influence and power attained by the *Reichswehr* under von Seeckt in the days of the Weimar Republic. Therefore, an elaborate system of safeguards was devised to insure civilian control (in German, *Primat der Politik*):

(1) The position of Commander-in-Chief is held by the civilian Minister of Defense in time of peace. The command passes over to the Chancellor in time of war. Appointments are made by the President, who also determines uniforms and insignia.

(2) There is neither a general staff nor a national high command in the *Bundeswehr*. With minor exceptions, all Army divisions, the Fleet, and the Air Force wings and missile batteries are integrated into NATO.

(3) The ranking generals and admirals, as heads of the military departments, are no longer designated as "*Oberbefehlshaber*." They are called *Inspekteur*, a title that is linked traditionally with supervisory functions.

(4) Military law and a code of military justice⁵ were retained, but the military courts were abolished.⁶ Civilian courts now have jurisdiction over soldiers even in the case of purely military offenses, such as disobedience or desertion. Disciplinary boards, which can levy sentences such as reduction in pay and demotion or separation from the service, have at least two military men as assessors. However, these boards, too, are headed by a civilian judge.

(5) Every soldier may submit his complaints through channels. In addition, he has the right to communicate directly with a special commissioner of the *Bundestag* concerning any grievance that he may have.⁷

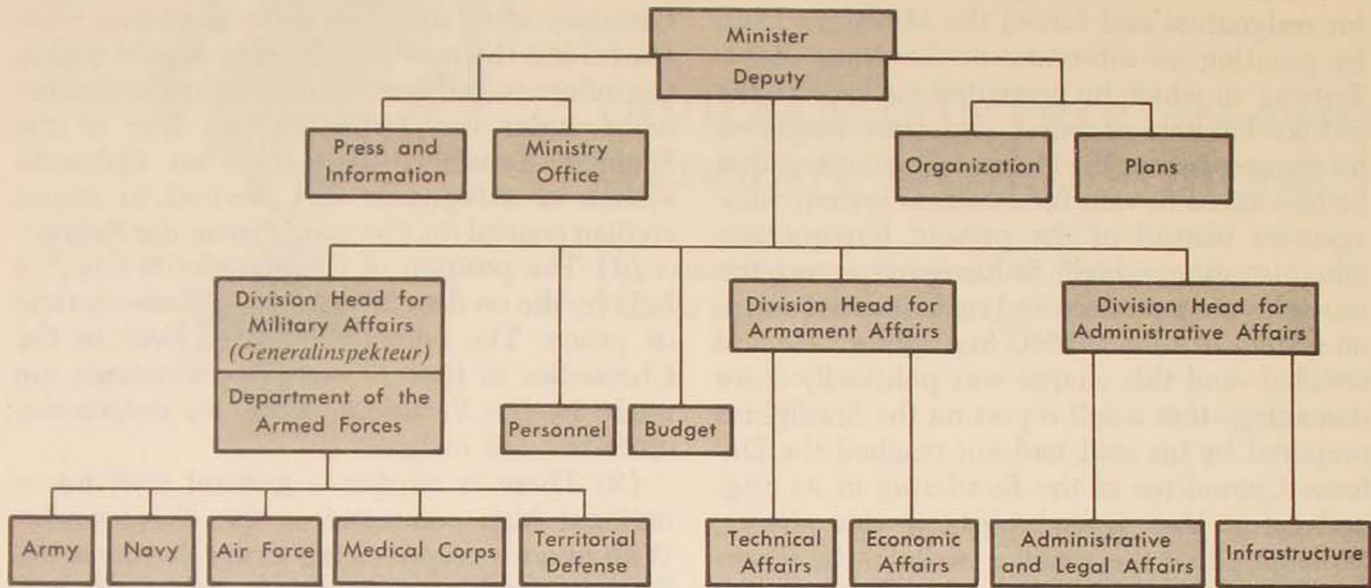
(6) These safeguards may seem formidable even in countries where the principle of civilian control has long been established. However, the founding fathers of the *Bundeswehr* found additional measures of an organizational nature necessary. Because of the absence of a national

5. *Wehrstrafgesetz* of 1957 (BGBl. I p. 298).

6. Clearly the result of the number of death sentences imposed by military courts at the end of World War II.

7. See *Gesetz über den Wehrbeauftragten des Bundestages* of 1957 (BGBl. I S. 652).

Organization of the German Ministry of Defense (1966)



high command, they were able to organize the Ministry of Defense along civilian lines, as shown in the accompanying chart. The military departments, i.e., Army, Navy, Air Force, Territorial Defense, and Medical Corps, have the same standing as the civilian departments, such as Technical Affairs, Economic Affairs, or Administrative and Legal Affairs. (Civilian departments are predominantly staffed by civilians and headed by a civil servant.) It is noteworthy that the key departments of Personnel and Budget report directly to the Deputy Minister. The fact that Personnel is a department that is formally independent of the respective service departments is a good indicator of the degree of civilian control in our armed forces. To be sure, there exists close cooperation between the service departments and Personnel, but it is also clear that the present system satisfies political demands rather than practical needs.⁸

By looking at the organizational chart, one can better appreciate Panitzki's charge that the departmental system in the Ministry was not well suited to cope with the problems of a com-

plex weapon system such as the F-104G Starfighter. Practically any action to be taken must be coordinated with one or more civilian departments. If agreement cannot be reached, the Minister or his Deputy must decide. This process is not always conducive to quick decisions even if all concerned are trying to be cooperative.

(7) Civilian control does not end in the Ministry (where it belongs). The traditional face of the German armed forces was further changed through the establishment of an independent civilian administrative service down to the unit level. In the *Reichswehr* and *Wehrmacht*, companies, regiments, and divisions formerly had their administrative specialists—soldiers with special training in their particular career field. Their place has been taken by civilians, over whom commanders have no direct control. The system is supposed to relieve commanders from the burden of attending to such details as pay, housing, messing, and other support functions. Like any system, it can be, and has been, made to work, but it is hardly one that military men consider the most practical in the interest of the mission.

The resignations of Panitzki and Trettner

8. During the building years of the *Bundeswehr*, Personnel was headed by a civil servant, who later became Deputy Minister.

must be seen against this background of civilian control. Neither of them doubted the prerogative of the civilian administration to determine defense policy. Von Hassel himself conceded before the *Bundestag* that he detected no signs of disobedience among the generals.⁹ Trettner and Panitzki were fully rehabilitated in this respect when they were publicly, if somewhat belatedly, decorated for service to country.

