

AIR UNIVERSITY

QUARTERLY REVIEW

POWER

FALL 1950

EDITORIAL STAFF

MAJOR KENNETH F. GANTZ, Ph.D, *Editor*
CAPTAIN CHARLES L. GALBRAITH, *Assistant Editor*
GRACE G. LANE, *Editorial Secretary*

EDITORIAL BOARD

COLONEL MATTHEW K. DEICHELMANN, *Dir. Education, Pres.*
COLONEL JAMES W. CHAPMAN, JR., *Asst. C/S Plans & Operations*
COLONEL GEORGE E. HENRY, *Deputy Commandant, AWC*
COLONEL JOHN C. HORTON, *Deputy Commandant, AC&SS*
COLONEL RONALD R. WALKER, *Chief, Evaluation Division*
LIEUTENANT COLONEL JACK L. BENTLEY, *AU Secretary*
DR. KENNETH R. WILLIAMS, *Dean of Instruction*
MAJOR KENNETH F. GANTZ, *Editor, Recorder*

ATTENTION

The contents of this publication are the views of its authors and are not to be construed as carrying any official sanction of the Department of the Air Force or of the Air University. The purpose of this journal is to stimulate healthy discussion of Air Force problems which may ultimately result in improvement of our national security. Appropriate contributions of pertinent articles and correspondence which present new views, or refute or support old ones, are solicited.

THE UNITED STATES AIR FORCE AIR UNIVERSITY QUARTERLY REVIEW

VOLUME IV

FALL 1950

NUMBER 2

A ROMAN GENERAL'S OPINION	2
AIR POWER INDIVISIBLE	5
COL. DALE O. SMITH, USAF	
MAJ. GEN. JOHN DEF. BARKER, USAF	
AIR WAR IN KOREA	19
POLITICO-MILITARY ASPECTS OF WESTERN DE- FENSE UNDER THE NORTH ATLANTIC PACT	40
DR. EUGENE M. EMME	
THE SIX TYPES OF RUSSIANS YOU SHOULD KNOW	62
MAJ. NICHOLAS E. MITCHELL	
IN MY OPINION . . .	
Why Troop Carrier and MATS Should Not Be Merged	74
LT. COL. LEROY M. STANTON	
PICTURE BRIEFS	
Napalm Attack	38
Interdiction	56
Seoul Bridge Complex	72
Bomb Damage	81
AIR FORCE REVIEW	88
The Tactical Air Command School of Air-Ground Operations; The XC-99, First Global Freighter; The Squadron Flyaway Kit; Hypoxia Warning Device; The 3499th Training Aids Wing.	
AIRMAN'S READING	97
<i>Air Power: Key to Survival and Defence of the West</i> , Col. Dale O. Smith; Briefer Comment.	
THE PERIODICAL PRESS	109
THE CONTRIBUTORS	119



Published quarterly by the Air University, Maxwell Air Force Base, Alabama. The printing of this publication has been approved by the Director of the Bureau of the Budget, 17 June, 1949. Students and faculty of the Air University schools are provided free copies as textual material. Printed by Field Printing Plant, AU. Price, single copy, 50 cents; yearly subscription, \$2.00. Address orders to Air University Book Department, Maxwell Air Force Base, Alabama. Properly credited quotations are authorized.

A ROMAN GENERAL'S OPINION OF MILITARY CRITICS

LUCIUS AEMILIUS PAULUS, a Roman Consul, who had been selected to conduct the war with the Macedonians, B.C. 168, went out from the Senate-house into the assembly of the people and addressed them as follows:

IN EVERY CIRCLE, AND, TRULY, AT EVERY TABLE, THERE ARE PEOPLE WHO LEAD ARMIES INTO MACEDONIA; WHO KNOW WHERE THE CAMP OUGHT TO BE PLACED; WHAT POSTS OUGHT TO BE OCCUPIED BY TROOPS; WHEN AND THROUGH WHAT PASS THAT TERRITORY SHOULD BE ENTERED; WHERE MAGAZINES SHOULD BE FORMED; HOW PROVISIONS SHOULD BE CONVEYED BY LAND AND SEA; AND WHEN IT IS PROPER TO ENGAGE THE ENEMY, WHEN TO LIE QUIET. ¶ AND THEY NOT ONLY DETERMINE WHAT IS BEST TO BE DONE, BUT IF ANY THING IS DONE IN ANY OTHER MANNER THAN WHAT THEY HAVE POINTED OUT, THEY ARRAIGN THE CONSUL, AS IF HE WERE ON TRIAL BEFORE THEM. ¶ THESE ARE GREAT IMPEDIMENTS TO THOSE WHO HAVE THE MANAGEMENT OF AFFAIRS; FOR EVERY ONE CANNOT ENCOUNTER INJURIOUS REPORTS WITH THE SAME CONSTANCY AND FIRMNESS OF MIND AS FABIUS DID, WHO CHOSE TO LET HIS OWN ABILITY BE QUESTIONED THROUGH THE FOLLY OF THE PEOPLE, RATHER THAN TO MISMANAGE THE PUBLIC BUSINESS WITH A HIGH REPUTATION. ¶ I AM NOT ONE OF THOSE WHO THINK THAT COMMANDERS OUGHT AT NO TIME TO RECEIVE ADVICE; ON THE CONTRARY, I SHOULD DEEM THAT MAN MORE PROUD THAN WISE, WHO REGULATED EVERY PROCEEDING BY THE STANDARD OF HIS OWN SINGLE JUDGMENT. ¶ WHAT THEN IS

MY OPINION? ¶ THAT COMMANDER SHOULD BE COUNSELLED, CHIEFLY, BY PERSONS OF KNOWN TALENT; BY THOSE WHO HAVE MADE THE ART OF WAR THEIR PARTICULAR STUDY, AND WHOSE KNOWLEDGE IS DERIVED FROM EXPERIENCE; FROM THOSE WHO ARE PRESENT AT THE SCENE OF ACTION, WHO SEE THE COUNTRY, WHO SEE THE ENEMY; WHO SEE THE ADVANTAGES THAT OCCASIONS OFFER, AND WHO, LIKE PEOPLE EMBARKED IN THE SAME SHIP, ARE SHARERS OF THE DANGER. ¶ IF, THEREFORE, ANY ONE THINKS HIMSELF QUALIFIED TO GIVE ADVICE RESPECTING THE WAR WHICH I AM TO CONDUCT, WHICH MAY PROVE ADVANTAGEOUS TO THE PUBLIC, LET HIM NOT REFUSE HIS ASSISTANCE TO THE STATE, BUT LET HIM COME WITH ME INTO MACEDONIA. ¶ HE SHALL BE FURNISHED WITH A SHIP, A HORSE, A TENT; EVEN HIS TRAVELLING CHARGES SHALL BE DEFRAIDED. ¶ BUT IF HE THINKS THIS TOO MUCH TROUBLE, AND PREFERS THE REPOSE OF A CITY LIFE TO THE TOILS OF WAR, LET HIM NOT, ON LAND, ASSUME THE OFFICE OF A PILOT. ¶ THE CITY, IN ITSELF, FURNISHES ABUNDANCE OF TOPICS FOR CONVERSATION; LET IT CONFINE ITS PASSION FOR TALKING WITHIN ITS OWN PRECINCTS, AND REST ASSURED THAT WE SHALL PAY NO ATTENTION TO ANY COUNCILS BUT SUCH AS SHALL BE FRAMED WITHIN OUR CAMP.

Livy, History of Rome.
Vol. 7, Book XLIV, Chapter 22.
Translation by George Baker, A.M.*

*Titus Livius, born 59 B.C., died A.D. 17.



Air Power Indivisible

COLONEL DALE O. SMITH

in collaboration with

MAJOR GENERAL JOHN DeF. BARKER

PROFESSIONAL MAGAZINES have recently published several articles arguing the employment of air power in support of troops. One school of thought holds that more control of air should be vested in the ground commander who is directly affected by the kind of close air support he receives. The other school maintains that the current mode of air control, developed in World War II, permits more effective all-round air employment and, in the final analysis, better ground support.

The intellectual controversy thus stimulated is usually documented with authoritative statements from both sides and often supported by one-time incidents gleaned from the Korean struggle. Certainly there must be a firmer base upon which military thought may establish greater agreement.

The substantial acceptance of the traditional Principles of War by all people wearing uniform might be one such starting base. These ancient guides to strategic and tactical conduct present a ground of basic harmony from which shoots of further military agreement might grow.

One of these principles is referred to as *economy of force*. It is, of course, self-explanatory. We want the most military return possible for any military force expended. When we go duck hunting we don't want to carry along a rifle in case we should run into a moose. Or if we should hunt moose, a shotgun would simply be a burden. On the rare occasion, however, when we want to hunt *both* duck and moose on the same trip, we'd like to have both types of guns along. But at other times it would be most uneconomical to buy and carry the extra firearm. Wouldn't it be better to borrow the extra gun from a trusted friend rather than to buy it and lug it around for years with slight occasion to use it? For those who hesitate to borrow, it might be pointed out that the borrower is just as often lending his gun to help out the other fellow.

-The first air strike photograph to be received in Washington from Korea shows twentyeth AF B-29's lay a concentration of bursts diagonally across the central portion of the main railroad station in Seoul on 29 June. Later reconnaissance indicated slight to moderate damage to shops and tracks, with many railroad cars destroyed. An observer reported a number of North Korean troops at the station and billeted in former South Korean Officer's Training School nearby were killed or wounded in the attack.

That seems to be a fair exchange. It is simply *cooperation*, another Principle of War. *Cooperation* also can be considered one of the fundamental tenets of the American system and a secret of our great material and moral success. We trust our fellow man; we rely on his help. We abhor waste of any kind, even waste of time. By working together we make the most of our resources and never let them stand idle when they can be put to work in someone else's hands.

In war, isolated situations or campaigns may make us forget or brush aside accepted principles which may not seem to apply at the moment. Yet a broad perspective of the whole history of warfare shows these principles standing up, again and again, under the acid test of combat. Why do we see more meaning in retrospect than in the heat of today's battle? Can it be because more of the relevant facts of the past are known than are the facts of the immediate situation? And cannot those more numerous facts be weighed and analyzed more dispassionately without our being swayed by personal involvement?

We are presently engaged in the Korean campaign, and we have yet to benefit from a comprehensive analysis of it. Our professional observers and correspondents provide separate accounts of one individual, viewing a limited number of isolated actions. Such reports often provide conflicting observations and we are prone to be emotionally affected by those we read. All these valuable experiences must be put together, with many more, and soberly evaluated for safe conclusions.

As a volume of evidence builds up, for example, the first somewhat hysterical accounts of jets being too lightly armored to be effective have been to a large extent disproved. True, jets can't be employed as well on some support missions as F-51's but on other tasks jets have been found superior. Furthermore, had there been air opposition and accurate antiaircraft artillery, perhaps F-51's would have been knocked out of the skies.

The Air Force has maintained that a warplane must be fundamentally designed to live in the air. No matter how effective it might be under unopposed conditions, a warplane is of slight value if it fails to show up when needed. Recent engagements of our jets have discouraged enemy air attacks and have made it more possible to continue ground support. *Economy of force* would hardly be attained should we construct a Stuka or a Stormovik purely as airborne artillery, yet so vulnerable to air attack that another aircraft would be required to

protect it. (A German and Russian experience that can hardly be ignored.) If we can, on the other hand, build an airplane which not only can protect itself but can perform adequate ground support, we have then what is tantamount to twice the force we might have had with a Stuka-escort combination. It might even be desirable to accept some slight reduction of our "air artillery" capabilities to gain this twice-as-large force. Fortunately this is not necessary, however, for as more reports pile up we find that jets, employing tactics to suit their unique capabilities, tend to provide an air support comparable to that of the propeller aircraft.

Had we fully accepted the first despairing and fragmentary reports regarding jets, we might have gone all out for piston-driven fighters. Could that policy not have encouraged the enemy to employ his jets more vigorously? Would we now have control of the air? Surely we must consider the situation anomalous when the enemy concedes us air superiority. We cannot assume he will always react in that unusual manner. And his current reaction might have been somewhat due to the mere presence of our jets. It is possible that we are getting an economic return from our jets not readily apparent.

WHETHER we talk of aircraft or tanks or warships, pistols or rifles or artillery, no weapon can be considered of full value unless we employ it with *economy of force*. Each weapon possesses certain characteristics, singular strengths and weaknesses. We use each weapon so as to take advantage of its capabilities and allay the effects of its limitations. One of the greatest strengths of an airplane is in its *flexibility* (still another Principle of War). The airplane can be used for many military purposes, and it has a mobility that surpasses any other man-carrying weapon. To tie this versatile instrument of war down to a few specific tasks and thus deny it other objectives which at times might be far more productive toward eventual victory would seem to be a profligate waste of force. Would it not be better to organize our forces for optimum flexibility and hence be more able to practice *economy of force*?

If an air force is organized to take advantage of the great material versatility inherent in the airplane, the commander can be in a position to skillfully apply all the Principles of War. He can launch his force from a carrier at sea, from an

airfield twenty miles behind the lines, or from a different continent, thus employing it with extreme *flexibility*. He can take the *offensive* and *concentrate* his force against the most critical *objective* with maximum *economy*. He can do so even though today's objective is a thousand miles from tomorrow's objective. Rapid *movement* of large forces over vast distances will permit *surprise*. Should he be attacked at home, most of his force can be quickly diverted for defense and the *security* of his and other military bases. *Simplicity* is the essence of such concentrated air actions, since the very speed of aircraft prohibits operations of excessive complication. But unless his air force is so organized and habitually trained to perform these varied functions, he will not likely be as able to follow the Principles. Specific local tasks may deter a more fruitful employment.

The overwhelming advantage of *flexibility* provided by air power has sometimes been mitigated by an unfunctional organization which seems to divide available air strength into small parcels, each parcel tightly wrapped and labeled "For tactical (or other) use only." Paradoxically, such a piecemeal commitment of air strength is not now, nor has it ever been, a true doctrine of the Air Force.

With some justification, however, the Air Force has been accused of packaging its aviation into such mutually exclusive bundles of "strategic," "tactical," and "air defense" forces. Many airmen have too literally accepted these terms by regarding the over-all strategic picture in too narrow a light. Yet the actual employment of air forces in World War II and in the present Korean conflict should dispel any fears that Air Force policy tends toward compartmentation. Repeated evidence of the use of all air weapons against every kind of target, depending upon the immediate crucial objectives, should amply indicate the fundamental doctrine of air employment.

So-called "strategic" heavy bombers were employed in Europe before D-Day, and after, to attack coastal gun emplacements and other front-line objectives. A quarter of a million tons of bombs were dropped on transportation targets by every type of Eighth Air Force craft, which was nearly one third of the grand total expended. For the breakthrough at Saint Lo, a veritable carpet of bombs was laid in front of our lines by waves of big bombers. The tactical efficacy of this operation is attested to by comments from German comman-

ders who asserted that it was this type of air action which was most detrimental to defending a position.

In the Pacific all kinds of aircraft were *concentrated* on critical objectives regardless of the terminology covering their organizational assignments. Cape Gloucester, for example, was so effectively pounded by every available aircraft that our surface invaders walked in standing up. Bombers and fighters from all sorts of air organizations were later set to interdict the water approaches to Rabaul and with cooperative surface action completed Rabaul's isolation.

Japanese air units had been built up in New Guinea at Wewak where *massed* allied air struck them in August 1943. The enemy recoiled to Hollandia, but the sustained bombardment and strafing there by all types of craft wrote the ultimate end to Japanese air strength as an effective force. No piecemeal efforts were attempted in these great air *offensives*, but rather *concentrated, massed* operations were undertaken with every available airplane deployed by the theater commander. Air superiority was achieved, and from Hollandia on, the possibility of our continued advance was assured.

Later, when the insane "divine wind" flyers streamed down on our invasion forces off Okinawa, B-29's were diverted from their attacks on industrial centers. Destruction of Kyusku airfields and kamikaze forces on the ground became an immediate primary objective. For twenty-four days kamikaze bases were bombarded, and vicious enemy reactions claimed twenty-two B-29's. But most kamikaze establishments were knocked out, and attacks on our invasion forces started falling off.

Recently, in Korea, the B-29's not only attacked factories, ports, depots and marshalling yards; but bridges, troop concentrations, and strong points. The carpet bombing effort near Taegu was another example of the extreme *flexibility* of air power. Fighter-bombers and mediums poured fire on many of the selfsame targets. The *objectives* for the day were those felt to be most urgent at that time by the theater commander, and he was able through his flexible organization to launch his entire force, directing every available air weapon at the sensitive spots.

IT has long been held as Air Force doctrine that air superiority should be the primary mission of air power. This premise has gained quick support from Army leaders who have

suffered air attacks. Most Army leaders who have been harassed by enemy air would far rather have the enemy air kept off their necks than have integrally assigned aircraft for use as extended artillery. These leaders have no misconceptions about retaining, say, divisional, corps, or army aviation, in the face of superior enemy air. The fate of the German Stuka, which was ruthlessly swept from the skies when the Allies achieved air superiority, is too fresh in the memory of the experienced ground commanders.

Students of warfare are apprised, as well, of the relativeness of air superiority. It is never gained in finality, but only by degrees. The enemy may husband some air power, even though he is driven from the skies, and mount this saved force at a critical time, as the Germans did during the Ardennes offensive and the Japanese did with their kamikaze. Under such conditions we must always be prepared to *concentrate* and strike with overwhelming energy, even though at any one period our air superiority seems well assured.

Moreover, to achieve air superiority, we cannot hope to indulge exclusively in air combat over the front lines. If we defeat the enemy in this narrow area, we may achieve a local superiority as long as our aircraft are present. The enemy will then merely refuse to commit his air while ours stooge around, but he will strike when we leave. Since a constant air umbrella is wasteful of force, the obvious necessity is to wear down the enemy air force through attrition of every nature. Pilots, crews, planes, fuel, training establishments, aircraft manufacturing and storage centers, and communications facilities which interconnect the many elements of his air power—all should be our targets. Seldom can any one element be fully destroyed. Some elements are more exposed to attack than others, and our emphasis should be influenced by those sore toes sticking out, inviting us to step on them.