The two generals did, however, disagree with some of the manifestations of civilian control, and they used whatever means they had to make their point. Ultimately their actions may have contributed to the replacement of von Hassel as Minister of Defense when the new coalition government was formed.¹⁰ It is

9. A parliamentary debate on the *Bundeswehr* was forced by the Social Democrats on 21 September 1966. Their motion of no confidence in the Minister of Defense was defeated, 236 to 199.

10. Von Hassel remained in the cabinet of Chancellor Kurt Georg Kiesinger as Minister for the Affairs of Refugees.

highly doubtful that this was their motive, since the issue was and remains one of principle and not of personalities: how to insure the necessary amount of political control without interference with the military mission. There may not be an ideal solution, but it must be realized that any arrangement that seriously impairs the functioning of the armed forces under all conditions is ultimately defeating its own ends.

As far as the German Air Force is concerned, the search for an optimum solution in the management of the Starfighter has produced a first result. The Ministry announced that Panitzki's successor as *Inspekteur der Luftwaffe*, Lieutenant General Johannes Steinhoff, has been given the necessary powers to solve the problems still associated with the Starfighter.

Neuburg, Germany



Books and Ideas



JAMES P. WARBURG

WARBURG'S WAR REMEDIES AND PEACE PRESCRIPTIONS

BRIGADIER GENERAL NOEL F. PARRISH, USAF (Ret)

IN 1958 James P. Warburg did not publish a book criticizing the foreign policy of the United States. He published no such book in 1962 or 1963, when he may have been busy writing his interesting and critical autobiography. In all other years since World War II, the indefatigable Mr. Warburg has provided a book of public advice for the Secretary of State and the President. Three of the four Presidents involved are still living and have borne up well. But other than the incumbent, only one of the six men who served as Secretary of State during this period is living today: Dean Acheson. Perhaps it is time to worry less about the longevity of Presidents and more about the men who bear the burdens of the second-highest office in the land.

It would be wrong to list statesman-at-large James Warburg among these lethal bur-

dens. He is not a bitter or a carping critic but a sprightly and enthusiastic one. Nor is it his fault that for generations our secretaries of state have served as whipping boys.

The founding fathers considered the senior secretarial post a stepping-stone to the Presidency. Jefferson, Madison, Monroe, and John Quincy Adams followed the supreme secretarial route to the supreme office, and they were soon followed by the less distinguished Van Buren and Buchanan. That was the end of it. Since the Civil War no Secretary of State has become President, though several have been candidates.

Not since Imperial Rome has any nation been as successful in its foreign policy as the United States, yet for a hundred years now we have been dissatisfied with our success. The unhappy and unsatisfactory sectional com-

promises that followed the Civil War may have made us allergic to compromise, and compromise is the *sine qua non* of foreign policy. Our public attitude on foreign affairs has oscillated between ruthless realism and balmy idealism, and our secretaries of state have been caught in the friction between the two. Articulate discontent with the Department of State can be made into a long-time and full-time career, and James P. Warburg has done very well at it.

Having exercised his critical faculties by some twenty books, plus many pamphlets, public letters, and public appearances, Mr. Warburg remains a polite critic, relatively speaking. Acheson had his McCarthy and Rusk his Schlesinger, Jr., but character assassination is not Mr. Warburg's forte. He treats harshly only the deceased James F. Byrnes, whom he calls a "white-supremacist and apostate Roman Catholic." Of the prominent personalities since the last great war, Warburg reveals in his latest book† an aversion only for Adenauer, Chiang Kai-shek, Churchill, the Diem brothers, and the Dulles brothers. For the presidential advisers on foreign policy whose work he has been criticizing all these years, Warburg has no personal antipathy, other than for Byrnes. He voices only the popular notion that they are Ivy League aristocrats, Europe-oriented and not particularly well informed on other parts of the world. On the theory that "it takes one to know one," Warburg is something of an authority on Ivy aristocracy. He was an honor graduate of Harvard at nineteen and knew many of the future diplomats when they were international bankers on Wall Street.

Warburg thinks his former colleagues such as Acheson, Dulles, Harriman, Lovett, McCloy, and Forrestal were not well acquainted with "the hewers of wood and the drawers of water" in their own nation and around the world. His own understanding of the common man is indicated in some degree by his former prediction that Germans would

not long support Adenauer and by his present contention that Americans would accept a much larger foreign aid appropriation if only President Johnson would insist.

No one could write as much as Mr. Warburg without being wrong and being proved wrong from time to time. On the other hand he has frequently been proved right, more often because his recommendations were not adopted than because they were, which is the easiest way to be proved right. Some of his recommendations have been followed, perhaps for other reasons and in modified form, but followed nevertheless. These, too, are mentioned throughout the book. There are advantages to having your writings published in books, your letters in the *New York Times*, and your statements in the *Congressional Record*. The things you want remembered can always be cited, while as for those you would as soon forget, who is going to look them up unless you run for office?

Whether or not he understands the world's common men better than his fellow financial and intellectual aristocrats, Warburg has managed to express fairly consistently the uneasy conscience and the well-meant hopes of the more-or-less educated American who feels a responsibility toward the less fortunate parts of the world. Such a man no longer feels the weight of the traditional "white man's burden." He has lost the urge to direct the governments of Asian, African, and Latin peoples, and he is not too optimistic about trying to convert them to liberal Christianity.

For a full half-century, since the age of empire and foreign missions, the economic interpretation of history and government has predominated. The way has been paved for liberal technicians, economists, and financiers such as Warburg to show us how to keep the new and more sophisticated faith of the economic revolutionist. Repeatedly he speaks of the "revolution of rising expectations," by which he means economic expectations. He bestows his highest praise on "men such as

†James P. Warburg, *The United States in the Postwar World: What We Have Done, What We Have Left Undone, and What We Can and Must Do* (New York: Atheneum, 1966, \$6.50), xviii and 327 pp.

Chester Bowles, J. K. Galbraith, Walt Rostow, David Bell and Richard Goodwin, whose hearts were in the job of aiding and guiding the revolution of rising expectations."

Certainly it is reasonable to hope that nations which have failed to accept our forms of religion in decisive numbers and have failed to make a success of the democratic form of government may at least enjoy the products of our science and technology, especially since these things are what they now demand exclusively. The hope that we can influence and help people most by giving them what they want has inspired our massive commitment to more than one hundred billion dollars in foreign aid during the postwar period. Yet there are already signs of disillusionment with the results of this great effort. The men Warburg commends have come to disagree among themselves as to the feasibility and even the wisdom of stimulating these "rising expectations." It appears in some cases that catering to economic desires only whets an understandable but, under the circumstances, insatiable appetite. Aiding the economic and social revolution in some turbulent areas may mean absorbing the disappointment and even the violence that results when the revolution fails to meet its own exorbitant demands.

In an almost pathetic addition to his chapter on "Aid to Economic Development," Mr. Warburg deplors "a most unfortunate development. Those members of the Senate Foreign Relations Committee who have most consistently favored increased and improved foreign aid have suddenly reversed their position. . . ." While he agrees with most of the committee's criticism of our foreign policy, "emasculatation of foreign aid" seems to him a strange way of working toward a better one. Warburg cannot even bring himself to mention the names of the lost leaders—Fulbright, Morse, Gruening—or to recognize that these senators have proved themselves agile fence-jumpers in the past and are not in the Senate from guessing wrong. Doubtless they agree with the leader of the Swedish Liberal party who said that the essence of liberalism is the ability to change one's mind.

Of course the greatest cause of disillusion-

ment, and the decisive obstacle to the realization of "rising expectations," is ballooning population growth in precisely those countries that are incapable of feeding the population they already have. Warburg recognizes that world population will double before the end of this century, but it is characteristic of his irrepressible optimism that he airily assumes the problem can be solved simply by increasing food production. Ignoring geography, he compares wheat production in Japan with that of sunbaked India and recommends improved farming methods as the only answer. One of the strangest omissions of the book is Warburg's failure, through an entire chapter on hunger, even to mention the problem of population control. Arms control and unconditional and unlimited foreign aid constitute his solution for all major problems except our "obsessive fear of communism." The first and last of these convictions, he shares with the "new Left."

Near the end of his book Warburg attempts to come to terms with this neo-isolationist "new Left" that has already enlisted some of the more flexible of the intellectuals and pseudointellectuals in academic and governmental circles. He thinks the new Leftists are "neither pacifists nor super patriots" and that they are more interested in justice than in peace because they are "not yet fully aware that justice and peace are indivisible."

A number of word combinations such as this make Warburg sound like a doctrinaire pacifist, yet he is not. Strange as it seems in the context of his book, Warburg says with approval that "Khrushchev and the whole world learned that Kennedy would not shrink from nuclear conflict—no matter what the cost—if the interest of the United States or the U.S. itself was threatened." No military man ever breathed more suicidal defiance than is contained in that statement.

Except for occasional aberrations such as this one, Warburg employs the familiar phraseology of what he calls the "traditional Liberal Left," which he admits is now under attack by the new Left for being interventionist abroad and "the advocate of an ever more powerful paternalistic welfare state at home." He quotes

the dean of left-of-left radicals, I. F. Stone, and manages even to believe Fred Cook, author of the wildly antiestablishment book *The Warfare State*. Warburg goes so far as to condemn President Truman for being a "typical American" and to castigate American society as self-centered and parochial for living in "unrestricted luxury" after World War II. He says fear of communism led the United States to "the debasement of such international law as existed" and to "the prosecution of a brutal war against a small, underdeveloped country armed with little more than infantry weapons and an indomitable desire for independence and self-determination." (In case there is some question, he means Vietnam.) Warburg condemns what he calls "the negative attitude of the government of the United States toward the creation of a world of law."

It is also true that Warburg labels the recent American intervention in the Dominican Republic as a "disaster," that he considers South Korea untenable and "strategically irrelevant," calls Chiang Kai-shek's government "at least as anti-democratic and oppressive" as the Chicoms, and favors "liberating" the Formosans by leaving them to the tender mercies of Mao or his replacement. He claims that against the pro-Communist government of Guatemala in 1954 the Dulles brothers "launched a clandestine operation to overthrow the legitimately elected Arbenz regime and supplant it with a military dictatorship." Warburg even repeats that mysterious warning against "the military-industrial complex" which has now been quoted more than all other statements by General Eisenhower combined (always with the warning against scientists left out). Because of this one phrase he says the speech "may someday be ranked with George Washington's famous farewell."

Most of these positions are old and familiar to those who have encountered, in this country and elsewhere, the views of the hopefully antimilitary, mildly anti-Communist and optimistically pro-neutralist wing of the "traditional Liberal Left." Irritating as these positions may be to those whose responsibility it is to meet Communist aggression head on, it is possible to recognize that such expressions of

dissent, when genuine, may serve a useful purpose which it is not necessary to examine here. Of more interest at this point is the curious conflict revealed in *The United States and the Postwar World* between the old Left and the new.

TO THE EXTENT that it is sentimentally pacifistic, doctrinally noninterventionist, and universally "humanitarian," the new Left was inspired by some of President Kennedy's attitudes and actions. It has been greatly reinforced by the growing Kennedy legend which emphasizes attitudes and actions along these lines to the exclusion of others which were contradictory. Warburg ends his chapter on Kennedy by praising him as "a statesman who recognized that the problems of survival and peace were not soluble by far-flung legions."

Despite this timeless bit of rhetoric, Warburg elsewhere says Kennedy, McNamara, and Taylor deserve credit for improving the inadequate military establishment they inherited from General Eisenhower and for rapid progress in "reorganizing and re-equipping the armed forces and providing them with adequate air transport." (Possibly the air transport was for bringing the far-flung legions home.) He praises Kennedy for renouncing "a *Pax Americana* enforced on the world," yet he condemns President Truman who "permitted the great armies of the United States to be demobilized, the fleet to be put in mothballs, and the American military machine to be dismantled" at a moment when "the United States was actually in a position to impose a *Pax Americana*." Warburg complains, with justification, that "the moment was lost. . . . It was not until two years after the war ended that Truman began to think of a *Pax Americana*."