Before we engage in air battle, however, we must be assured of a certain *security* for our own air bases, for our own communications, and for all the other elements of national strength present in our territory. Air defense is an impelling responsibility, and because it is seen at first hand by the law-making populace, air defense may be given inordinate stress.

As General Lee, through his threatening advances toward Washington, succeeded in immobilizing tens of thousands of Union troops in the non-productive defense of the Capitol, so did the Doolittle mission freeze much of Japan's aviation to

the defense of its homeland. The battle of Britain put a premium upon air defense, and it was some time after our fighters extended their range with drop tanks that the RAF fighters began to follow our lead and not sit at home waiting for air attacks that seldom came. In using nearly all of our aviation every flyable day, the AAF suffered some surprises and many local defeats, but the aggregate of our efforts compared with those of the enemy turned the tide of air victory. Enemy aviation was then largely pinned down to defend the homeland.

A striking example of Germany's failure to exploit the versatility of aircraft is illustrated by her air policies. Because Britain did not fall after a few months of aerial bombardment during 1940, Hitler lost faith in offensive air power. Specialized aviation, essentially under Wehrmacht domination, became the order of the day. The close-support Stuka had paid good dividends when air superiority had been easily attained. But pitted against Allied fighter-bombers in Africa and elsewhere, Stukas were knocked down like ten-pins. RAF bombardment put a priority on German air defense, and Stukas were left without an escort. As the AAF added its strength, home-defense became Germany's number-one strategic consideration. Fighter production was stepped up repeatedly at the expense of other classes of aviation, and over seventy per cent of Germany's air force was ear-marked exclusively for home-defense. At no time was this huge force concentrated to strike offensively at Russia or to back up the retreating Wehrmacht on the Eastern front. Nor did the crystal-pure mission of air defense permit the Luftwaffe to be assembled for tactical cooperation with hard-pressed Panzers at Normandy or to make concentrated strikes at over-loaded Allied supply points and lines of communications. They were organized to perform but one mission and no more.

The glaring errors made by Germany in her failure to exploit the versatility of air power are apparent to all. Over-strict interpretations of specific roles and missions, particularly those of close-support and air defense, left Germany not with a true air force capable of strategic employment but with a restricted and specialized weapon of doubtful value.

On the other hand, United States Air Force doctrine from its inception has stressed the use of air as a national force capable of performing innumerable strategic missions. Air power has been organized with some specialization, but the long-range objectives have not been prostituted by the need

for this specialization. For example, Tactical Air Command was organized to develop ground support tactics, but included also in its directive was a mission for gaining and maintaining air superiority, while a third specified function of Tactical Air Command was interdiction of the battlefield.

Interdiction—the squeezing off of communication arteries to the battle zones—is merely a phase of the strategic bombing mission. In the latter, not only the battle zone is interdicted, but the whole enemy war-making potential is attacked. It is interdiction of *all* enemy strength. Hence the interdiction mission of tactical aviation is essentially a part of the long range mission of strategic employment.

KEEPING in mind the three primary objectives of tactical aviation (air superiority, interdiction, and front-line support) let us examine their fulfillment in the Korean war during November, 1950. Our forces had driven past the 38th parallel to within a few miles of the northern border of Korea. Down from Manchuria streamed a vast army to oppose our advance. But, contrary to the concepts of orthodox warfare, we were denied the opportunity to stem this advance. The territory north of the border was declared inviolate, and our aviation could not fly across that artificial barrier. What, then, happened to our air superiority? The air superiority, for example, that we had (by default) over the Pusan pocket?

North of the border, which was just a few minutes by air in front of our ground troops, we generously granted the enemy absolute air superiority. We refused to venture beyond that arbitrary boundary, and the enemy marshalled and directed his divisions with impunity in that sanctuary. The only air superiority we retained was in that thin strip of space between our forces and the Manchurian frontier together with the area behind our lines. Our superiority thus became essentially defensive in nature, since we could not exploit it offensively. Unwarlike restrictions caused us to cede to the enemy the most fruitful harvests of air superiority.

How did these restrictions effect the interdiction mission? Hundreds of communications bottlenecks behind the frontier could not be touched. The stores, warehouses, supply dumps, and depots were safer than if they had been thousands of miles in the interior during a more orthodox war. Railroads, marshalling yards, bridges, and rolling stock were immune from

our attack. Roads could be filled bumper to bumper with enemy vehicles of war, and we were even denied air reconnaissance of these myriad movements. We could block the advance only in a pitifully narrow strip of land where a finite number of supply bottlenecks could be repaired by concentrated enemy construction units, permitting his forces to sweep into the battle zones at night, relatively unhandicapped. Interdiction of the battlefield became a vain hope for our air forces under such gross limitations.

The final aim of tactical air, that of front-line support, was unhampered by the anomalous character of the Korean war. Only this last objective remained. Air could be used, like artillery, to blast enemy strong points directly in front of our troops. The decisiveness of this single employment of air was learned to be non-existent when the enemy overwhelmed our positions during the latter days of November.

The use of air strength for direct front-line support of ground forces, although necessary and valuable, can hardly be considered decisive, nor can exclusive employment in this fashion be regarded as *economy of force*. The most lucrative targets for air appear farther from the front, where the enemy is not holed-up, dispersed along a battlefield many miles wide, and well hidden in natural cover. The best return from air fire is gained when the enemy can be caught jammed up, behind the line, with his guard down, and when the bottlenecks over which his concentrations must move are destroyed and kept destroyed. The striking *flexibility* of air strength is only exploited to its fullest when its speed, range, and firepower are employed to *surprise* the enemy where he is most vulnerable.

It is undoubtedly true that slower propeller fighter-bombers can supply a more constant front-line cover than jets, and that their longer orbiting of front-line positions inspires the fighting troops with greater confidence. But by the same token, a battery of corps artillery would also be a comforting addition to an infantry regiment. Hard-hitting, long-range weapons like the 155-mm. guns, 8-inch guns, and 240-mm. howitzers are assigned to higher echelons, however, in order to allow them greater mobility and to permit their concentrations where most needed. The announced mission of corps and army artillery is to reinforce division artillery and to lend depth to the battle. Only incidentally is its purpose to raise the morale of front-line troops.

Some experts would have tactical aviation assigned to the

same army headquarters as is heavy artillery, for employment in a similar manner. This concept makes good sense from a restricted point of view, but a broader analysis may cast doubt upon it.

The capabilities of heavy artillery are obviously not the same as are the capabilities of tactical air. The essential role played by artillery is to further the clear objective of defeating the opposing army, and the range and mobility of artillery does not permit many other objectives. Hence it is logically assigned, in the main, to army, corps, and division headquarters. Because it may take days to move heavy guns from one sector to another, it is logical for units as small as divisions to have some organic artillery. But the range and mobility of air force far exceeds that of artillery. Each single fighter-bomber can cruise far beyond the vital army and corps areas in a matter of minutes and can support divisions at opposite ends of the battle line in a matter of hours. All operational fighter-bombers can be *concentrated* at one sector of the front in a period of time which would be unthinkable as the time required to mobilize artillery at that sector. With such physical flexibility would it not seem reasonable to assign such forces organically to the headquarters most able to exploit the advantages of the weapons? And would not this headquarters logically be the theater command?

A still further argument for assignment of aviation to the highest echelon is presented when considering the air-superiority objective. It is possible, as at Dunkirk, to achieve a local air superiority for a limited time. But such a condition is tenuous and not likely to be much more than an emergency measure to permit an isolated operation. Little hope can be held for a general offensive without a general air superiority in the Theater of Operations.* This theory is widely held by both ground and air specialists. How, then, must aviation be employed to achieve superiority?

The Principles of War would be nullified by parcelling out aviation to armies, corps, or divisions for their exclusive use when the air is controlled by the enemy. In the Napoleonic tradition the enemy would then defeat our aviation in detail. We would not be organized in such a way as to quickly assemble our air forces at the decisive time and place or to range far beyond the surface battle zones to strike enemy aviation where it would hurt most. By the same logic, if command of air were

*When this principle appears not to hold, as in Korea, it can be accounted for by the fact that air superiority is not fully exploited.

relinquished to those having paramount interest in a mere phase of air operations, such as close support, the more decisive roles of air power would doubtlessly be jeopardized.

For the purpose of securing air superiority, "tactical" and "strategic" aviation are employed in an identical manner. It is all one air force with one major objective. The same fighters used to support front lines are used to escort bombers which stimulate enemy air opposition. Precisely the same F-47's that escorted B-17's to Berlin were strafing the beaches at Normandy. And the next day the selfsame craft were defending the Communication Zone by chasing buzz-bombs approaching London, or sweeping far into France and Germany to keep enemy air subdued and immobile.

Innumerable examples in World War II can be cited where "tactical" "strategic" and "defense" aircraft performed in the same struggle for air superiority. The heavy, medium and light bombers struck at hostile air forces on the ground, inflicting severe damage to manufacturing plants, fuel production, and transportation. Our fighters caused enemy attrition in the air. Finally the air campaign won the degree of superiority which permitted our aircraft to roam over all of Europe and make possible the Normandy invasion.

For the most part our air forces were based in England, where fighters were available for air defense in periods of emergency. It would have been a gross violation of *economy of force* to have attempted setting up restrictive missions for separate air forces, one packaged to defend Great Britain and another to obtain control of the air over the Continent.

Combined use of all available air strength was earlier demonstrated in Northwest Africa. We needed to halt the flow of German supplies to Tunisia. Heavy night bombers based in England struck at the port of Genoa, where enemy supplies were loaded. Bombers from the Middle East attacked the ports of Naples and Palermo. Others based in Northwest Africa hit the same targets and added Bizerte and Tunis to the list. Fighters blasted trains and trucks enroute from the ports to the front lines. All were concentrated against that *objective* deemed most important by the supreme commander.

It became apparent that the more sensitive the supply point we hit, the greater was the air opposition encountered, and hence the more enemy aircraft we could destroy. Thus our attacks fulfilled a two-fold purpose: air superiority and interdiction. Later when Montgomery's and Eisenhower's armies

began to press the Wehrmacht between its pinchers, the identical aircraft used on interdiction and air superiority missions provided close ground support.

It was not possible for us to concentrate against any one objective until that job was wholly completed, then forget it and proceed to the next. In World War II it was necessary to organize so that we were able to *mass* our air against one objective or another as the need arose. The ability to do this was actually contingent upon the kind of organization we employed. It permitted us from time to time to concentrate on getting air superiority, to concentrate on the destruction of the means with which the Germans were carrying on the war, to concentrate maximum air strength in direct support of ground forces in periods of emergency, as at Salerno or at Leyte.

Which air operations were purely strategic? Which were tactical operations? Which were air defense operations? It becomes apparent that all such operations are conducted concurrently by all air forces. The operations have a broader scope and a more varied application than the traditional terms imply.

WHEN a nation finds itself at war, its *objective* is to enforce its will on the other. This is the ultimate end-product of war. To do this, a nation must force the other to quit fighting. This may be done by destroying his will to fight or by depriving him of his means to fight. Those are the significant goals of all national power, whether it is deployed on land, at sea, or in the air.

The military is essentially concerned with carrying out the shooting phase of the conflict. Always confronted with insufficient means to ensure success, a nation must rigidly compel *economy of force*. The United States can never afford the luxury of compartmented military services, or branches within a service, each sufficient within its own framework to carry out certain over-all roles and missions.

Without in any sense denying the need for unity of command at the top, it must be admitted that a misconceived application of the idea of unity of command has sometimes worked to the detriment of *economy of force*. If unity of command be carried to an extreme, the Navy would have its ground force and air force; the Army would have its own surface fleets and air force; and the Air Force would have its own navy and ground force. Each service might justify its requirement on the grounds

that these additional forces would be essential to executing assigned roles and missions. Unity of command would be extolled in a general way as a necessary factor in military operations. But the need to rigidly apply *economy of force* prevents this. The principle of *cooperation* must be substituted. Fortunately the National Defense Act of 1947 and its subsequent amendments have provided the framework around which to build an effective military force with that economy which is indispensable for a nation with finite resources.

It must be obvious that the large naval air forces operating in support of the "naval" mission in the Pacific during World War II would have been idle for weeks on end if used only for naval roles. As it was, they were effectively used to hit at the Philippines and Japan to supplement the "tactical" and "strategic" air force operations and to erase from the skies a large proportion of Japanese air power. It must be equally obvious that to have set up sufficient air forces to support the landing operations in Normandy would have been just as wasteful if used solely for that purpose. Nor is it possible to separate and identify all the air operations mounted exclusively for the Normandy invasion. Similarly the provision within the United States Air Force of sufficient aviation to do the long-distance job only, or the short-range army support job only, or the air defense job only, would again violate the principle of *economy of force*.

Maximum air power seems possible only when air weapons are organized as one force, thus permitting air power's potential *flexibility* to be utilized more in accordance with the other Principles of War. To those unfamiliar with the extensive communications, logistical, and other requirements for the employment of large air forces, another solution may seem simple and appropriate: Give to each army, air force, or fleet that amount of aviation needed to carry out "normal" missions. Then when the need arises to concentrate all forces against certain objectives, take these air forces away from their parent unit, attach them to the appropriate headquarters, and send them on their way. This solution is an over-simplification of a complex problem. The hard facts of experience have shown that it seldom works out as pat as the logic would imply.

The coordination demanded by any air operation requires an integrated, closely knit organization for communications, logistics, intelligence, and command. It must be well oiled and not allowed to get rusty during "normal" operations. Training

in *concentration*, in *flexibility*, and in *surprise* types of *offensive* operation must be a continuing process even during combat. These *massed* activities of air power cannot be achieved by quickly forming a one-task organization. The degree of teamwork that permits rapid concentrations requires routine functioning with a resultant broad base of knowledge and skill. Thus can *simplicity* and swift *movement* be assured.

IT can be concluded that, if the Principles of War are to be most effectively applied, air power should habitually be organized as one unified force. In the words of General Vandenberg, "Tactical and strategic air power is part of the same ball of wax . . . you can't separate [it] and put [it] in neat compartments."

A recent speech by Secretary of the Air Force Thomas K. Finletter epitomizes this point and leaves slight doubt about Air Force policy in this regard. "Tactical air and strategic air are merely handles," he said, "which have been developed to identify different functions, each of which is indispensable and each of which fits into the over-all integrated structure of air power."

Furthermore there should be no rigid adherence to the predetermined priorities ascribed to certain elements of air power when a crucial issue is at stake affecting the whole of national security. Then, without regard to theoretical priorities, total air power must be thrown into the gap which threatens the very structure of our civilization. This will always be THE first priority.

Air power must act promptly, not in terms of weeks, but hours. *Surprise* demands speed and makes mandatory the tactical control by skilled air leaders of supporting operations. The air organization must be designed to advance the national objectives with indivisible air power.*

Air University

*Abstract of Principles of War as listed in War Department Training Manual 10-5 dated December 23, 1921: Objective, offensive, concentration or mass, economy of force, movement, surprise, security, simplicity and cooperation.

Air War In Korea

*Prepared in the Office of the Secretary of Defense
for the Air University Quarterly Review*

AT THE START of the Korean offensive on 25 June 1950, the Far East Air Forces under Lieut. Gen. George E. Stratemeyer was made up of some eight and a half combat groups, charged with the air defense of Japan, Okinawa, Guam, and the Philippines. Comprising the eight and a half groups were three fighter-bomber groups, two fighter intercept groups, one all-weather fighter group, two light bomb squadrons, one medium bomb group, and a troop-carrier group.

To meet the threat of Russian jet fighter opposition, FEAF fighter groups had just been converted from F-51 to F-80C aircraft. A few F-51's remained in that area, awaiting shipment back to the U.S. The light bomb squadrons were equipped with B-26's, the medium bomb group had B-29's, the all-weather fighter group—whose squadrons were dispersed throughout the FEAF area—had F-82's, and the troop-carrier group had C-54's and some C-82's.

As soon as word reached FEAF bases that the North Koreans had attacked, General Stratemeyer ordered a maximum effort in air support of South Korean forces. It was an effort which was to continue without a day's let-up throughout the entire campaign.

First group to go into action was the troop carrier group, which was assigned to evacuate key government officials and civilians from Seoul via Kimpo airfield. Fighters were directed to provide cover for the C-54's, and before the first day was out a pair of F-82's made the first enemy fighter kill, a YAK-3 that had been threatening the evacuation operations.

In the first weeks all missions against North Koreans had to be flown from bases in Japan, since there were no fuel reserves or maintenance facilities available for our aircraft at South Korean airfields. Combat lines were some 400 miles from U.S. fighter bases. This distance taxed the range of the F-80's and permitted them to spend only a few minutes at low altitude over the combat zone. F-51's, though slower and somewhat more vulnerable to ground fire, had much greater range and, fortunately, were capable of outfighting the YAK-3's, YAK-9's, and YAK-15's which were all the North Koreans put

up against them. All-weather F-82's had a range well beyond that of the F-51's, plus greatly superior fire power.

For the first few days the U.N. command was hampered in attempts to keep North Koreans fighters out of the air by restriction from attacking their airfields above the 38th parallel. Consequently some YAK's eluded the air defense to strafe South Koreans and attack Suwon airfield in the first week of fighting. That restriction was soon lifted, however, and by 28 June the USAF began pummeling North Korean air bases in the short campaign to gain air superiority.

By 30 June 331 close-support and 103 interdiction sorties had been flown despite two days of bad weather.

There was no shortage of targets as North Koreans pushed U.N. troops back all along the front, but the lack of radio communications among the front-line defenders on the ground prevented adequate close-support operations. Air Force fighters struck at targets of opportunity wherever they came upon them, strafing and rocketing tanks, locomotives, trucks, and troop concentrations. Weather was frequently an inhibiting factor during the early summer, but it never stopped the regularity of attacks. By 10 July Air Force daily sorties topped the three hundred mark.

Many aircraft flew two and three sorties a day as maintenance crews worked around the clock to rearm and service them. Desk pilots in FEAFF administrative jobs took turns flying missions while regular pilots snatched a few hours' sleep. Squadrons at outlying bases of the FEAFF area were brought in to Honshu and Kyushu to reduce their flight radius, leaving skeleton air defense units at their home bases.