While unreservedly condemning both Presidents Eisenhower and Johnson for our present involvement in Vietnam, Warburg praises Kennedy for declaring with "greater firmness than the previous administration had shown that the United States would tolerate no foreign interference and would, if necessary, fight to preserve Laotian independence and neutrality" and applauds Kennedy's "coolly

conceived demonstration of conventional air, sea, and land power." In reality, of course, President Kennedy removed the power and allowed the Communist utilization of Laos to continue substantially as before. A few pages further on Warburg admits that Kennedy had "disengaged" from Laos, but "had become more rather than less deeply involved in Vietnam." That one was the necessary consequence of the other, he appears not to suspect. Immediately after praising Kennedy for making it clear that the U.S. position "would be backed by force if force were required," Warburg roundly condemns Acheson for "displaying his old intransigent attitude . . . and his predilection for planning military procedures to meet any overt Soviet move."

In the Berlin crisis of 1961, says Warburg, Kennedy was determined to make clear to the Soviet leaders that he would "firmly resist" and did it by ordering a rapid buildup of armed forces in Germany. Earlier, when arguing against German rearmament, Warburg stated the more evident fact that "the deterrent had not been provided by the wholly inadequate conventional forces" but by the threat of a nuclear counterattack. He states that Kennedy was in office two years before his "actions began to conform to his liberalizing rhetoric." In the realm of foreign affairs, he concludes that Kennedy solved few of the problems surrounding the establishment of enduring peace, but in his enthusiasm for the Kennedy promise he sees the young President "at the height of his popularity" setting out on the trip west which was to be his last. The fact was that Kennedy's popularity, as measured by Gallup, had just dropped to its lowest point ever, 54 percent; but Warburg is not alone in this particular delusion.

Finally, near the end of his book, Warburg attempts a summary of the Kennedy contradictions in relation to the present confusion of the new Left. He explains that "Kennedy had spoken the new language of peace, while feeling compelled to act as if he still believed the clichés of the Cold War." Matching his gullibility to Kennedy's public confidence, he adds: "Paradoxically, Kennedy, more sincerely interested in disarmament than his predeces-

sors, proceeded, during 1961-1962, to build up American military power to the point at which he could confidently declare that the United States was 'ahead' in the arms race." To his belief in the miracle of winning an arms race in two years (the years during which the Russians prepared and tested more megatons than in all previous nuclear explosions combined), Warburg adds his own confidence that Kennedy's proclamation of this hypothetical triumph "liberated young Americans from the paralyzing fear of nuclear attack." Small wonder that Warburg cannot "predict how that generation will behave when it becomes exposed to the corruption of power" or that he admits "a certain ambiguity in the rising generation's inheritance from the President who symbolized and gave expression to most of its ideas and aspirations."

Even as an advocate, Warburg is compelled to recognize the Kennedy contradictions, yet he never attempts to resolve his own. Though he utilizes slogans and assumptions of the old, the new, and the mixed Left, as we have seen, he also demolishes a few. He recognizes the disaster caused by Secretary McNamara's summary rejection of Skybolt, sees through the fakery of the MLF proposal, understands that Kennedy's rapidly mounting commitment to Vietnam consisted of fighting men rather than "advisors," and smiles upon Ambassador Lodge, a "tough-minded Republican," as against "gentle" Ambassador Fred Nolting. Most surprisingly of all, after condemning Truman's preoccupation with military brass and Eisenhower's predilection for big business, Warburg praises Kennedy's staff of "extremely able foreign-policy advisers." Highest among these able advisers he lists "Defense Secretary Robert McNamara, a Republican and a former president of the Ford Motor Company," who "probably had more influence upon Kennedy's foreign policy than Dean Rusk."

After this surprise it is perhaps anticlimactic to note that on page 276, following repeated condemnations of the Cold War and its containment policy, he hopes that our government will have "the wisdom not to embark upon a second Cold War with China in which many of the mistakes of the past would very likely

be repeated." On the very next page he hopes that "the Soviet Union will cooperate with the United States in the containment of China."

Despite his customary rejection of other peoples' views, Warburg wholeheartedly embraces what he calls a "recent" school of historians that is dedicated to blaming the Cold War on Truman rather than on Stalin. The first scholarly book in this direction, *The Cold War and Its Origins, 1917-1960*, by D. F. Fleming, was published six years ago, but it was overshadowed four years later by Gar Alperovitz's *Atomic Diplomacy*. The latter work makes the sensational charge that the atomic bombs were dropped not to hurt the Japanese but to scare the Russians.

The Alperovitz deduction is unconvincing to most historians, but it has a great appeal for the new Left and its ambitious young writers who are anxious to break into print with various extensions of this idea. President Truman, in their eyes, was illiberal at home and reactionary abroad. He was a victim, as Warburg repeats the theme, of a "devil theory" of history—the devil being Communism or Stalin. Warburg asserts his own devil theory, although he does not call it that.

Warburg's devil is trinitarian. He says flatly "the men who were chiefly responsible for starting the Cold War and the anti-communist crusade were Truman, Byrnes and Forrestal." Stalin, he thinks, was reasonable until Truman and Byrnes demanded he loosen his hold on Rumania and Bulgaria. This made him angry, and the Cold War descended. It was not really Stalin's fault. As Warburg and this particular revisionist school see it, Stalin, the wholesale liquidator of millions of Russians and the retail murderer of many of his own comrades, was a more easygoing and benevolent Cold Warrior than the little man from Missouri. According to Warburg, Stalin was not even to blame for his pact with Hitler. We drove him to that also.

The little group of "Truman-was-a-fink" historians may be performing one useful purpose. Their argument requires that they first establish beyond a doubt the reluctance of most military men to endorse the targeting of the atomic bombs, and this the historians have done systematically. They show that the two

most terrible attacks in all history were engineered and directed principally by scientists, politicians, and lawyers—the military acting simply as messengers. It was in principle an attack by civilians against civilians. This does not keep Warburg from fearing now that a "military juggernaut" has taken control of national policy.

Before losing patience with patient critic Warburg, we might well reflect that only in the quantity of his critical productivity does he stand alone. Those who share most of his views are numerous, especially in the academic world. Their less-practiced statements are often hard to follow, and it is more difficult to believe they mean what they seem to say.

As an appendix to his own work, Warburg provides evidence of this in the form of a report produced by an "Ad Hoc Congressional Conference on Vietnam" early in 1966. It contains a recognition that "unilateral withdrawal of all American troops prior to a cease-fire or peace conference is not in our national interest." Yet many members argued "that American initiatives on staged withdrawals" would be in the interest of the United States.

The conference report goes on to say pleasantly that after a simple settlement and elections, administered by the International Control Commission, "all parties must firmly adhere to the results of free elections." For Southeast Asia in general, the report says "our greatest interest, finally, should lie in insulating these conflicts from outside interference." While wondering just how this differs from President Johnson's repeatedly explained policy, one may also read in the report the puzzling observation that "an escalation of troop commitment would likely result in stalemates on yet higher levels of engagement."

In other words, we must insulate the area, promote peace, and insure elections free from outside interference after pulling out troops which are now insufficient for any of these purposes. Meanwhile, some troops must be left behind to absorb the Viet Cong, but this is no problem worthy of consideration by the conference. We should remember that Cold War experts such as these once heard from General

Maxwell Taylor and other military stalemate theorists that escalation and de-escalation occur in such a manner as to maintain an automatic balance. The conference members understandably were impatient to reduce the conflict, in theory at least, to economic and sociological questions in which they are more expert. In their minds they construct models of human conflict which seem fantastic to a practical man. To them, "limited" warfare is the most chivalrous game ever imagined. It is a kind of chess game in which you avoid an increase in enemy strength by avoiding any increase in your own, in which each side is exhausted by its own strength rather than by that of the enemy. It is a struggle in which each combatant weakens a politely imitative enemy force by first weakening his own.

This panel, whose work is displayed so proudly by panel-member Warburg, did not consist of ambassadors from Cloud-Cuckoo Land but of distinguished Americans. The chairman was Arthur Larson, a former director of the United States Information Agency (under President Eisenhower, of all Presidents!). Others participating were Benjamin Cohen, a former State Department counselor; Professor Richard Falk of Princeton, who is editor of the *American Journal of International Law*; Professor Bernard Fall, who made a career of writing on Vietnam; Richard Barnet, formerly of the U.S. Arms Control and Disarmament Agency; and some five other distinguished professors. Dean Edmund Gullion of the Fletcher School of Law and Diplomacy

is listed as refusing to sign the report. Dean Gullion was once counselor of the American Legation in Saigon.

Reports of conferences and committees such as this one, letters to newspapers, and ads in the *New York Times* signed by numerous professors (mostly physical scientists), all lack the individuality and highly personal charm one finds in James P. Warburg's work. In addition he possesses a combination of talents and an uninhibited willingness to contradict himself which is not often found outside committees. He is a combination of old Liberal, hero worshipper, villain denouncer, and reluctant new Leftist such as we shall not see again. For those who bear governmental responsibility and wish to broaden their understanding by disagreeable reading, *The United States in the Postwar World* is highly recommended. Most of the pills will be hard to swallow, but they come in an interesting array of shapes and sizes.

For all his irritating assertiveness, there is an appealing earnestness about Warburg. In his last appendix he quotes himself as once recommending the neutralization and reunification of Germany under a "settlement acceptable to both West and East Germans, the Soviet Union, and the Western Powers." This should be just about as easy as the unilateral de-escalations and withdrawals which he and his ideological associates now advocate for Vietnam. One must envy a man who lives in such a world, even if only in his mind.

Rice University



The most ardent and the most emotional supporters of disarmament, the impatient ones who argue for unreciprocated unilateral or unbalanced measures, on the grounds that they will help to create the necessary confidence and inspire the other side to reply in kind, are in reality the worst enemies of any realistic disarmament.

—Arthur H. Dean, former Chairman,
U.S. delegation to the Eighteen
Nation Disarmament Conference

Power without morality is imperialism. Morality without power is helplessness in a world of the Communist Grand Design.

—Max Lerner

THE WORLD OF NUCLEAR THEORISTS

HERMAN S. WOLK

THE past two decades have been cataclysmic. We have seen the inception of the cold war; the remarkable feat of the Berlin airlift; the victory of Chinese Communism; the Korean War with its wrenching effect on the American conscience and polity; the death of Stalin; the bursting of the Hungarian revolution; the ostensibly successful conclusion to the Cuban missile crisis of October-November 1962; the American involvement and commitment in the jungles of South Vietnam; and now the promise of convulsion on the Chinese mainland.

There is yet another development that transcends all of these events, important as they undoubtedly have been. We have ref-

erence, of course, to the transition from the atomic to the hydrogen age with its attendant revolution in weapons technology, which, in turn, marked the dawn of the space age.

Today we possess a luxury that was not possible during the more than twenty years elapsing since the end of World War II. Today we can focus the beam of historical perspective on these years with all of the advantages that hindsight may confer. And while it remains true that historians are notorious for seeing diverse and even contradictory elements at work during a single period in history, it is also true that with the passage of time certain drives and conclusions emerge that may be fairly labeled a consensus.

It has now become clear that historians, political scientists, and those concerned primarily with international political affairs have arrived at one significant and overwhelming conclusion applicable to the years since 1945. This is that the existence of strategic nuclear weapons in the hands of the two great protagonists has resulted in a stabilization of world affairs generally thought to be highly improbable years ago. This strategic stabilization has brought about a significant change in the conception of war and also in the utility of military power. *The usability of military power has declined substantially.* Although we are not here concerned with the matter of Vietnam, the character of this present conflict all too obviously confirms our major conclusion.

Military power in general remains important, and the superiority of the American strategic nuclear deterrent in particular is indispensable. This general view is held by such scholars as Klaus E. Knorr, Max Lerner, James Dougherty, Arthur H. Dean, Marshall D. Shulman, and Bernard Brodie.¹ The stabilizing and even hopeful effects of mutual deterrence are now called completely into question by Professor Philip Green of Smith College.†

Green attacks the theory and practice of nuclear deterrence on several fronts. A good part of his book is given to a scathing dissection of the writing of Herman Kahn as it appears in *On Thermonuclear War* and *Thinking About the Unthinkable*. Thomas C. Schelling, Albert Wohlstetter, Oskar Morgenstern, and other deterrence theorists also receive a measurable portion of Professor Green's attention. Kahn remains pre-eminent because, as Green says, *On Thermonuclear War* "is without doubt the most significant single contribution to arms policy discussion during the nuclear era." (p. 15)

In general, Green attempts to show that the use of systems analysis by the deterrence theorists, as he calls them, is essentially a fraud. The theorists have surrounded themselves with an "aura of authority," a good part of which they have created themselves. Significantly,

the theorists—in stressing game theory—have failed to take into consideration vital issues of contemporary international politics. Theirs has been a narrow focus, devoid of rigorous political thought, which is essential for solving contemporary problems and for structuring a viable national security policy. At the same time, Green accuses the deterrence theorists of harboring a narrow and "most simplistic American variety" (p. 86) of anti-Communist bias.