The Army rushed aviation engineers and fuel supplies into Korea to prepare airfields. In mid-July, within three days after they began work, operations began from one such steel-matted airstrip. Aircraft flew from Japan to combat zones and landed at the improvised strip to refuel and rearm as often as possible before returning to their Japanese bases.

Within two weeks after fighting began, North Korean air opposition had been virtually eliminated, and FEAFF was able to devote itself almost exclusively to operations in support of ground troops. At this work the F-51, with longer range and the ability to operate from short, improvised airstrips, was clearly superior to the F-80 under the conditions maintaining. Consequently FEAFF called for more Mustangs. In the U.S. the Air Force began reconditioning several hundred from storage. While they were in process, Mustangs were borrowed from Air

National Guard squadrons. A record number of 145 was loaded aboard the Navy carrier *Boxer* and ferried across the Pacific in the record time of eight days and seven hours.

These additions to FEAF's fighter force enabled it to fly more than 400 sorties a day by the end of July while the battle lines were being driven back toward the Nakdong. The July-end figures showed more than 4300 sorties in close support, 2555 in interdiction, 57 in two strategic bomb strikes, and some 1600 reconnaissance and cargo sorties, for a total of more than 8600.

Ground-to-air communications improved steadily, and the Air Force assigned fighter pilots to controller duties with forward ground units, as it had in World War II.

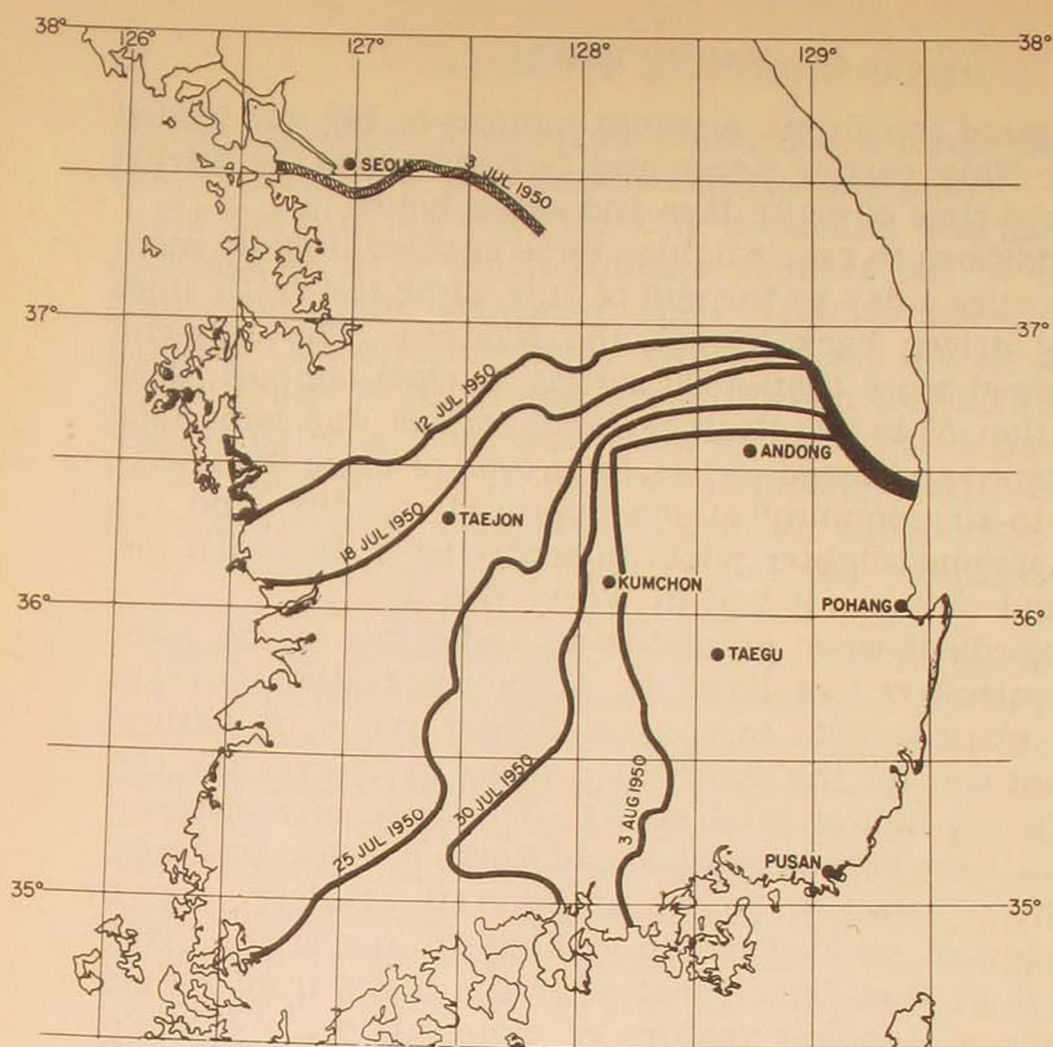
As an expedient when ground-to-air radio was scarce, some forward controllers had flown in Army observation aircraft, using the plane's radio to contact fighter pilots. A natural development was for the observation plane to fly over the target to help the fighter pilot spot it. This type of assistance, which would have been impossible had North Koreans possessed either fighter planes or potent antiaircraft artillery, proved highly successful, particularly in making full use of the F-80's relatively short time for combat after the flight from Japan, and became a standard feature of close-support operations throughout the campaign.

Adaptations were being made in weapons as well. New caliber .50 bullets developed since the war proved more destructive than ever, but pilots complained that many of their high velocity five-inch rockets were ricocheting off tanks. Various dive angles were tried, but in many cases, because of terrain or other factors, pilots could not run in from ideal angles. A rocket was needed which would "stick" from almost any angle.

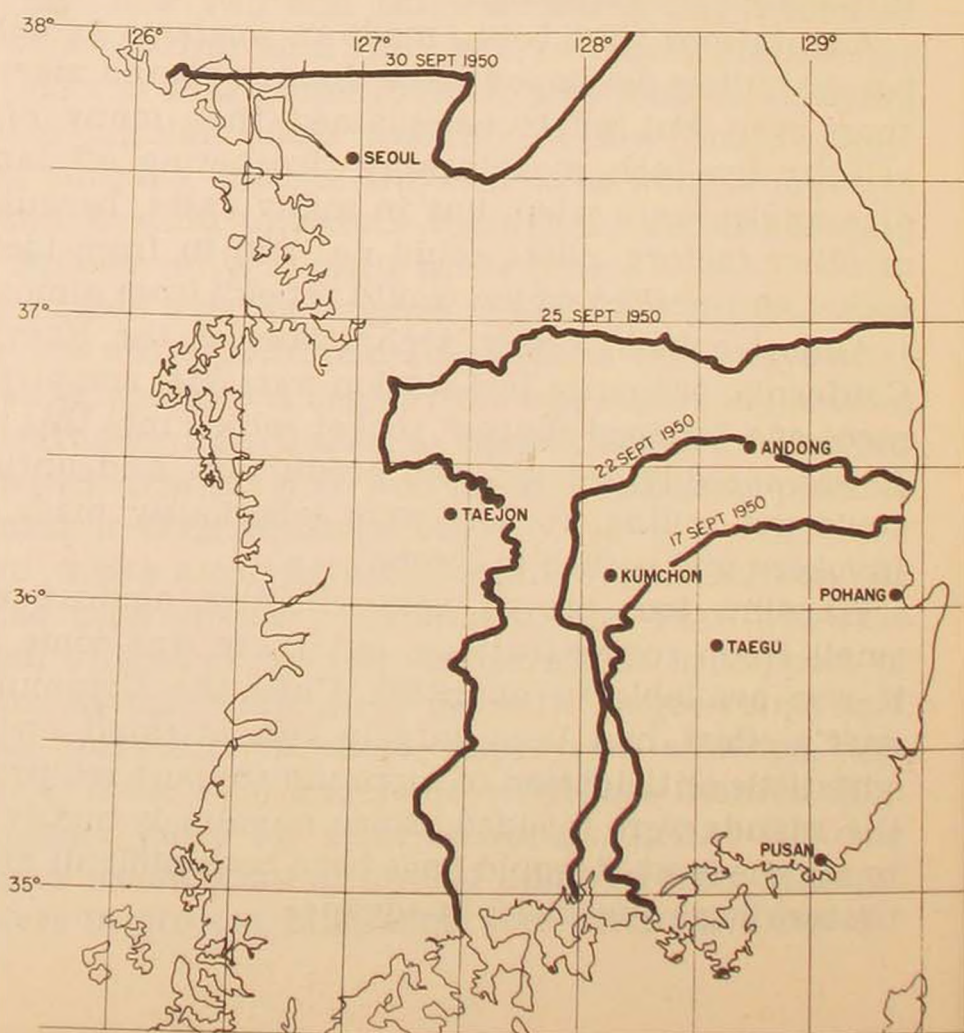
Almost coincidentally, technicians at the Navy's Inyokern, California, ordnance test station were just completing development of a "shaped charge" rocket, which met this requirement. It was speedily ordered into production, and until production could get rolling, rockets were laboriously made by hand at Inyokern and rushed to combat.

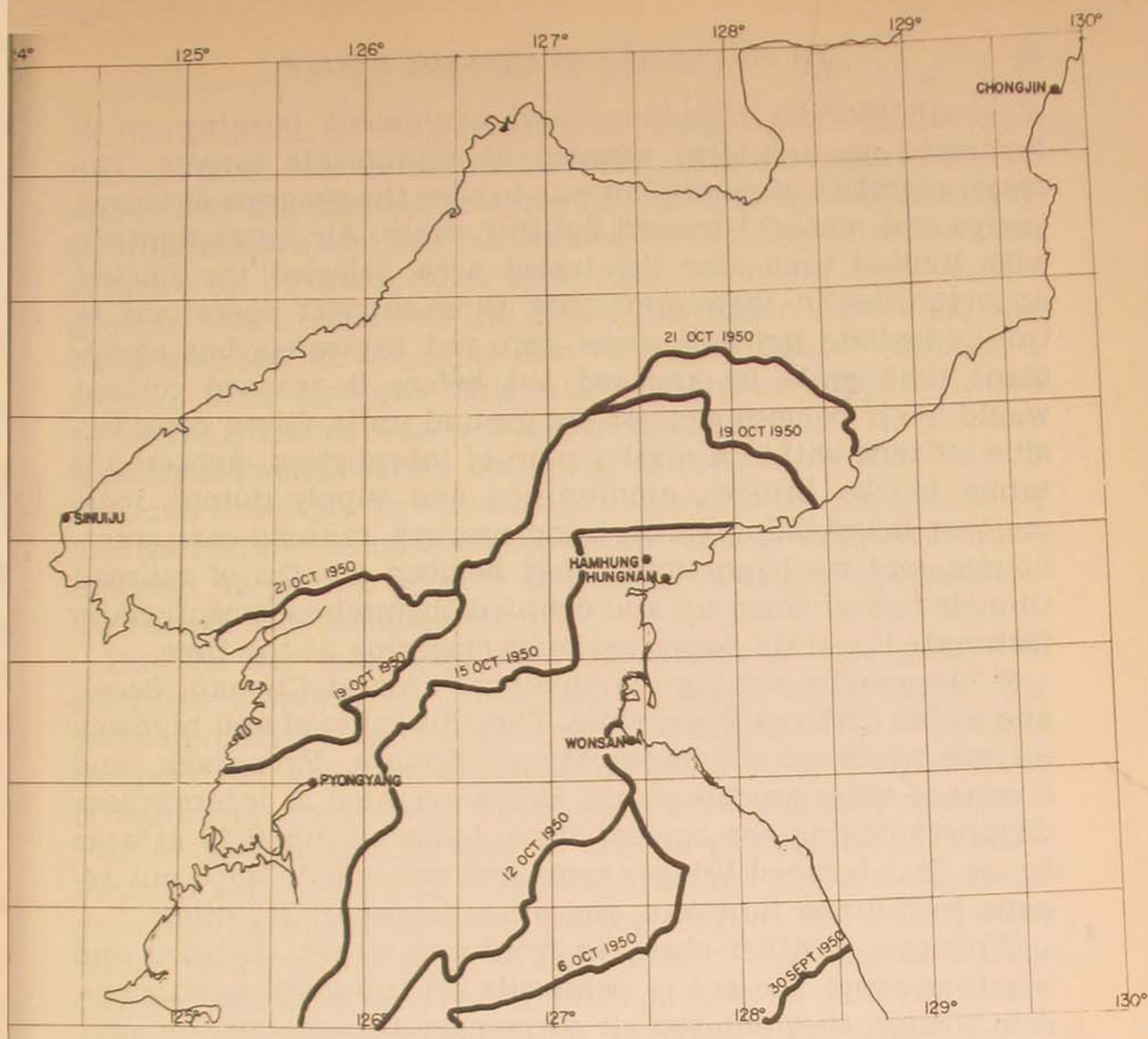
Napalm, too, proved very effective against vehicles and small troop concentrations, but there was some delay before it was available in quantity. Until the Communists struck, FEAF's effort had been largely concentrated on air defense, with little anticipation of a ground support requirement unless the islands were invaded. Since napalm is highly combustible to say the least, it would have been both difficult and dangerous to store large quantities in advance.

BOMB LINES



*indicating
principal
defensive
and
offensive
positions*





Hence, when action flared in Korea, preparation of napalm was one of many improvisations hurried by FEAF and FEAMCOM—Far East Air Materiel Command—to adapt aircraft for the unexpected role. The value of this inexpensive weapon had been proved in World War II. Against troops a single napalm tank covers a wide area, and a drop fifty yards short of a vehicle is still effective in putting it out of action.

Within a month, FEAMCOM had set up quantity production of 110-gallon tanks and was filling them with the gasoline-soap powder formula. F-80's and F-51's carried four to six tanks each on missions for which this weapon was suited. By the end of the period covered in this account, napalm led all other weapons in destruction of tanks and vehicles.

In the weeks while United Nations forces were steadily retreating—conserving their small number of men while inflicting heavy casualties on the invaders—the heavy preponderance

of North Korean manpower and equipment pushing south furnished an unlimited number of appropriate targets. The major objective of every pilot was to slow the progress of enemy troops and materiel toward fighting zones. Air Force fighters, with limited time over the target area, selected the juiciest opportunities in their gunsights. Close-support operations in the immediate fighting zones were not neglected, but equipment that could be knocked out before it reached combat would never be used against the ground units. Given considerable latitude within a master plan of interdiction, fighters hit tanks, trucks, bridges, ammunition and supply dumps, locomotives, marshalling yards, troop convoys, railroad cars, warehouses, and road junctions. They bombed mouths of railroad tunnels to seal them up and counted themselves exceptionally fortunate if a train happened to be emerging at the time.

B-29's sought out big marshalling yards at Chonan, Seoul, and as far north as Pyongyang. They hit railroad and highway bridges at Seoul, Chongju, Ichon, Kongju, Pyongtaek, and dozens of other crucial points. B-26's operated at intermediate distances behind the combat lines, following up B-29 attacks to see that bombed bridges remained out and to wipe out repairs to railroad junctions and other transport facilities.

Whenever weather obscured front-line targets, fighters and bombers swept the entire peninsula on interdiction missions. And though they enjoyed air supremacy throughout the area, they made frequent visits to North Korean airfields, working them over to keep downed NK units down.

All these efforts were not enough to stop the enemy advance. He kept coming, by fording shallow rivers, by using humans as pack animals to haul equipment across mountains. He lived off the land and fought with hand weapons. He was prodigal with manpower. He infiltrated across country through gaps that existed because our outnumbered troops were too few to guard the entire front. One major element of air power was missing—strategic attacks against his sources of materiel. These targets in the main were outside Korea. We could hamper his advance, destroy much of his equipment, but when we could not strike at the source and put it out of commission, our air units were in the position of trying to stop a leaking pipe by mopping up the floor.

Inconclusiveness of strategic operations, limitations to effective interdiction, and the numerical superiority of enemy troops combined to place an abnormal load on close-support operations. But the absence of enemy air strength permitted

the Air Force to devote a larger percentage of its effort to that mission than ever before in Air Force combat history. By the end of July the dozen or so Army divisions, composed principally of Americans and South Koreans, were being provided close support by at least eight FFAF fighterbombers and bomber groups, plus elements of the Royal Australian Air Force. The Navy and Marine air arms also furnished fighter support to some of these divisions. This ratio of eight air-support groups to twelve divisions was well above that furnished to General Bradley's Twelfth Army Group in Europe in World War II. General Bradley's twenty-eight divisions were supported by fourteen fighter-bomber groups—sufficient, as General Bradley has said, to provide a "very successful sustained operation in the face of a determined enemy."

But the war in Europe was fought over a wide area with adequate numbers of well-equipped troops in an advancing campaign. In Europe our forces had the initiative. We picked the points at which we attacked. We could bring a higher ratio of fighter planes to bear where they were expressly needed.

One significant difference in the air-ground ratio requirement in Europe and in Korea—apart from the scale and the direction in which we were moving—lay in the relative fire power possessed by those ground forces. Whereas in Europe General Bradley's men had the full panoply of artillery, heavy tanks, tank destroyers, and other weapons, the troops in Korea in the first month of fighting had these weapons, if at all, only in small quantities and sizes. As a result, Air Force fire power was often called upon to take the place of missing weapons.

A parallel to this situation might be drawn in Marine amphibious operations. At the critical stage when Marine forces have been landed but supporting weapons have not yet been put on the beach, Marine aviation must furnish the "heavy artillery" required to support its ground troops. For this purpose, and to furnish "deep" support, air defense, and photo reconnaissance, the Marine Corps considers twelve squadrons necessary to support a single division. Twelve squadrons are equivalent to four Air Force groups.

The impossibility of the Air Force ever expecting to approach this Marine air-ground ratio is evident in the fact that at peak strength in World War II the Air Force had 243 combat groups of all types—strategic, tactical, troop carrier, and reconnaissance. About 96 were fighter and light bomber, though a number of fighter groups employed primarily to escort heavy bombers were not normally available for close-support operations.

The wartime Army numbered 89 divisions. Simple arithmetic shows that an Air Force to support 89 Army divisions on the Marine assault ratio would require 3.5 times the number of tactical groups that existed in the Air Force at that time.

In Army-Air Force operations such a force is, of course, neither possible nor often necessary. The Army seldom is forced to make a bludgeoning frontal assault on enemy positions, and, when it is, the Air Force can usually divert additional fighter support from other missions to concentrate on the critical area. But when, as in the early days of Korea, frontal assaults are being made on our positions all along the line, the total air fire power that can be brought to bear on any one of several equally critical positions is limited by the total number of squadrons available, and their effectiveness is limited if ground forces cannot exploit the havoc imposed.

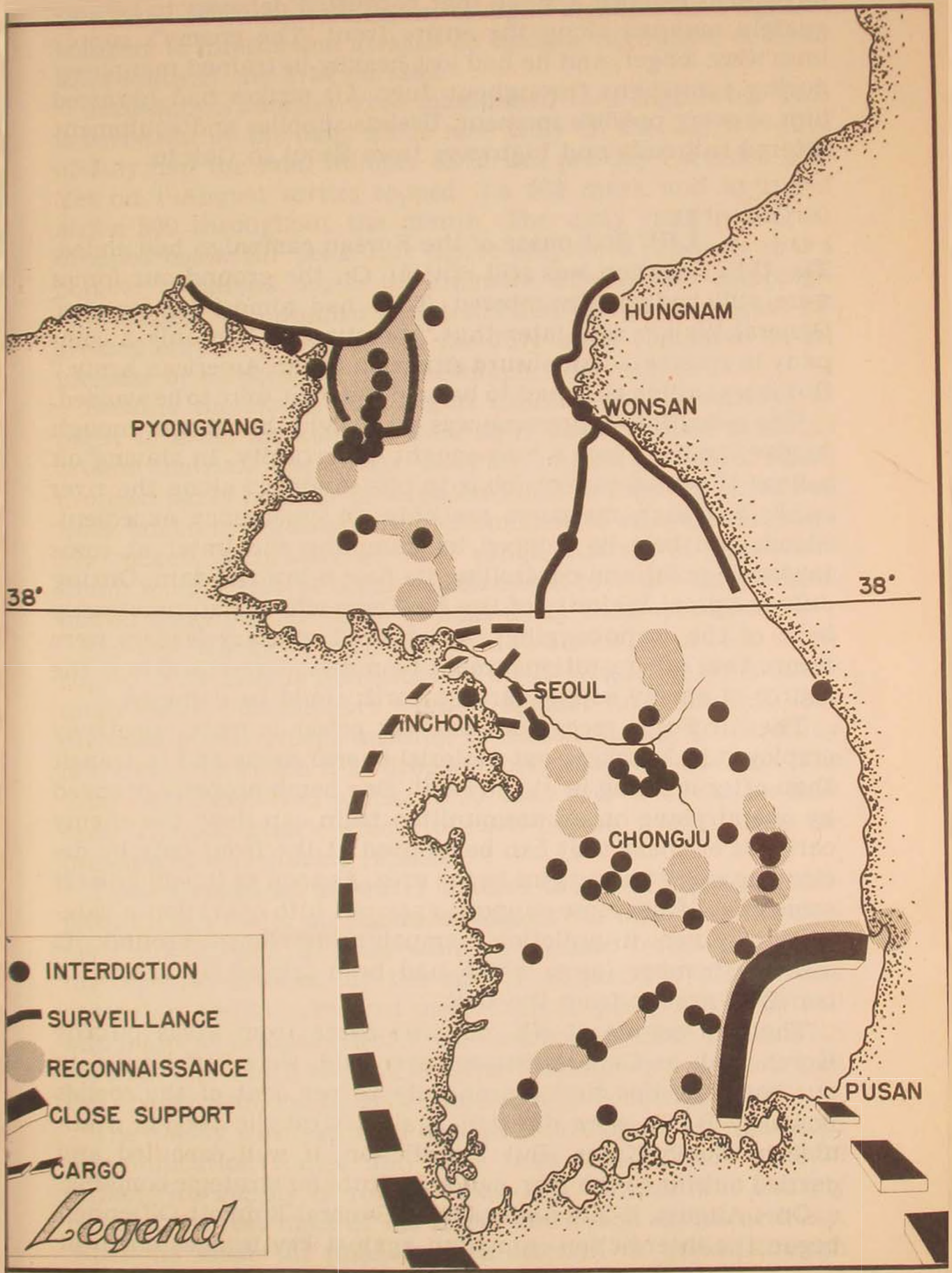
Nevertheless, incessant strafing and pounding by air was causing serious trouble for North Korean commanders. As the interdiction campaign progressed, communiques reported that North Korean morale was suffering from pressure of continued air attacks. Troops were regrouping in the dark, having found it unprofitable to regroup during the day. Enemy transportation problems became steadily more acute as supply lines lengthened and railroads and highways underwent constant bombing. Convoys ordinarily moved only at night.

Effects of this continued air action were evident at Taejon, where the North Koreans could mobilize little tank support for their massed onslaughts and paid heavily in men for the ground they gained. B-26's attacked a gasoline storage dump at Taejon and were rewarded when reconnaissance reported next day that horses were being used to draw NK equipment. Fighter planes promptly sought out the horses. A report issued at Far East Command headquarters on 24 July said that "chow on the hoof or straight from rice paddy to mess kit is the order of the day for Red soldiers in South Korea . . . Oxcarts are being used extensively to carry supplies." But the NK tide continued to roll. Taejon fell, and U.N. forces yielded ground stubbornly as they backed toward the Naktong. Throughout this phase of the campaign, U.N. ground forces, frequently outnumbered by as much as twenty to one, were nevertheless able to inflict heavy losses on the enemy before they dropped back in preplanned movements to new defenses. Their withdrawals were accomplished with outstanding bravery and skill and have won high commendation from military experts.

Early in August U.N. forces dug in behind the Naktong and

A Typical FEAF Day

21 September 1950



were at last at a line where they were prepared to make a stand. Natural defense lines had existed before, but now the buildup of forces had reached a stage that permitted defenses to be adequately manned along the entire front. The enemy's supply lines were longer, and he had lost heavily in trained manpower during campaigns throughout July. Air strikes had harassed him at every possible moment. Useless supplies and equipment littered railroads and highways from Seoul to Chinju.

THE first phase of the Korean campaign had ended. The U.N. situation was still critical. On the ground our forces were still badly outnumbered. They had almost no reserves. General Walker said later that "sometimes I had only a company in reserve . . . an absurd situation for an American army." But it was a line that had to be held if defeat were to be avoided.

The reduction in pressure was very slight, but it was enough to give the Air Force a long-sought opportunity. In staving off a flood the most urgent job is to pile sandbags along the river bank, but such measures are only an emergency expedient. Floods can best be stopped by damming the water at some favorable point and controlling its flow below the dam. During July the great majority of the Air Force efforts had necessarily been of the "sandbagging" variety, but military leaders were aware that air operations would be much more effective if the source of enemy supply farther north could be dammed.

The Air Force recognizes that air power is more effectively employed in knocking out materiel in rear areas and in transit than after it is dug in at the front. One bomb properly dropped by one airplane on an ammunition train can deny the enemy carloads of shells that can be stopped at the front only by destroying every enemy gun in the area. As soon as it could divert some effort from close support, FEAF put into operation a carefully planned interdiction campaign developed around its medium bomber force, which had been tripled by arrival of two B-29 groups from the U. S.

The real source of NK materiel came from areas outside Korea that, as General Stratemeyer said, were "off limits" to our bombers. For that reason only 25 per cent of the sorties flown by B-29's were directed against strategic targets available in North Korea. But interdiction, if well executed and carried out far to the rear, can substitute for strategic bombing.

On 4 August, B-29's under Major General Emmett O'Donnell began the interdiction campaign against key bridges north of

the 37th parallel. And on 15 August General MacArthur's headquarters considered the ground situation sufficiently improved to justify additional allocation of light bombers and fighter-bombers to interdiction attacks on bridges, highways, and rail lines south of the 37th parallel.

Close-support sorties were maintained at a high level. This is borne out by the daily sortie rate. Only on the last two days of July had the total number of sorties per day exceeded 400. Yet on 1 August sorties topped the 500 mark and averaged above 500 throughout the month. The daily rate in August dropped below the peak July figure only once. Though FEAR's bomber command began its intensive interdiction campaign on 4 August, the number of interdiction sorties in August increased only 54 per cent over the July total, compared to an increase of 62 per cent in close-support operations.

Because the enemy had begun running supply convoys at night to avoid air attacks, B-26 light bombers now mounted around-the-clock operations. They were aided by B-29's, which dropped flares in train to brighten miles of highways and rail lines, enabling B-26's and fighter-bombers to strafe, bomb, and fire rockets accurately at close range. Arrival of the 492nd Bomb Wing, a reserve organization called to active duty intact, helped make possible these 24-hour-a-day B-26 operations.

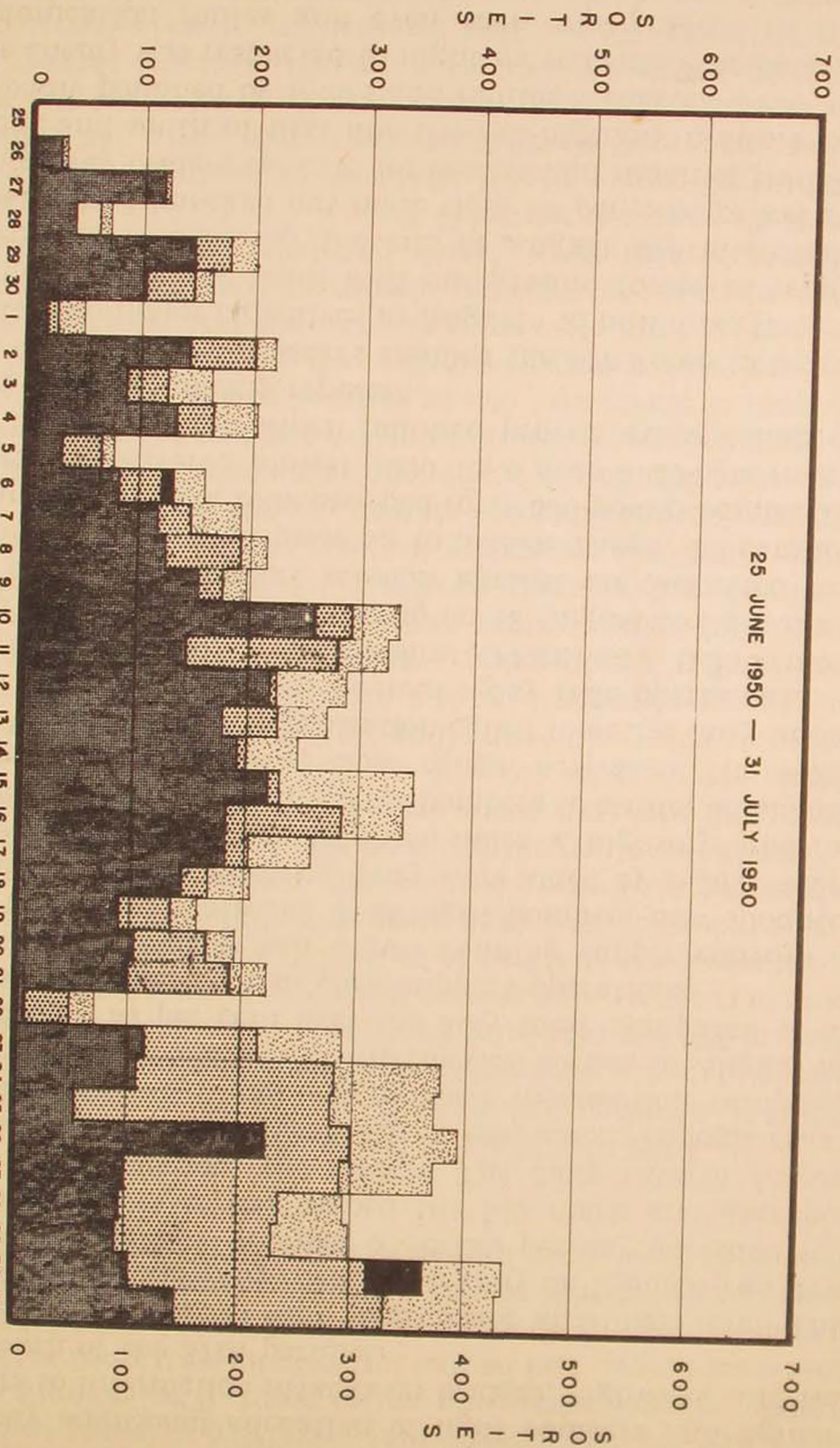
On the Waegwan front General O'Donnell's B-29's interrupted their interdiction program on 18 August to fly a maximum effort close-support mission against an estimated four divisions of NK troops massing to attack Taegu. In carefully laid out sectors each B-29 dropped forty 500-pound bombs. The total effort delivered almost 1000 tons over a 39-square-mile area. The NK attack which followed proved weaker than expected and was quickly repulsed.

These stepped-up measures enabled the Air Force to accomplish its two major objectives in August: to minimize the enemy's buildup and to team with our ground forces to repulse his repeated attacks. By the end of August the interdiction campaign had knocked out more than 80 per cent of key rail and highway bridges selected for destruction north of the 37th parallel, and south of that line the rail-highway network had been badly pounded by B-26's and fighter-bombers.

The enemy was restricted to night movements over battered communication routes and even then was subject to B-26 strikes; his supply of rolling stock and vehicles was sharply reduced; he lost most of his tanks and much of his artillery. When he made his final, fanatic attempt to break through

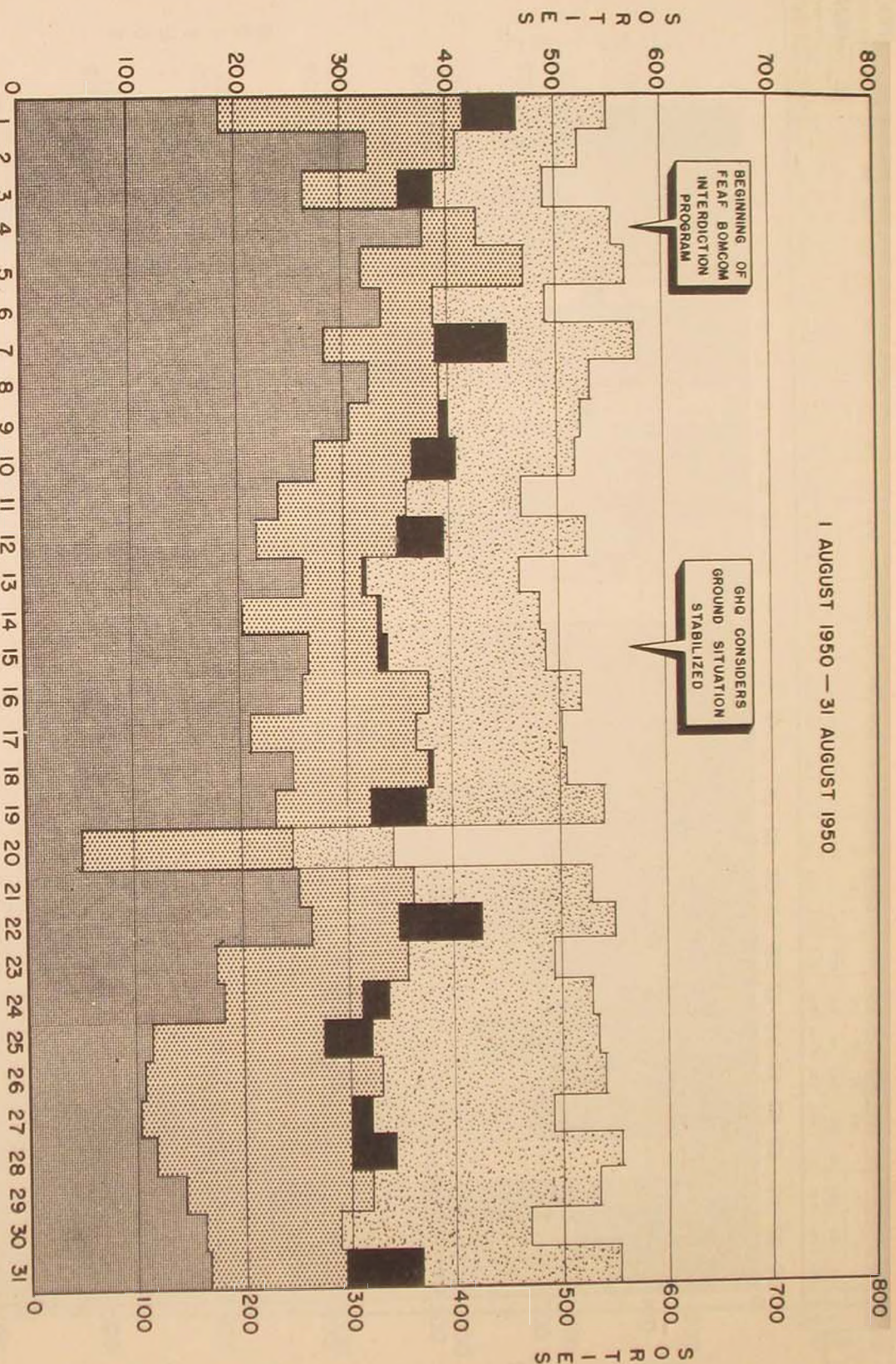
FAR EAST AIR FORCES AIR EFFORT—BY TYPE OF SORTIE