Perhaps the most basic of Professor Green's qualms is his assertion that the theorists view almost all issues in terms of military force:

The astonishing outburst of intellectual energy that has been put into the study of national security issues, and which shows no signs of abating before the cold war itself does, has almost entirely revolved around the single question of what particular national strategies are best justified by the "novel" ability to make "ultimate" nuclear threats. (p. 5)

Thus, military security is equated generally with national security and the concomitant thesis that the Soviets, for example, only understand and respect force. And the thrust of the arguments put forward by the deterrence theorists is cloaked in so-called scientific analysis. According to Green:

It is not merely that the idea of systems analysis offers no particular hope of dealing rigorously with the great policy questions inherent in deterrence studies; rather, one suspects that in this context the method of rigorous analysis may be inferior to informed and informal speculation. (pp. 89–90)

While the theorists have focused their attention on the calculable, this kind of analysis is not nearly as meaningful or important as a rigorous consideration of political and moral questions. "What help is clever model-building when one is only piling abstraction on abstraction?" (p. 90) the author asks. The deterrence theorist believes a world can be structured on nuclear threats and the theory itself rests upon man's rationality, which, under stress especially, might break down at any time.

†Philip Green, *Deadly Logic: The Theory of Nuclear Deterrence* (Columbus: Ohio State University Press, 1966, \$6.00), 361 pp.

Professor Green's indictment rests primarily on the charge that the theorists have neglected almost entirely history, politics, and morality. He alleges "that for years most of them were (most still are) egregiously guilty of avoiding the moral issue altogether or misrepresenting it." (p. 250) It has not been demonstrated that strategic nuclear deterrence (possession of a nuclear second-strike force) is our best strategy. Other strategies might very well prove more successful. One might ask, What other strategies? In attacking Schelling's conflict theories, Green asks:

Why could not a disarmed world maintain deterrence without nuclear weapons, and perhaps even by means of non-military strategies? In principle, it is surely not impossible; and if the resulting balance would be relatively unstable, one might prefer the potential of that instability to the "stability" of a world armed to the teeth with "second-strike" missiles. (p. 154)

And Green is prepared for the argument that nuclear deterrence has been successful for over two decades. He puts it this way:

... one can find few grounds for claiming that nation-state behavior in the cold war period has been more sensible than at other times. It will hardly do to rest that case on the mere absence of general war since 1945. Twenty years without general war is hardly a long enough time to suggest anything at all. The arms race continues; great power hostility remains; crises recur. (p. 210)

Thus, the author feels strongly that the world has learned little if anything since the end of the Second World War. He closes the book on a grim note, pointing to the disproportionate influence of nuclear experts and their strategies. The "intellectual imperialism" of deterrence theory is seen as a grave threat to American democratic society.

It must be said that Professor Green's book has about it a strangely outdated air that in the final analysis is both an advantage and a disadvantage. Indeed, Edgar S. Furniss, Jr., in his foreword to *Deadly Logic*, expresses his regret that the book could not have been published earlier. The fact of the matter is that the

so-called great debate over the strategy of strategic nuclear deterrence occurred during the late 1950's and early 1960's. Nuclear deterrence has, in general, been accepted as the bedrock foundation of American and Western defense and national security. Great effort, not a few lives, much time, and billions of dollars have been expended in giving the U.S. a superior nuclear deterrent. Thus, despite speculation on the book's tardy appearance, it remains a fact that Green is faced with a *fait accompli*. On the other hand, benefit can be derived from this late response. With so much of our present commentary and dialogue focused on Vietnam and counterinsurgency operations, it is well to take another look at the strategy and forces that provide a credible backup to our activities in Southeast Asia.

One can certainly make a case, as Green does, that specific nuclear theorists have employed a pseudoscientific approach to national security affairs. Some have indeed cloaked themselves with a kind of scientism that has made their thought almost unintelligible to the layman. It can be fairly argued that Kahn's *On Thermonuclear War* fits this description. The book contains a surfeit of jargon, is poorly written and edited, and is based in part on false assumptions and illogical reasoning. Over and above this point, it is unquestionably true that scientists in general are not totally neutral and objective. Like other human beings, they hold varied and sometimes impassioned political views. Scientists possess no unique political gifts which endow them with special insight. And it is clear that in some instances critical scientific opinion, while sincere, has been based upon prior political judgment.²

Green, of course, has said that *On Thermonuclear War* is the most significant contribution to the subject of nuclear deterrence and arms policy. This is at least debatable. I would agree with Professor Green when he contradicts himself and says that Bernard Brodie's *Strategy in the Missile Age* "is the most useful, single contribution to the literature of deterrence—and this without recourse to the pseudo-science that has been that literature's all-too-customary hallmark."³ (p. 333) But, understandably, *Strategy in the Missile Age* would not have served

as the ideal target for Green's shafts in the way that Kahn's book does.

When the author takes Kahn and Schelling to task for neglecting history and politics, he is on solid ground. Too often have scenarios dealt with human affairs by excluding relevant experience. In fact, Max Singer of Kahn's Hudson Institute has said that "experience won't serve as a guide any more to practical affairs. The world has become too complicated."⁴ This kind of facile generalization, completely lacking in depth, adds nothing to informed and rigorous discussion. The essential difficulty with much of what I have called the "new theorizing" is that it bears little resemblance to today's world. All too often scenarios are based on what is *possible* rather than on what is *probable*.⁵

On the other hand, Green makes the mistake of indicting the entire community of nuclear theorists for the transgressions of the few. It is simply not true to say that all or even most deterrence theorists neglect history, politics, and morality. Nor is it correct to allege that these theorists have dealt obsessively with the ability of nations to make nuclear threats. When Professor Green declares that "rigorous deterrence analysis has been empty of real thought about the major problems of national policy," (p. 268) he is engaging in the kind of simplistic, black-and-white thinking that he spares no end in deploring.