25 JUNE 1950 — 31 JULY 1950



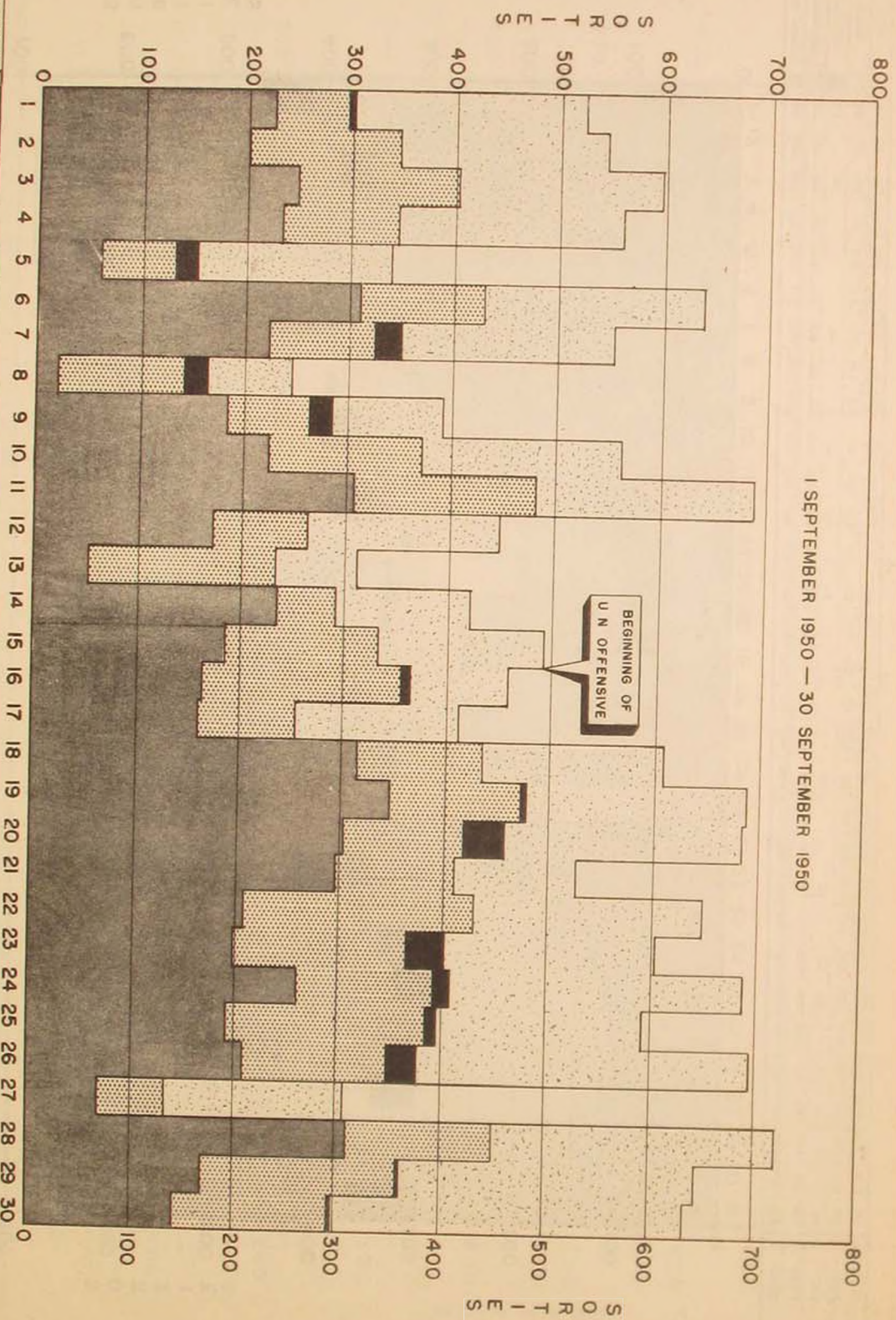
CLOSE SUPPORT	0	27	121	36	146	101	13	140	88	131	32	85	120	126	153	261	142	220	171	191	221	176	175	142	92	102	95	6	117	107	54	224	97	95	93	101	145	4,346
INTERDICTION	0	0	0	25	33	45	12	61	38	35	38	37	28	67	24	32	139	3	56	8	11	109	30	27	45	67	93	39	102	177	229	75	191	141	136	215	187	2,555
STRATEGIC	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	
OTHER	0	2	2	8	19	15	23	18	37	38	9	26	45	25	21	43	46	60	46	49	120	58	57	36	23	23	45	23	73	101	100	97	95	54	70	70	99	1,676
TOTAL	0	29	123	69	198	161	48	219	163	204	79	157	193	218	198	336	327	283	273	248	352	343	262	205	160	192	233	68	292	385	383	396	363	290	299	434	431	8,634

1 AUGUST 1950 — 31 AUGUST 1950



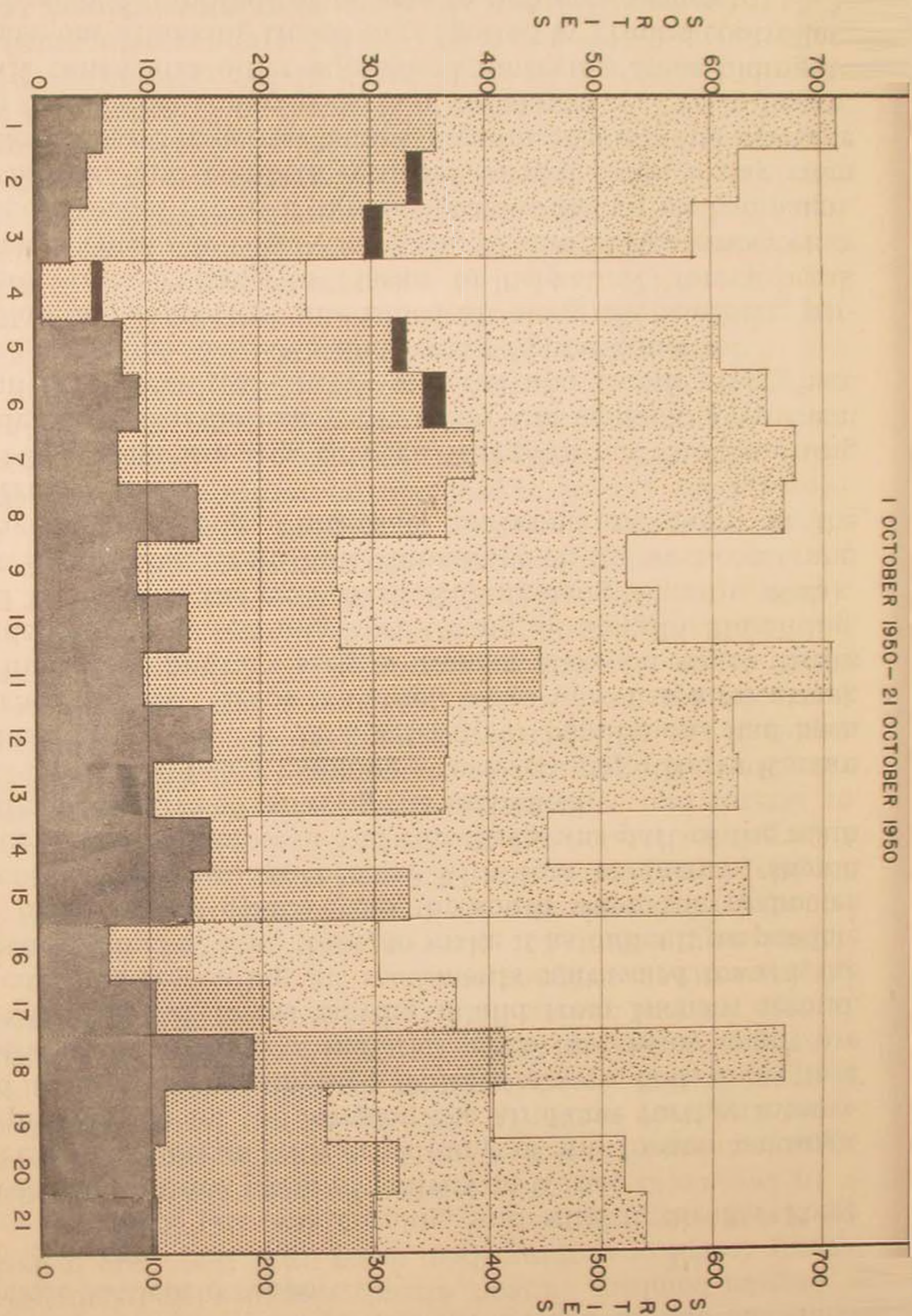
CLOSE SUPPORT	188	326	263	375	320	341	280	327	307	271	238	218	257	202	264	259	212	250	234	52	258	272	176	181	123	112	107	123	146	171	175	7028
INTERDICTION	227	83	86	43	144	43	108	69	89	100	132	132	56	128	69	121	159	131	84	198	113	86	191	140	163	232	193	181	184	125	126	3942
STRATEGIC	47		40				58		6	37		49	3	2	11			4	63		66		25	56		25	47			74	613	
OTHER	86	112	102	131	102	103	126	147	123	113	92	136	134	153	143	148	134	123	171	96	163	137	128	192	203	208	165	211	210	176	186	4454
TOTAL	548	521	491	549	566	487	572	543	525	521	462	535	450	485	487	528	505	508	552	346	534	561	495	538	545	552	496	562	540	472	561	16,037

1 SEPTEMBER 1950 — 30 SEPTEMBER 1950



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
CLOSE SUPPORT	227	200	249	232	63	310	224	21	182	222	307	170	54	233	185	164	166	313	347	300	295	206	198	260	190	208	71	311	169	142	6,219
INTERDICTION	70	147	153	112	71	116	102	120	80	149	174	89	176	60	147	188	96	120	126	119	117	221	169	131	190	138	65	139	191	451	3,926
STRATEGIC	5				24		24	24	24							9		5	39				36	16	12	27					247
OTHER	221	195	194	216	180	207	202	81	103	191	204	189	79	127	159	93	155	173	210	228	215	220	200	277	198	323	172	270	285	335	5,906
TOTAL	523	542	596	560	338	633	552	246	389	562	689	448	309	420	491	454	417	606	687	686	627	647	603	604	600	605	600	600	600	600	

1 OCTOBER 1950 - 21 OCTOBER 1950



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
CLOSE SUPPORT	61	49	33	5	77	94	71	141	90	135	97	154	103	153	139	56	104	191	112	101	103	2,069
INTERDICTION	292	272	260	43	235	246	314	218	178	135	348	209	253	36	193	80	107	222	149	224	196	4,210
STRATEGIC	22	22	16	8	13	18	286	304	257	280	261	257	267	264	296	167	164	249	144	192	243	77
OTHER	362	280	280	185	281	293	671	653	525	550	706	620	623	453	628	303	375	662	405	517	542	5,312
TOTAL	715	623	589	241	606	651	671	653	525	550	706	620	623	453	628	303	375	662	405	517	542	11,566

during the first week in September, he was frustrated by lack of mass to overwhelm our determined resistance on the ground, skillfully coordinated with the Air Force's all-out air effort in close battlefield support.

THE tide was turning, and with it the Air Force turned to its third phase of activity in Korea.

This phase began with scheduling of the Inchon landings. In preparation for the invasion the Air Force further intensified its interdiction campaign. Objectives were, first, to hit hard at the concentrations of materiel which the enemy might use in opposing our forces moving inland from Inchon; second, to continue restricting his movements southward toward the Pusan perimeter; and, third, to make it as difficult as possible for his troops to escape from the south when the perimeter offensive, timed to synchronize with that at Inchon, should force the enemy to break and run. Each was part of the main tactical objective of isolating the battlefield.

B-29's rained heavy bombing attacks on major North Korean industrial and rail centers, after their populations had been warned in leaflet drops that their cities were listed for attack as important military targets. Among cities on which B-29's made good their warning were Chongjin, Songjin, Hamhung, and Wonsan on the east coast, Kujang-dong, Sinanju, Kwaksan, Pyongyang, Haeju, and Chinnampo on the west coast, and Songchon, Kaesong, Chunchon, Sariwon, and Seoul in the interior.

B-26's swept the area between Waegwan and Seoul, hitting bridges and marshalling yards again and again to keep them from being restored. Enemy materiel and troops everywhere were fair game for B-26's and roving fighter-bombers.

Close air support was intensified all along the southern perimeter from Pohang to Masan to help U.N. forces break through enemy defenses. On 18, 19, 20, and 21 September close support sorties hit their highest peak of the entire campaign, as, fighters and bombers returned several times a day from Japanese bases to deliver bombs, napalm, rockets, and machine gun fire against enemy pockets of resistance.

NK tanks and other equipment emerging from hiding to oppose our attacking troops were spotted by ground controllers who radioed hundreds of targets to fighters overhead.

Within a week several U.N. divisions had broken through and, stretching their legs cramped by months of painful retreat and dogged resistance, were racing north under friendly

air cover. In ditches along their path they saw the effects of air action as they passed abandoned enemy tanks, trucks, and weapons which had been strafed and burned.

Fighter-bombers ranged ahead, cleaning up elements of enemy troops or pinning them down until they were bypassed by fast-moving columns.

In two weeks U.S. troops who had been fighting off enemy attacks around the Pusan line for six weeks, advanced beyond Seoul and were racing to catch up with a fast-moving South Korean division already north of the 38th parallel.

As early as 24 September some fighter pilots were returning to base without having fired a shot because of the absence of targets in their assigned areas.

The requirement for close-support missions was all but ended. On 2 October the Air Force was able to report that "no targets were found in the IX Corps area, while claims for the I Corps area totaled but one truck." Most planes concentrated on interdiction, with twenty-seven North Korean towns being raked in one day by fighter-bombers who attacked rolling stock, supply areas, anti-aircraft positions, enemy-occupied barracks, power plants, bridges, and vehicles. A few fighters were as usual detailed to armed reconnaissance over enemy airfields, but as usual found no traces of activity.

Now a new air operation—air supply—succeeded close support in the daily tabulations. Air supply, which has been employed whenever necessary throughout the campaign, now provided the answer to problems of transport as our interdiction measures in South Korea came back to hamper us in the movement northward. While engineers went to work trying to repair extensive damage to bridges and railroads, the airlift, under Maj. Gen. William H. Tunner, who had run Operation Vittles in Europe, supplied ground forces with food, clothing, ammunition, and other essential equipment. In late September and throughout October the airlift accounted for almost half the daily number of sorties. Airlift kept U.N. troops on the offensive when all other sources of logistics support failed.

General Tunner's command dropped paratroops and supplies ahead of swiftly advancing U.N. forces at Sukchon and Sunchon, about thirty air miles north of Pyongyang, on 20 and 21 October. F-51's and F-80's preceded and accompanied the C-82 troop carrier planes, attacking ammunition dumps, tanks, fortified buildings, and troops in the area. Later on 21 October a British infantry brigade advancing from Pyongyang linked up with the airhead.

FEAF 25 JUNE—21 OCTOBER

Sorties by FEAF

Fighters	28,297
Light Bombers	3,125
Medium Bombers	3,867
Reconnaissance	2,086
Cargo	11,091
Total	48,466

(Total does not include 4171 air-sea rescue and miscellaneous operational flights)

What They Delivered

Tons of Bombs	36,474
Rounds of Ammunition	21,879,300
Number of Rockets	75,228
Gallons of Napalm	866,914
Tons of Freight	28,214
Number of Passengers	39,187
Number of Air Evacuees	11,227
Number of leaflets	68,490,000

What They Accomplished

● Major Strategic Targets Neutralized	18
● Marshalling Yards Destroyed	82
● Bridges Downed or Damaged	399
● Aircraft Destroyed or Damaged	155
● Tanks Destroyed or Damaged	1,104
● Trucks and Vehicles Destroyed or Damaged	6,941
● Field Guns Silenced	946
● Locomotives Destroyed or Damaged	432
● Railroad Cars Destroyed or Damaged	6,117
● Warehouses Destroyed or Damaged	91
● Oil Storage Tanks Destroyed or Damaged	47
● Tunnels Sealed	44
● Barges and Boats Destroyed or Damaged	128
● Troops	18,867

What It Cost

Personnel

Killed	71	Grand Total 241
Wounded	74	
Missing	93	
P.O.W.	3	

Aircraft

	Due to Enemy Action	Other	Total
Fighters	93	30	123
Bombers	9	17	26
Transports	2	7	9
Miscellaneous	4	14	18
TOTAL	108	68	176

Interdiction remained important as B-29's and B-26's penetrated farther north into Korean mountain towns to break up the flow of supplies from Korea's neighbor to the north. The interdiction program followed the pattern of a housewife sweeping a walk. One day B-29's would hit a series of cities and towns across Korea from Pyongyang to Wonsan, while B-26's ranged below them from Sariwon to Kosong and fighters swept the area from Kaesong to Yangyang. Next day the B-29's moved farther north to Sinanju, Pukchang-ni, and Yonghung, while B-26's worked day and night over yesterday's B-29's targets, and fighters visited the Sariwon-Kosong line. The following day, B-29's took on Sinuiju, Chongju, Taegwan-dong, Sakchu, and other centers in northwest Korea, and so on all the way up to Chongjin in far northeastern Korea.

By the first of November the North Korean army was all but wiped out. Elements of U.N. forces had penetrated to the Manchurian border and other troops were engaged in mopping up bypassed pockets in the peninsula's center. They were supported by aircraft flying their 128th consecutive day against North Korean forces.

THIS, in brief, is the record of the U. S. Air Force's operations in Korea from 25 June to 1 November. Mistakes have been made. Some of them are being corrected now. Others, involving production of aircraft, can not be corrected until more effective planes are available to equip our combat groups.

But in the main the Air Force accredited itself well in the conduct of its tried and confirmed operations, using its available resources in missions of maximum effectiveness. Air supremacy over Korea was quickly established. Though the enemy's air force was small, it could have given U.N. ground forces plenty of trouble, if allowed to operate unhampered. As it happened, the air battle was, in General Stratemeyer's words, "short and sweet."

But, had the enemy possessed a modern, effective air force, the whole picture in Korea—from the viewpoint of land and sea forces as well as air—would have been vastly different. The task of gaining and maintaining air supremacy is always the first requirement of the Air Force, first from the standpoint of all three services. In evaluating the Korean war, we must not lose sight of the cardinal fact that early elimination of enemy air opposition enabled all three services to do many things that would not otherwise have been possible.



The test bomb is dropped, ignites, and starts spreading its destructive path. The shadow of the attacking F-80 that dropped the bomb is visible at the right of the tank.

Napalm Attack

The military worth of napalm was soon underscored in Korea. In the numerous Air Force sorties called for against tanks and troop concentrations to soften the North Korean attack it was deadly. By the end of the drive into North Korea napalm led all other weapons in the destruction of tanks and vehicles. F-80's and F-51's carried four to six napalm bombs on suitable missions. Against troops a single bomb covers

Flames envelop the tank in what appears to be a misty white cloud.

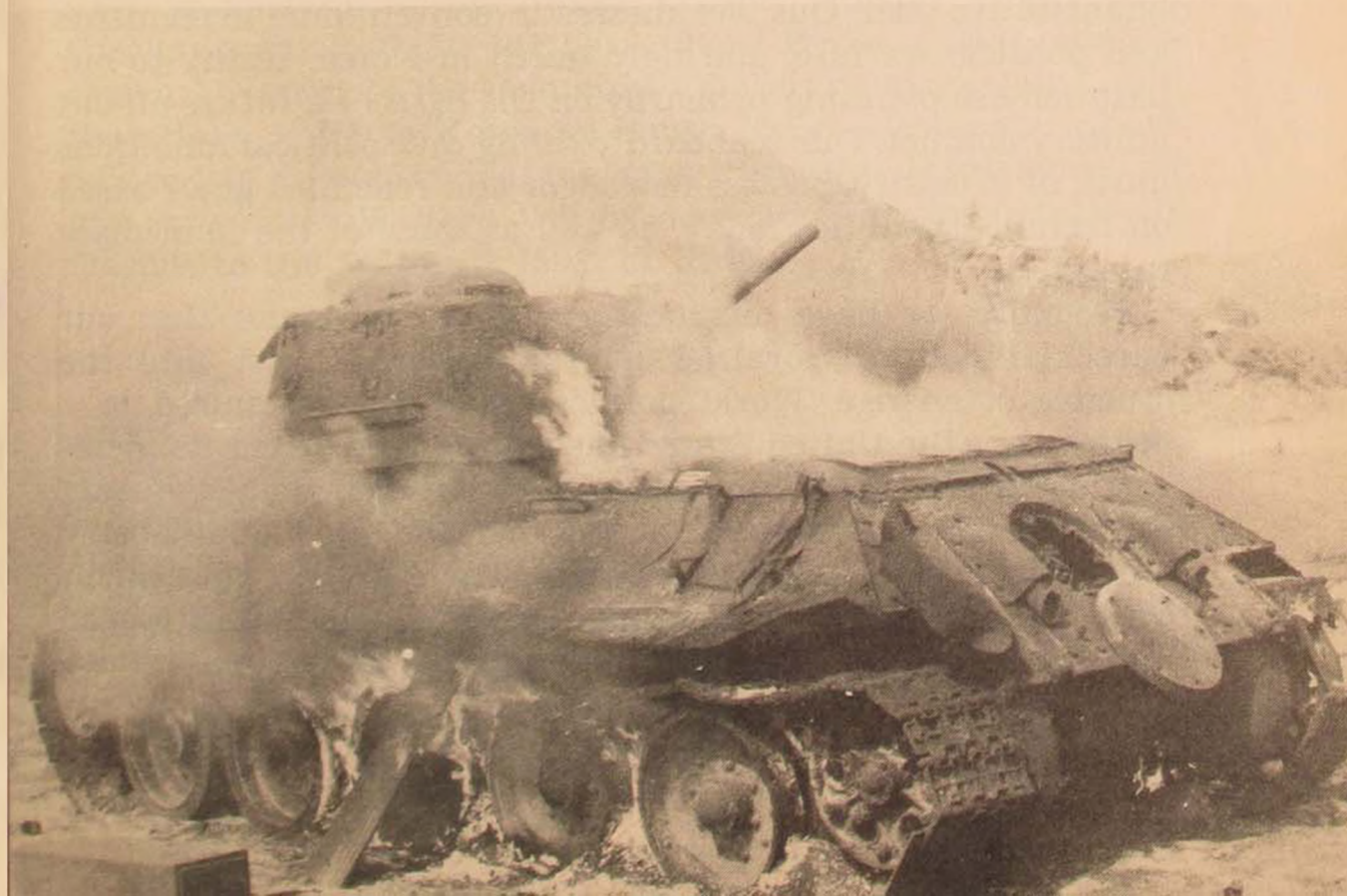




The smoke lifts, leaving behind a useless hulk.

a wide area, and a bomb fifty yards short of a vehicle can put it out of action. The destructiveness of napalm explosives was carefully gauged and photographed in a Fifth Air Force test under combat conditions against a captured T-34 tank. One 100-pound bomb spreads over a pear-shaped area about 275 feet long and 80 feet wide. Dropped at minimum altitude, napalms are ignited by the sparking of the tank target on hard surface, by fuse grenades, or by strafing the area. Upon ignition the gasoline-soap powder mixture burns at 1500°, normally devastating the entire area covered.

Here is what the fighting machine looks like after the scene clears.



Politico-Military Aspects of Western Defense under the North Atlantic Pact

EUGENE M. EMME

FIVE BRIEF YEARS after the conclusion of the Second World War, the United States finds itself engaged in actual military operations in Korea, committed to defend militarily any free nation in the world subjected to wanton aggression, and on the threshold of what could become World War III. We have come to recognize, albeit reluctantly, certain cardinal factors underlying America's strategic position in the world.

First, we have recognized that technological progress has realistically assisted in the creation of the basis for global, unrestricted warfare. The Battle of Britain and the disintegration of Hiroshima are symbolic when viewed in the somber light of continued technical advances both here in the United States and abroad. The atomic "explosion" in Soviet Russia helped in no small degree to destroy our illusion of monopoly of "city busters," although many still are confident of our quantitative lead. Our weaknesses in conventional armaments and political warfare, glaringly tested in Korea, testify to our past defense planning primarily on the basis of a future all-out military conflict. Our scabbard refilling and political ambitions must, of necessity, possess new vigor and redefined goals based on technical realities today, as well as those of the immediate future.

Secondly, we have reluctantly come to recognize that our parochial political loyalties have also been thrust into the crucible of change. World politics today are balkanized to a degree that the United States has willingly admitted its membership in the Western community of nations; that is, openly admitted that democratic institutions and individual liberty are threatened on a universal scale. There is no longer much doubt expressed by our national strategists that world peace under a responsible order of humanitarian law—our ultimate

national objective—is indivisibly attached to the problem of augmenting the physical and moral security of the United States itself. The Monroe Doctrine has been revolutionarily extended by the Marshall Plan, the Truman Doctrine, the North Atlantic Pact, and the President's historic action with regard to Korea. Where the physical and political power of the United States and its Allies is incapable of implementing the strategy of the Western Community in the world, serious problems exist. The United States, however, has come a long way since it turned its back on the League of Nations and buried its head in the sands of isolationism before Pearl Harbor. The Kremlin yet holds the initiative in world affairs because of its justification of any action, however arbitrary, in the attainment of a prescribed objective. Importantly, most American planners recognize the cardinal fact that a wholly anti-Soviet policy guarantees little success.

And thirdly, the aims of the United Nations during World War II—the unconditional destruction of German Fascism and Japanese Imperialism—have been convincingly demonstrated as limited goals in the promotion of a more perfect peace. Rather, as we have learned at considerable cost in blood, treasure, and prestige, the elimination of strongest powers in Europe and Asia opened wide the flood gates for the aggrandizement of the Soviet Union in regions adjacent to its borders. There is little need to catalog fully the steps in Russian expansion since the end of the Second World War. The abortive attempt to seize Iran (1946), the erection of the Soviet satellites in Eastern Europe, most notably Poland (1947) and Czechoslovakia (1948), the blockade of Berlin (1948), the accession to power of the Communist Government in China, and the attack of North Korea on South Korea—these steps have adequately demonstrated that the “peaceful coexistence” of the Soviet and Western worlds does not appear realistically feasible to the Bolshevik lords of Russia.

II

THE NORTH ATLANTIC TREATY, as we will examine in some detail, was spawned in diplomatic waters troubled by the apparent intentions of Soviet Russia to capitalize upon the destruction and disillusionment created by the war. Externally, the mobi-

lized might of the East emerged as an implied threat to the institutions of Western culture. It was a physical power opposed to Western security quite in excess to what normally might have been expected to result from the Politburo's ideological distrust of the non-Soviet world. The external reality of Soviet power, now daily augmenting its stockpile of atomic bombs, has animated the Atlantic Pact nations in their collective pursuit of military security.

Internal security for the Western nations has likewise prompted unprecedented collective action. Security is a double-barrelled motivation because domestic political issues are no longer without importance in foreign affairs. Purely internal problems of formulating military defense and economic welfare are no longer separate problems presenting themselves for individual solution in each nation. The astronomic but necessary cost of modern arms and its relationship to the total national economy has created not unfounded concern within the relatively prosperous United States. Recently pressure has been exerted upon Britain and France to increase measurably their respective expenditures for armaments, a fact that illustrates the indivisibility of domestic and foreign policies. Only the United States, however, can even pretend to have a guns and butter economy.

Collective action also receives a notable impetus from the security *versus* civil rights question erected by the Communist citizens within each nation. The threat of Communism obviously presents an international problem, a subversive movement claiming legal immunity because of its aura of political party organization, yet serving as a "fifth column" in a time of crisis. Communism makes its especial appeal to the discontented, hungry, frustrated, and disillusioned members of any society. The containment of subversion within each nation, therefore, is indivisibly attached to the successful promotion of economic welfare and social justice.

From a piecemeal counter-attack, the Western community has exhibited increasing agreement for an integrated program of political and economic, as well as military, union based upon the broad principles of collective security and mutual assistance. It was a response in which the United States has assumed its inevitable role. In the economic sphere outright American aid for postwar European reconstruction is in the process of being augmented by the Schuman Plan and its refinements for a genuine institutionalization of European economy. The

Communist theory that the "capitalist nations" will, after all, fall of their own weight has not been forgotten. Reasonable care has been exercised by the United States not to found its material assistance upon exclusively military considerations. In the military sphere the fifty-year Anglo-French treaty of mutual assistance in case of any future German menace (Dunkirk, 1946) was augmented to forestall Soviet ambitions by regional defensive arrangements under Western Union (Brussels, 1948). The North Atlantic Pact, committing the United States to the defense of Western Europe, leads to the mutual defense of twelve nations of the Atlantic community possessing one-sixth of the world's area and population. And, in the politico-ideological sphere, leaders of the Western-minded nations have unanimously expressed their belief in the intrinsic worth of individual human beings and in the democratic processes of orderly social change. Steadily, but very slowly unfortunately, endless discussions and complicated planning are laying the groundwork for comprehensive collaboration in fact. Time yet remains as a precious commodity.

Although the military collaboration of the West to ensure the maintenance of some semblance to peace has a tortuous route to travel before theories and planning staffs are backed up by effective military power, the progress of the collaboration among the nations of the Atlantic basin has nevertheless exceeded most optimistic predictions. Physically ravaged and morally disillusioned by the trials of war, all of Western Europe (including defeated Germany) has re-exhibited those qualities of human genius and enterprise which made Europe prominent in the past. Economic and social reconstruction in Western Europe, though far from being complete or extended downward to the lowest classes with great effect, has nevertheless regenerated prodigious political and moral vitality. All of this progress in contradiction to the predictions of Karl Marx, however, would be for naught if all-out World War III should come, or if the Soviet Union should obtain its objectives piecemeal or by default.

In the somber light of the war-readiness of the Soviet Union and its satellites the maintenance of the physical security of the Western nations is the primary responsibility of the coalition directed to achieve that purpose by the North Atlantic Pact. It would be useful then if we examine its strategic objectives and the means of achieving effective land, sea, and air defense.

III

THE NORTH ATLANTIC PACT was signed in Washington on April 4, 1949, by the Foreign Ministers of Belgium, Canada, Denmark, France, Iceland, Italy, Luxemburg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States. Under the five basic articles the member nations undertake:

(a) to settle any international disputes in which they may be involved by peaceful means, and to refrain in their international relations from the threat or use of force in any manner inconsistent with the purposes of the United Nations (Article 1);

(b) to strengthen their free institutions, promote conditions of stability and well-being and develop economic collaboration (Article 2);

(c) by "continuous and effective self-help and mutual aid" to maintain and develop their individual and collective capacity to resist armed attack (Article 3);

(d) to consult together whenever the territorial integrity, political independence or security of any one of them is threatened (Article 4);

(e) in the event of an armed attack against any one of them in Europe or North America, to assist the attacked nation "by taking forthwith, individually and in concert with the other parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area." Such measures shall be immediately reported to the United Nations Security Council and shall be terminated when the Council has itself taken the measures necessary to restore peace and security (Article 5).

The remaining articles of the Treaty establish the mechanical arrangements under which these principles are operative.*

The uppermost purpose of the North Atlantic Pact has undoubtedly been to remove the anxieties of the continental European nations that result from their geographical proximity to Russian might and their desire to obtain an ironclad pledge of military and moral support from the United States. Europeans have not long forgotten America's unwillingness to assume responsibility in the League of Nations and its tardy entrance in the crusade against Fascism in Europe. M. Henry Queuille, as French Prime Minister, voiced this opinion in an interview on February 25, 1946, when he stated that the Continental nations would be on the front-line of an invasion from the East and therefore that the effect of the Atlantic Pact must be to spare them the invasion, not liberate them after it. M. Queuille continued:

"France, as the advance sentinel of Europe, cannot stand alone. Neither can she stand alone with the aid of the Benelux countries and

*Cf. *Documents Relating to the North Atlantic Treaty*, U.S. Senate Doc. No. 48 (81st Cong., 1st Sess.), 1949, pp. 1-4.

of Great Britain. That is the reason why Western Europe must be able to count on the aid of the United States. We know that once Western Europe was so occupied Americans would again come to our aid, and eventually we would be liberated. But the process would be terrible. The next time you would be probably liberating a corpse and civilization would probably be dead. The invasion—should it, to suppose the impossible, materialize—must be stopped before ever it can get started.”*

In outlining the importance of the North Atlantic Treaty General Omar N. Bradley, chairman of the U.S. Joint Chiefs of Staff and later also chairman of the North Atlantic Military Committee, stressed the same point as the French Premier, on April 5, 1949. The important objective of the North Atlantic Pact lies in the fact, Bradley said, that it would deny to any aggressor the deadly opportunity to pick off single nations one by one.

“This reassurance is especially vital to those Western European nations whose boundaries lie within striking distance of instant land attack. It is equally important to the United States, whose occupation commitments have carried its international obligations east of the River Rhine . . .

“We cannot count on friends in Western Europe if our strategy, in the event of war, dictates that we shall first abandon them to the enemy, with a promise of later liberation. . . . Unless plans for common defense of the existing free world provide for the security of Western Europe, these people cannot be expected to stake their lives on the common cause. As long as the helplessness of Western Europe would invite military aggression, its increasing prosperity shall grow more tempting to the armies from the East. Not until we share our strength on a common defensive front can we hope to replace this temptation with a real deterrent to war.”

Western Europe could only be saved by Western Europeans, Bradley continued, but they must have the will and the means to resist. This will to resist can be partly developed by the possession of the means and partly by the assurance that they would be adequately helped in sufficient time. Strategically, Bradley concluded, the North Atlantic Pact would enable the free nations “to funnel the great strength of our new world to the ramparts of the old.”** These basic concepts have been generally voiced throughout the Atlantic community.

The broadest goals of the North Atlantic Pact, unfortunately apart from actual military realities, have been even more eloquently expressed by Western leaders. Before the British House

*As cited in *Western Co-operation for Defence*, issued by the British Information Services, I.D. 998, June 1950, pp. 10-11.

***Army Information Digest*, vol. 4 (May 1949), pp. 3-5.

of Commons on March 18, 1949, Foreign Minister Bevin stated that "this new Pact brings us under a wider roof of security, a roof which stretches over the Atlantic Ocean and gives us the assurance of a great preponderance of power, which will be used on the side of peace, security and orderly progress.* Secretary of State Acheson, in a broadcast on March 18, 1949, explaining the purpose of the Pact to the American people, stated:

"The nations joining in the Pact know that war does not pay. Others may not be as deeply convinced of this as we are. The North Atlantic treaty should help convince them also that war does not pay We are determined, on the one hand, to make it unmistakably clear that immediate and effective counter-measures will be taken against those who violate the peace, and on the other, to wage peace vigorously and relentlessly."†

The Communist attack on South Korea, in the light of the prompt and almost unanimous action by the United Nations, has little detracted from the basic purpose of the North Atlantic Treaty. Rather the Korean affair has amply demonstrated the local-war technique which the Soviet Union might have initiated in Europe had not the collective stand of the Western nations, incapable of defending themselves individually, presented a united diplomatic front opposing the ambitions of Soviet planners.

IV

THE VERY SUCCESS or failure of the Atlantic defense plan is dependent upon the course of politics in Western defense. This cardinal operative principle underlying the North Atlantic Treaty institution, however distasteful it may appear to the orderly military mind, must be regarded with due respect if truly collective military potential is to provide individual and collective security to the signatory nations. Purely military considerations, it must be recalled to mind, are political issues when "free and sovereign" nations send representatives to formulate collective strategy around a conference table. Significantly the political problems of Western defense must be solved by negotiation and compromise without weakening the prime objective—actual military effectiveness.

There are obvious political limitations (apart from military ones) inherent in the North Atlantic Pact. These primarily

*Cf. *Three Major Developments in British Foreign Policy*, issued by British Information Services, I.D. 944, pp. 8-9.

†*New York Times*, March 19, 1949, p. 4.

stem from the intrinsic difficulty of a group of sovereign nations formulating a common military plan in time of peace. Above all the Atlantic Pact is purely defensive in nature. Its primary aim is indeed preventive. In making crystal clear in advance that an attack upon one signatory nation of the Treaty will be regarded as an attack on all and will result in immediate concerted action, it can deter the would-be aggressor *only* if it is actually substantiated by adequate military power-in-being. Such military strength is only in the process of being achieved. The automatic nature of the Pact is not absolute either, since in a democratic nation the executive branch of the government does not always possess the power to declare war. The American constitution in particular expressly delegates the power to declare war to Congress, so that it is impossible to commit the United States to go to war in advance and automatically. Supporting measures short of war, as President Roosevelt's "belligerent neutrality" program of 1939-1941 demonstrated, can be promised on a reasonably automatic basis within flexible limitations.