Among the many serious thinkers on national security policy—I suppose Green would call them deterrence theorists—who have considered international politics are William W. Kauffmann, Bernard Brodie, Albert Wohlstetter,⁶ Henry A. Kissinger, Klaus E. Knorr, Thornton Read, and Robert E. Osgood. These men have discussed the role of strategic nuclear deterrence in a world racked by divisive political issues. They have, I believe, provided us with valid insights into world politics and have made a signal contribution both to rational discourse and national policy. To suggest that nuclear theorists have not grappled with history and politics is a disservice to them and to the truth.

Nor, as Green indicates, is the community of nuclear thinkers monolithic. Many issues

over the past decade have resulted in debate and division amongst deterrent theorists. The composition of strategic force structure is only one such issue that provoked an outpouring of discourse along with diverse opinions. For the fact remains that nuclear theorists have as many different ideas and points of view as journalists, policy-makers, diplomats, and professors of government. To allege otherwise and infer that the community as a whole is a kept one is intellectually scandalous.

What does one make of Green's assertion that nation-state behavior has not changed since 1945? What can one say about "the mere absence of general war since 1945"? Is it valid to suggest that "twenty years without general war is hardly a long enough time to suggest anything at all"? In all candor, one is appalled at such flippant distortions and generalizations on the part of a professor of government. And one does not have to appeal to deterrence theorists to set the record straight. For example, Marshall Shulman, professor of international politics at the Fletcher School of Law and Diplomacy and research associate at the Russian Research Center at Harvard University, has argued cogently that *the* lesson of the past twenty years has been that adequate Western strategic power has been, and remains, necessary for international stability.⁷ The same conclusion is echoed by Raymond Aron, the distinguished French philosopher and historian, and other historians and political scientists in the U.S., Europe, and Asia.

It should be remembered that the period 1945–1967 is not merely another 22-year hiatus. It happens to be precisely the period of the cold war *and* the nuclear age. And rather than suggesting nothing at all, this span has confronted us with a revolutionary impact. We have witnessed a revolution in technology, in weapons development, and in the usability of military force. The value of *possessing* nuclear weapons for defensive deterrence has been manifestly demonstrated. The objective of the American strategic nuclear deterrent has been the prevention of general war. This goal has obviously been achieved. And it is neither a "mere" objective nor a "mere" achievement.

The question of deterrence and the arms

race is, of course, a moral one. Again, while some theorists shun the moral implications of nuclear deterrence, many do not. The nuclear pacifist rightly emphasizes morality while the theorist who dismisses grave moral questions commits a disservice to man and to himself. But Professor Green, in his plea for morality and disarmament, finds himself ultimately with a position of complete condemnation of violence. He thus refuses to face what is reality but what is to him something unacceptable in the human condition. In so doing, he has taken flight from politics, from that realm of human endeavor that he himself has so eloquently implored us to consider. Nuclear weapons and conventional weapons and nuclear blackmail and political blackmail and coercion do exist. The unavailability of various weapons will not change the nature of man.

While Professor Green evidently supports disarmament and abjures nuclear deterrence, he provides nothing in the way of a solution for our dilemma. In short, he comes up with a

zero when it comes to getting *from here to there*. This has long been the weakness of the pacifist and the disarmar.⁸ He is long on critique and short on responsible avenues for amelioration or solution.

Thus, to condemn strategic nuclear deterrence *as a policy* while merely asking if complete disarmament might not have done the job as well over the past twenty years is a practice of intellectual bankruptcy which fails completely to recognize the ambiguity inherent in humanity. For Green presents, after all, the time-honored radical solution of the revisionist. This amounts to an admission of failure, a flight from politics, a lapse into the simplistic, and an inability to come to grips with the major political issues of our time.

Ambiguity is indeed part of the very fabric of human endeavor. And contradiction is often a by-product of our ideas and actions. There is no better example of either than Professor Green's book.

Silver Spring, Maryland

Notes

1. To be sure, there are some revisionists who would not accept this proposition. The names of D. F. Fleming and H. Stuart Hughes come to mind.

2. See Herman S. Wolk, "Scientists, Politics and the Bomb," *Air Force and Space Digest*, October 1962.

3. It should also be noted that Brodie's *Strategy in the Missile Age* was published in 1959, thus antedating Kahn's *On Thermonuclear War*. Green erroneously lists the publication date of Brodie's book as 1960 in his bibliographic note. Further, several other noteworthy books on nuclear strategy appeared long before Kahn's, including William W. Kauffmann's (ed.) *Military Policy and National Security*, 1956, and Henry Kissinger's *Nuclear Weapons and Foreign Policy*, 1957. These books, along with Brodie's, are in my judgment at least as significant (although not as sensational) as Kahn's *On Thermo-*

nuclear War and, in fact, opened new paths that others followed.

4. Quoted in Arthur Herzog, "Report on a 'Think Factory,'" *New York Times Magazine*, 10 November 1963.

5. Herman S. Wolk, "Is History Obsolete?" *Air Force and Space Digest*, August 1964.

6. Wohlstetter himself has written critically of scientists although Green does not mention it. See Albert Wohlstetter, "Technology, Prediction, Disorder," in *The Dispersion of Nuclear Weapons*, R. N. Rosecrance (ed.), (New York: Columbia University Press, 1964).

7. Marshall D. Shulman, *Beyond the Cold War* (New Haven: Yale University Press, 1966).

8. An exception is Walter Millis, *An End to Arms* (New York: Atheneum, 1965). See Herman S. Wolk, "Walter Millis's 1984," *Air University Review*, September-October 1965.

BARRY COMMONER FOR THE PEOPLE

MAJOR HARRY H. MALVIN

IN THE Court of Public Opinion, *The People of the World v. Science and Technology*. Barry Commoner, for the people, charges the defendants with negligent homicide, assault with deadly weapons, rapine, malicious mischief, vandalism, fraud, conspiracy, and perversion. This listing of heinous charges summarizes the content of Dr. Commoner's new book, which consists chiefly of a series of specifications under each of the charges and the plaintiffs' arguments.† Dr. Commoner can plead the case with authority, witness his Harvard Ph.D. in biology, his professorship of plant physiology and chairmanship of the Department of Botany at Washington University, and his directorship of that school's Center for the Biology of Natural Systems, sponsored by the U.S. Public Health Service.