In addition the geographical limitations of the Treaty (inclusive of signatory member-nations only) cannot be considered as limitations upon the obligations of these nations towards other nations not included in the Pact. All signatory nations are obligated under the Charter of the United Nations. The United States is likewise bound by regional diplomatic commitments quite apart from President Truman's promise of American support to defend any free nation (i.e., the defense of the Western Hemisphere, occupation responsibilities in Germany and Japan, traditional obligations towards the Philippines, etc.). Britain has both her obligations towards her fellow-members of the Commonwealth and the overseas territories of the Empire, as well as the direct responsibility for maintaining the independence and security of many nations in the area from Greece to Persia with whom Britain has special and long-standing relationships. Other signatory nations, such as France and the Netherlands, have basic overseas interests as well as European responsibilities. There are also non-member States which are politically or geographically not outside of the Atlantic Treaty scheme. Franco Spain and Western Germany, geographically within the Atlantic community, present highly delicate historical problems which must necessarily be solved, if possible, to the satisfaction of all signatory nations towards the promotion of European defenses. On the other hand, Tur-

key and Greece, within the political orbit of the Atlantic scheme, are members of the Atlantic Treaty in spirit only.

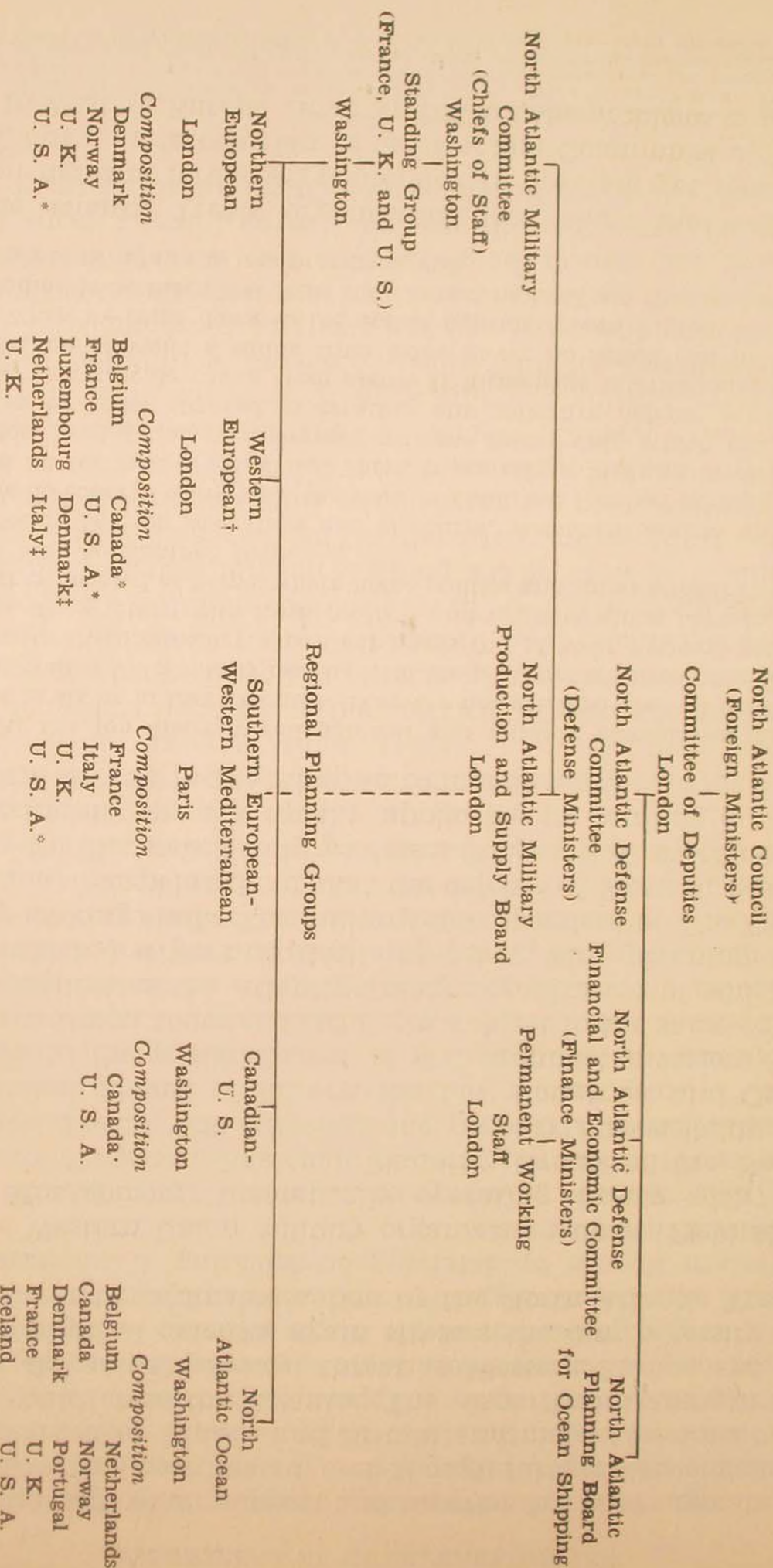
The complex and complicated organization under which the North Atlantic Treaty functions reflects the difficult task of integrating the diverse and multiple interests of the individual member nations. The complex machinery of command exhibits, in part, a factor which could well determine the actual military effectiveness of the Atlantic coalition should it be tested in the crucible of combat (see Chart).

For over a year the Atlantic Treaty command organization has been a policy-making and planning institution rather than an operational fighting organization. It compares, perhaps, with the gigantic planning and command staffs which directed the high strategy of the Western United Nations from London and Washington during the late war. From the supreme policy organ of the Atlantic Treaty, the Council of Foreign Ministers, on downward to the Regional Planning Groups, the fighting forces of the signatory nations fit into the Atlantic military scheme only through a veritable labyrinth of command channels with political decisions being passed downward and military problems being thrust upward.* At first glance, the top-heaviness of the Atlantic command structure appears to be logical and practical, perhaps a remarkable result of considerable debate and difficult compromise.

The reviewing of the strategic situation in Europe as a result of the Communist invasion of South Korea, however, reveals the naked fact that the strengthening of Western defense under the Atlantic Treaty has not been appreciable. Apart from the provision of American arms to Western European nations under the billion-dollar Military Assistance Program and the existence of American air and naval power, in-being and potential, the Atlantic Treaty remains a paper plan activated primarily by its elaborate command machinery. In land forces, for example, the disparity in strength between the estimated sixty immediately-available Russian divisions and the publically announced goal of thirty-five Western European divisions (only fifteen apparently exist) is considerable. The disparity in land strength is multiplied when it is considered that Russian divisions could be considerably augmented in a matter of weeks. On the other hand, the present total of Western divisions cannot soon approach the modest figure of thirty-

*For discussion of the responsibilities of various echelons of the Atlantic Treaty organization see *Western Co-operation for Defence*, pp. 19-23; also *American Journal of International Law*, vol. 44 (January 1950), pp. 155-61.

NORTH ATLANTIC TREATY ORGANIZATION



†This Group comprises the Brussels Treaty (Western Union) Powers.

*Active participation in defense planning as appropriate.

†Will participate in the work of the Group under the provisions of paragraph 34 of the North Atlantic Council's communiqué of September 17, 1949.

five, and tactical air support and superior fire-power remain to be created and coordinated, even though further divisions could be mobilized by France and Britain and more American divisions could cross the Atlantic. The disparity in strength between the actual physical threat to Western Europe and its actual physical defenses again stresses the dire necessity for resolute and coordinated action by the North Atlantic Treaty nations.

The Western Union military organization under Field Marshal Montgomery, theoretically operating closely with the Western European Regional Planning Group of the North Atlantic Treaty, still possesses the primary responsibility for the actual defense of France, the Low Countries, and Great Britain in the possible event of a Communist invasion. The Western Union command structure, subject to the same political pressures as the Atlantic Treaty organization of which it is considered a part, is itself top-heavy with planning and policy-making staffs. The military correspondent of *The Times* (London) has pointed out that the defense of Western Europe under the Brussels Treaty possesses "unpractical machinery." His criticism appears equally applicable in pointing up the political defects in the Atlantic command setup:

"At the top international political and military committees meet once in six or in three months. They are not presided over by permanent chairman, regularly dealing with the problems involved. Members come to these meetings with their heads full of their national problems. They return with fresh projects and requests which have to be further debated at home, where home politics and international rivalries tend to smother them.

"Below the top level there are, of course, permanent organs which have no concern other than the work in hand, but they are constantly held up for lack of decisions. There is scarcely a measure involving action, even action in emergency at some future date, which can be taken by those engaged in creating any collective defence scheme without a specific ruling from above. If incomplete international co-operation prevents a ruling from being given, no action can follow.

"When we come down to the actual fighting forces, without which planning is no more real than the discussions in Cloud Cuckoo Land, the state of affairs is less promising still"

The Atlantic Treaty organization into which the Western Union fighting forces were intended to dovetail, yet remains, then, but a prefatory plan to deter actual Communist aggression in Western Europe. However difficult the problems of polit-

**The Times* (London), 28 July 1950, p. 9.

ical organization and military planning may be, fighting a possible military conflict, should it come, remains a thing to be achieved under the Atlantic Pact. Being defensive in purpose, the Atlantic nations appear to be forced to prepare to fight on the enemy's terms. At any rate the command and planning organization of the North Atlantic Pact should promote, not hamstring, the creation of physical security for Western Europe by deterring or defeating, if necessary, the Soviet military menace.

In his memoirs of the crusade against Nazism General Eisenhower authoritatively testified that "Allied unity, and the ways and means of attaining it, constituted the principal war lesson."* Unity among the North Atlantic Treaty nations has been more than adequately expressed by eloquent words. The purpose of the scheme is crystal clear, but it is also apparent that an immediate streamlining of the command machinery is mandatory and prerequisite to future military success. The existence of national differences and prejudices, well-demonstrated by the thorny problem of rearming Western Germany, has tended to prevent the making of decisions and the promotion of discussions among the various delegates to more than the abstract proceedings of a debating society. Practical decisions must result in realistic military power either by the creation of a truly international fighting organization or by the full coordination of the various national armed forces.

With similar views in mind Winston Churchill urged that the Council of Europe in August 1950 create a European War Minister to serve as the political head of a genuine European army transcending nationality. There have also been practical suggestions that a Joint Atlantic High Command, a war operative command organization like S.H.A.E.F., be created so that the North Atlantic scheme can be translated directly into an effective fighting machine while there is yet time.† The political nature of an inter-allied command, confounded with the conflicting theories as to the strategic prominence of navies, armies, and air forces in modern war, necessitates early action unless the democratic nations of the West prefer that the Kremlin seize the military initiative by force of arms in the affairs of Western Europe. The political questions upon which

**Crusade in Europe* (Doubleday, 1948), p. 425.

†*New York Times*, 10 August 1950, p. C9. [Since Dr. Emme's article was written, General Eisenhower has been named supreme commander of all North Atlantic Pact military forces. It should be remembered, as Dr. Emme suggests, that this appointment should help but not necessarily ensure the rapid build-up of the Western forces.—Ed.]

the existence of free Europe will be determined in the future—will France fight in the event of a Soviet invasion, or, more important, will Kremlin planners decide that the price of seizing Western Europe is too high?—these questions, among many others, are dependent upon the success of the North Atlantic Pact in creating the *will* and the *means* to resist Soviet invasion by force of arms. It would be pertinent to examine what positive steps have thus far been taken.

V

ONE of the concrete achievements of the North Atlantic Treaty organization has been the general agreement upon a common strategic plan for the defense of Western Europe. Based upon the underlying principle that a division of labor among the Atlantic nations will be the most economical manner to create a war-effective coalition, the common objective is to establish balanced collective military power. Under this principle each member-nation cannot build up its fighting forces upon its particular traditional interests, its unique geographical location, or its other purely national strategic circumstances. Rather, each nation, under the plan, must contribute towards the realization of the common purpose within its capacities in skill and resources. Thus the principle has been laid down that the best defense of each part is co-existent with the defense of the whole of the Western community. Historical experience has indeed proven the wisdom of this principle. Adolf Hitler's successful policy of *divide et impera* during the late 1930's has provided ample testimony to the diplomatic ineffectiveness of the Western Powers, who were neither individually secure nor capable of collective military action in stemming the acquisition of bits of Central Europe by the Third Reich before the conquest of Poland.

Collective balanced fighting forces—a rather sophisticated but nevertheless adequate politico-military term—means that each member-nation of the North Atlantic Treaty will contribute to the integrated defense of the Western Community in its most economic and efficient manner. Although specific details have not been released, it has been widely publicized that the broad division of military labor among the North Atlantic nations is as follows: ground forces—the Continental nations, particularly France; tactical air power and air defense—Britain and France; control of sea communications—the United

States and Britain; strategic bombing—the United States. The powers occupying Western Germany, most notably Britain and the United States, are obligated to provide army and air components for the defense of Western Europe in the name of German defense.

Devised to put teeth into the purpose of the North Atlantic Pact, the concept of collective balanced military forces is the basic principle determining the manner in which other positive accomplishments of the Atlantic scheme have been instituted. These other concrete achievements, without attempting to evaluate their relative contribution to Western defense, are as follows: (1) the distribution of American arms under the Military Aid Program, (2) the coordination of war production, (3) the building of air and naval bases, (4) the standardization of weapons and tactics by means of integrating military forces and conducting joint exercises, and (5) the eventual creation and equipping of some fifty ground divisions with tactical air support under a single command setup. There is no need to trace the slow but steady progress of these positive steps for translating the North Atlantic Treaty into an effective organization to defend Western Europe.*

The concept of collective balanced forces again makes clear the political nature of Western defense. Each signatory-nation of the Pact has been reluctant to surrender any sovereignty over military matters, even in the interests of collective defense. In the field of naval armaments, for example, the Atlantic nations are perhaps over-prepared, at least in a conventional sense, in the light of the actual Soviet menace to Western Europe. There has been unwillingness on the part of France to surrender its naval responsibilities (e.g., the question of the French aircraft carrier) entirely to Britain and the United States. From the French point of view Britain with its insular defense problem has been reluctant to surrender responsibility for tactical air power (exploitable for British air defense) on the continent primarily to France. Jet aircraft, for example, have proven to be a valuable exchange item for the British economy, which, at the same time, have considerably promoted the standardization of weapons and tactics among the Western European nations. Belgium, Canada, Denmark, Italy, the Netherlands, and Norway have received De Havilland Vampire or Gloster Meteor jet fighters. Combined air defense exercises

*See U.S. Dept. of State, *The Military Assistance Program* (Pub. 3563), July 1949, 41 p.; *Western Co-operation for Defence*, pp. 24-36.

of the Western Union air forces using the same type of aircraft and, most notably, English as a common language, have had remarkable results. Nevertheless, Winston Churchill, one of the most fervent advocates of Western European Union, severely raked the Labour Government over the coals before the House of Commons in August of this year. Speaking with reference to Russian propaganda that Britain had allowed itself to become an "aircraft carrier" for U.S. bombers, Churchill said:

"I simply cannot comprehend a policy which on the one hand takes the extraordinary risk of establishing this base ["aircraft carrier"] and yet disperses or distributes so large a proportion of the jet aircraft production in which British genius has held the lead. We wonder how many we have distributed to our friends or sold to foreign countries [e.g., Argentina and Egypt in particular]. . . ."

The export of jet aircraft, Churchill concluded, was "an act of improvidence without description or repair."*

Divergent national views among the Atlantic Powers have been perhaps best exhibited in connection with the problems of Western German defense and the inclusion of Franco Spain in the defense arrangements. Both Britain and France, in contrast to America, have been reluctant to consider German rearmament for Continental defense. Attitudes toward Franco Spain have been divided within national spheres much in the same manner that Congress and President Truman disagreed on the political wisdom of a loan to Spain by the United States.

VI

THE FUTURE CONDUCT of the United States will probably decide whether there shall be a bombing or shooting war on a global scale. It is all too easy for concerned Americans to prescribe what our European partners for peace should do in speeding up the unification of Western Europe. It is perhaps much more vital, however, that American policy-makers be willing to grapple realistically and sympathetically with the delicate problems of the European nations and to give constant recognition to our common heritage from the past, our collective problems of today, and our mutual aims for the future. Without question the United States is economically and militarily preeminent in the North Atlantic scheme because of its wealth in resources, its technical proficiency, and its mass organization. If successful relations are to endure between Western

*The Times (London), August 27, 1950, p. 4.

Europe and the United States, it cannot be assumed, however, that moral responsibility automatically resides completely on the western shores of the Atlantic Ocean.

Long relatively homogeneous in culture, the nations of Western Europe have apparently chosen to terminate many of their disagreements stemming out of historical sentimentality and to restore their position in the international power-complex by formulating collective action in many fundamental political and economic matters. Significantly Western Europe has not been unwilling thus far to ally itself with the United States for mutual co-operation in the struggle between East and West. It remains a primary task for American planners to ensure that Western Europe long remains a willing partner in the unified effort to deter Soviet aggrandizement in Europe as well as in Asia. If the North Atlantic Treaty becomes a military institution defending Western Europe in fact as well as in theory, a fundamental objective of American foreign policy will have been achieved. Without the support of Western Europe the United States can neither preserve world peace nor engage successfully in a World War III.