The first two chapters indict the engineers for not anticipating and protecting against the recent power failure in the Northeastern United States and neighboring Canada; the nuclear and military scientists for not anticipating the fallout patterns and long-term effects of the early Nevada tests; the manufacturers and users of fossil fuels, internal combustion engines, detergents, and fertilizers for pollution, etc. On page 27 Dr. Commoner summarizes his attitude in these words, "Sooner or later, wittingly or unwittingly, we must pay for every intrusion on the natural environment." Shortly after (p. 29) he cites scientists for dereliction of duty, the duty of ". . . prediction and control of human intervention into nature."

The third chapter is an intrusion in the proceedings and was apparently included to discredit the defendants. The classical and the molecular biologists are paired off in this chapter, which, incidentally, would have been more effective if Dr. Commoner's classicism were

less apparent. Two points are noteworthy in this chapter: first, there is the idea that truth is established by time and by lack of pre-existing effective challenge; and second, that there is no beginning to the egg-chicken-egg cycle. From this it may be inferred that life, like energy-matter, cannot be created or destroyed but can merely be converted according to pre-established laws of conservation.

The fourth chapter emphasizes the schism between science and the rest of society. In this chapter the charges of conspiracy and perversion are made: conspiracy to restrain the free exchange of scientific knowledge for reasons of commercial advantage or national security, and the perversion of scientific curiosity toward political and economic ends.

Chapter Five describes the immediate and the long-term indirect effects of a nuclear holocaust. The material is sobering and worthy of more than a moment's reflection. After this description of the potential magnitude of the defendants' crimes, Dr. Commoner, in the sixth chapter, isolates the scientist from the citizenry in the title of the chapter, "The Scientist and the Citizen," and then reiterates the arguments about fallout and pollution. He then in the same chapter introduces the concepts of "Risk *versus* Benefit" (p. 98) and of divergent opinions of scientists, both in their fields of special competence and in unrelated fields. In concluding this chapter he cites a novel approach (p. 109), that of an informed citizenry. The example of the novel approach in action suggests that an informed citizenry is omniscient and can reasonably guide the future path of science and technology.

In the final chapter there is a reiteration of the indictment and, in the event they are exonerated, a charge to the miscreants to reform.

†Barry Commoner, *Science and Survival* (New York: The Viking Press, 1966, \$4.50), 150 pp.

Dr. Commoner writes well. His book is brief and easy to read. There is a careful selection of the evidence, and the plaintiffs' arguments are logically developed and effectively presented. Although this is not the place to take issue with the author's position, it is the place to introduce material which places that position in proper perspective.

Contemporary science and technology claim neither omniscience nor infallibility. Differing opinions are tolerated so long as they represent honest attempts to interpret available data. As a Monday morning quarterback, Dr. Commoner is in an enviable position—he is not held accountable for his opinions regardless of how loudly they are expressed.

In moving from differences of opinion to scientific truth, one encounters some difficulties. Apparently scientific truth is a misnomer for the concept of consistency within a system or for conformance to valid observations. With this definition, the earth has only recently been transformed from flat surface to sphere to oblate spheroid, and during that transformation it has apparently lost its place at the center of the universe. At least this must be the case if truth is measured by the duration of time a concept remains successfully unchallenged or by the extent of the population base which accepts the concept as valid. Before dismissing the matter of scientific truth, one further observation is appropriate. In chiding the molecular biologist Dr. Commoner refers to the ". . . unchallenged principle, *omnes ex ovo*," which discredited earlier theories of spontaneous generation. Less than half a century ago, the alchemists' concept of the transmutability of elements was also in disrepute.

While on the subject of the immutability of natural laws, we should mention another generally accepted biological law, the evolutionary principle of natural selection. In the fifth chapter Dr. Commoner introduces the popular science-fiction ploy of man versus insect. There is no argument with the facts, and Dr. Commoner is to be congratulated on his choice of a dramatic illustration. The point is, what save unparalleled human egotism renders man fittest and therefore best suited to survive the natural selection process? Over the years, after all, many species have become extinct.

The concept of the informed citizenry, which is well illustrated in the American jury system, is not novel; but when informed experts disagree on the interpretation of valid data, what is the educated citizen to do? In the same vein, and in conclusion, one question for Dr. Commoner:

In your position as a scientist and an informed citizen, Dr. Commoner, and recognizing that no scientific or technologic progress is made without cost, how would you choose to die?

- By starvation, because the agriculture failed to keep pace with a growing population (as in India)?
- By schistosomiasis or other parasitic infestation, because agricultural potential has been augmented by night soil (common in many parts of the world)?
- Or by the side effects of pollution by insecticidal agents and inorganic fertilizers (nitrates and phosphates)?

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The Contributors

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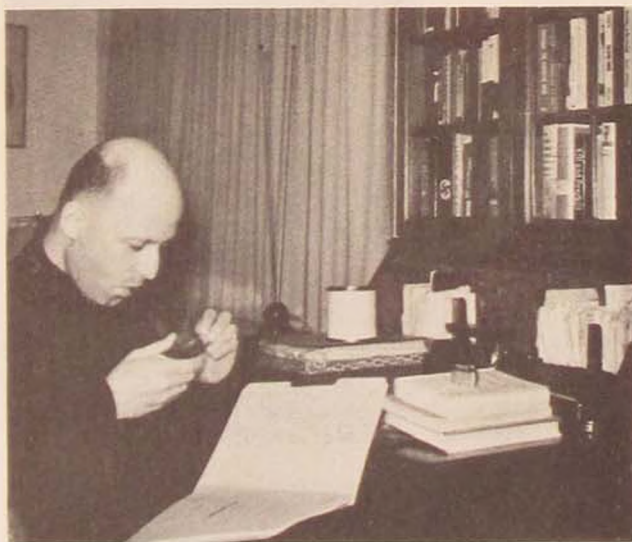
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AWARD

The Air University Review Awards Committee has selected "De Gaulle: Enigma in the Western Alliance?" by Major Alfred H. Uhalt, Jr., USAF, as the outstanding article in the March-April 1967 issue of *Air University Review*.

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