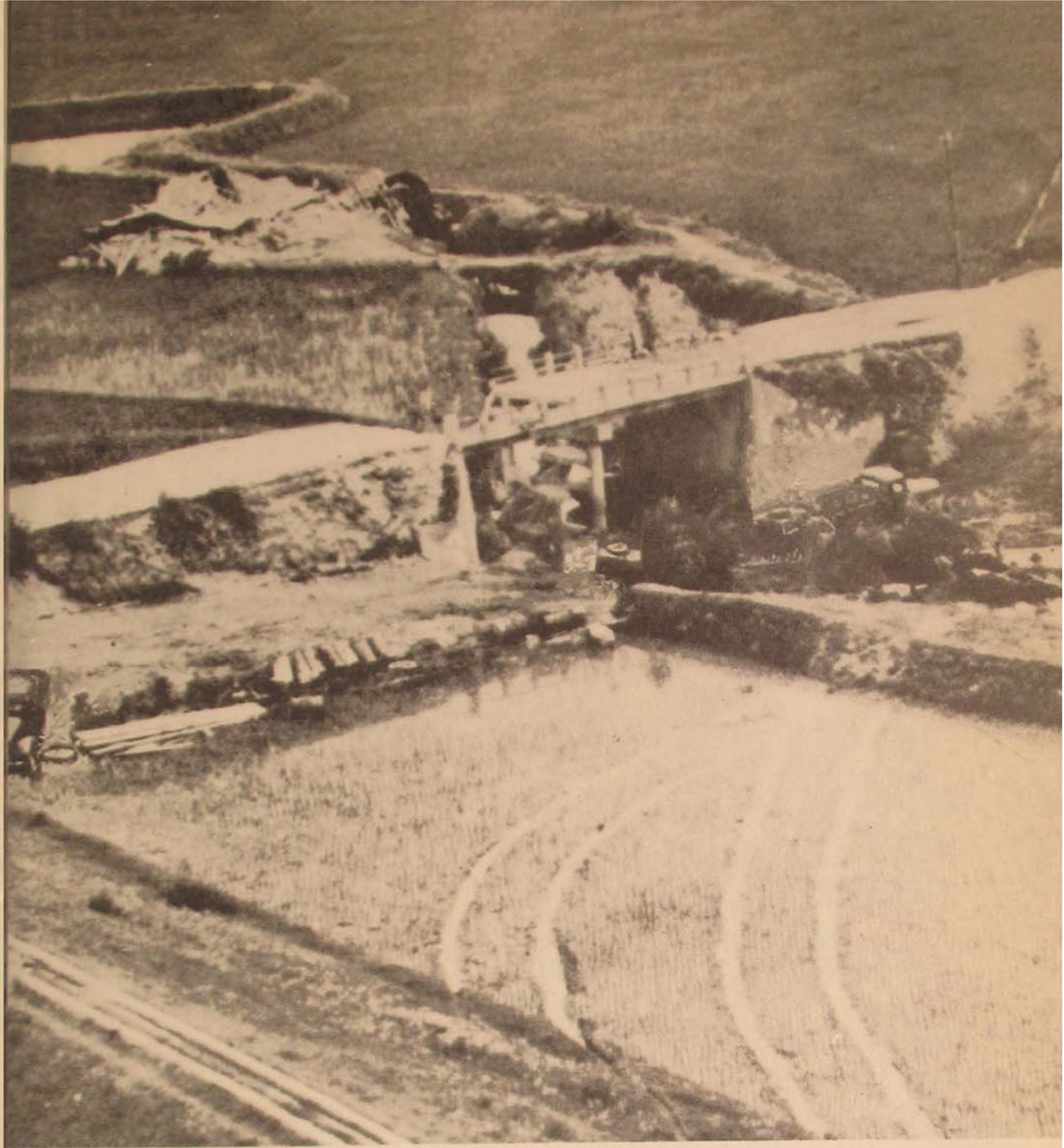
After tracing the *Decline and Fall of the Roman Empire* the eighteenth-century historian Gibbon held the comfortable view that the invention of gunpowder had so augmented the art of war that barbarians would have to become civilized before they could conquer. To Gibbon technological progress and moral development were co-existent, for he could not foresee a time when man's scientific prowess would far outrun his social genius. The Western community still regards the means by which the "better life" is to be achieved of primary importance. The actions of the Soviet Union to assist "as a midwife" at the birth of a classless society on a global scale are founded only upon the dictates of expediency and opportunism. If man is a rational animal, it is inevitable that as long as the Western nations remain of a collective mind and are given time to provide adequate defenses for themselves, the creation of the means to their ultimate objective will promote its attainment.

Air University

Interdiction

One bomb dropped on an ammunition train can destroy carloads of shells. But dozens of guns must be destroyed at the front if the shells reach the gun crews. In the weeks while U.N. forces steadily retreated, a major Air Force objective was to slow the flow of enemy troops and materiel to the battlefields. The heavy masses of North Korean manpower and equipment pushing south offered countless targets. Fighter and fighter-bomber pilots, given initiative within the master plan of interdiction, went for the juiciest targets of opportunity. They hit tanks, trucks, bridges, ammunition dumps, locomotives, troop convoys, warehouses, road junctions, and the mouths of railroad tunnels. B-29's took out marshalling yards as far north as Pyongyang and blasted bridges at Seoul, Chongju, Ichon, Kongju, Pyongtaek, and dozens of other vital bottlenecks. By 1 September the interdiction campaign had knocked out over eighty per cent of the key rail and highway bridges north of the 38th parallel and had severely battered the critical rail-highway network in South Korea.





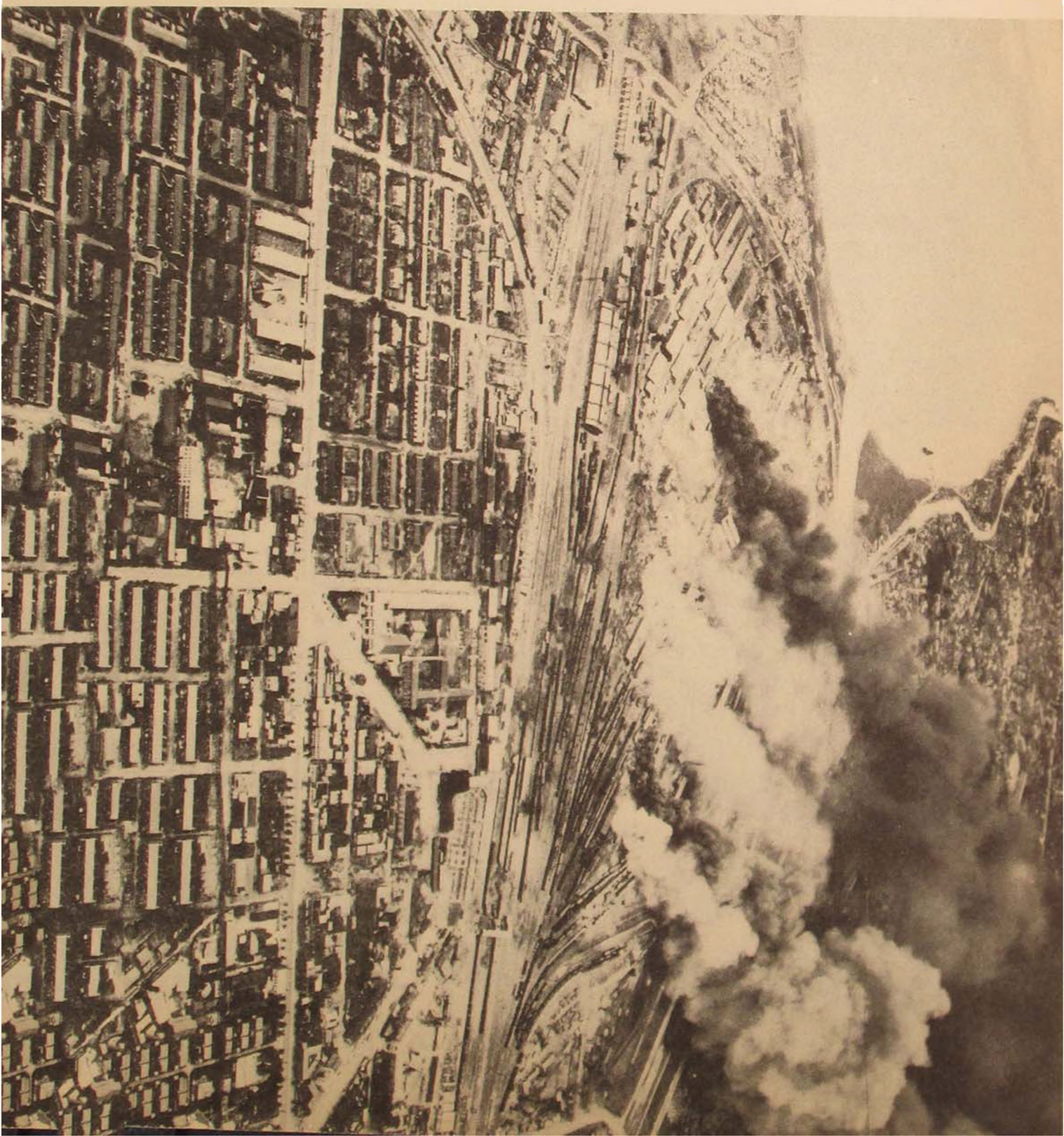
The success of the Fifth Air Force interdiction bombing program is demonstrated by this combat photo taken 17 July. Both the bridge to the right of center and the one on the far left, near Kongju, South Korea, were hit. The North Koreans were forced to ford the streams, where their tanks and vehicles stuck and became prey for marauding F-80's and F-51's. A truck and three tanks—two camouflaged—are mired below the bridge.

Fifth Air Force F-80's streaked in on this unsuspecting North Korean motor supply column and inflicted heavy damage with one short burst of rocket and machine gun fire. The F-80 jets found the fuel-laden trucks at Tuman-ni ten miles southeast of Kongju, 17 July. American reconnaissance, swooping over the area at 100 feet, photographed the result.

Interdiction

Sixty B-29's poured 500 tons of bombs on the Ryuzan marshalling yards at Seoul 16 July 1950. Damage to the tracks in the yards and on the main line outlets brought rail movements through Seoul to the southern battle lines and to the northwest coastal area virtually to a standstill. A large locomotive and railroad car manufacturing plant was heavily damaged. Fire and explosion damage to repair and assembly shops dealt a major blow to enemy capacity to replace rapidly decreasing supplies of rolling stock. The plant was capable of manufacturing and repairing over 2500 locomotives and railroad cars a year.

*Seoul railroad yards and shops.
Oblique strike photo, 16 July.*





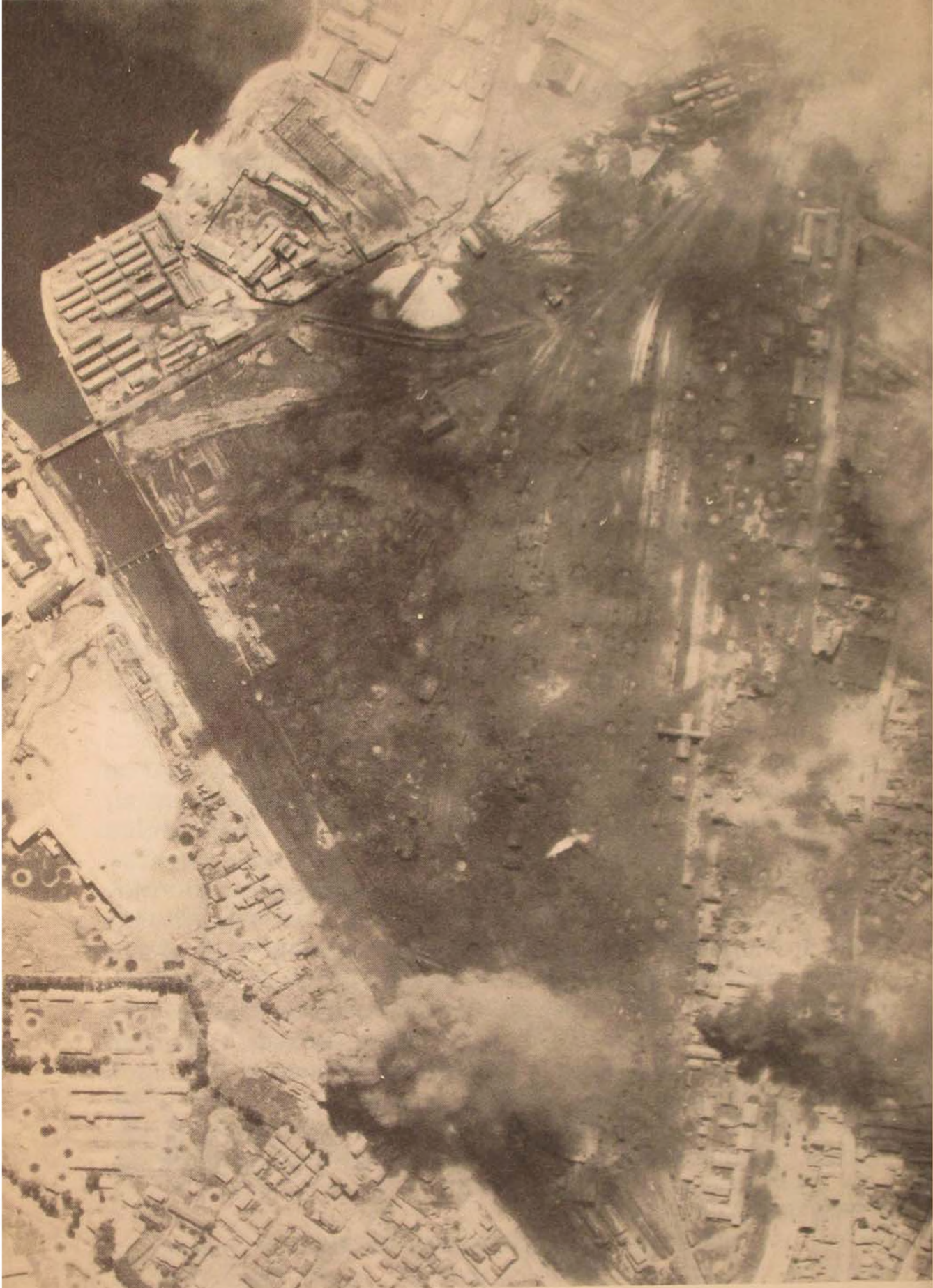
Ruins of Seoul railro
yards and shops as th
appeared 18 August 19

Interdiction

On 10 August the 24-track-wide switchyard at Wonsan was filled with loaded trains when the B-29's came over. A pilot in the second wave said: "I could see the bombs of the preceding wave strike. There seemed to be a small explosion and then flames raced across the entire marshalling yards. It was probably caused by loaded ammunition cars going up." FEAF Bomber Command planners had intentionally placed the Pyongyang marshalling yards earlier on the target list than the Wonsan yards. Traffic from the north and east passes through Wonsan en route to Pyongyang. The destruction of the Pyongyang yards on 7 August caused traffic to back up in the Wonsan marshalling yards ready for the 10 August attack.

*Wonsan railroad yards.
Pre-strike photograph.*





Wonsan railroad yards
10 August after B-29
attack. Bomb craters
are very well dispersed.

The Six Types of Russians You Should Know

MAJOR NICHOLAS E. MITCHELL

DURING the past years a great deal has been written about Russians. Unfortunately much of it has been misleading. People with little, if any, Russian background and with unreliable sources of information have produced impressive looking articles and books. Some honest authors have allowed themselves to be misled by previously published nonsense. Others, unable to think objectively because of deep-rooted prejudices, have sought to escape detection of their shortcoming by coloring the perfectly normal psychological traits of Russians with distracting hues of oriental mystery. At times they have stooped to poorly disguised smear techniques. They have mentioned only the bad points or certain facets of Russian life which they knew would seem ridiculous or repulsive to the reader. They have played on basic differences in religion, culture, or standards of living.

Transformation of Russia into the U.S.S.R. has completely clouded the already foggy picture in the mind of the average Westerner. Clever Soviet propaganda, coupled with the barrier of the Iron Curtain, continues to misinform the truth-thirsty student and reader. Little wonder that to this day Russians are believed to be "unusual," "Oriental," "barbaric," "humane," "coarse," "sentimental," "materialistic," "realistic," etc. What are they really like?

Basically Russians differ but little from Americans. They have a good sense of humor and laugh at our jokes. Just like us, they instinctively pity the miserable, the under-dog. Russian music is rich in melody and tender in sentiment. At times it becomes as lively and exciting as ours. In literature and the arts, their achievements fully equal our best, and scientifically Russians have contributed much to the world's storehouse of knowledge.

Both Russians and Americans have been born and reared in a vast land, rich in natural resources, predominantly agricultural, and endowed with a great economic potential. It would

seem that all things being equal, Russians should be very much like us—we should have no trouble in understanding their thoughts and in getting along with them. Yet there is one difference—not large, but its effect is immense. When poorly diagnosed or unrecognized, it becomes the source of “the difficulty of understanding Russians.” That difference is caused by the fact that the Russian political outlook is diametrically opposite to ours.

In all of their history the Russian people have never had to depend on themselves for political decisions or political action. They have never been brought up, as we have, in the tradition of free exercise of voting power. Politics have always been ready-made for their masses. The thought of voting and thus controlling one's own destiny is as alien to Russians as it is natural to us. The ideas of abiding by the will of the majority, of controlling one's own government by vote, of being free to criticize the people in authority are incomprehensible to the average Russian who has not lived abroad. We take for granted the fundamental rights, privileges, and obligations of a citizen in a democracy. Being blessed from early childhood with the way of life of free men—it is hard for us to understand a people whose thoughts have never dwelled on freedom as we know it. Even without Communism, Russians would not think of politics as we do. That is the difference.

Russians do not have the instinctive political self-determination of a free people. Once the fundamental fact is kept in mind—a clear understanding of today's Russian people can result from classifying them into their several distinct types. This can be done on the basis of their background, education, and environment.

Today one might consider six distinct types of Russians discernible in the world. Three are found outside of the Soviet Union, and the remaining three are within its geographical boundaries.

Russians Outside the U.S.S.R.

Type I Russians: Emigrants who left Russia before the Revolution of 1917. All have been abroad for many years. By now they have assimilated to a large degree the traits, habits, and customs of the nation in which they live. Some are the Douhobor and Molocan religious refugees and the bulk of the Russian Jews. Leaving imperial Russia of their own free will to avoid

religious and "racial" persecution, they missed being drafted for military service.

The passing years in foreign lands have had their effect on them and their children. Their memories of old Russia have grown dim and prejudiced by personal feelings. They know very little about the Soviet Union, although a few of them like to pass as authorities on it, claiming real knowledge because of their "Russian background." In most cases they speak only the language of their new country. Considering those who live in the U. S. A., one can say that their outlook on life, their political views, and their political actions have become quite American.

The "melting pot" has had time to blend them thoroughly into their community. Their children have lost nearly all foreign traits. They often make outstanding citizens in a democracy. Thanks to the years in the new environment, they have outgrown the characteristic Russian lack of political self-determination.

Type II Russians: The 1917 to 1925 White Russian Emigrants. They are called "White," not because they are members of the white race but because of their political affiliation before and after the revolution of 1917. Most of them were members of the "White forces" opposing the "Red Communists." After their emigration, their patriotism to their newly adopted nations became outstanding.

In virtually all cases they left the "old country" to escape death. They lost every material and spiritual possession that they had, and often members of their families died in the Communist-led massacres. The White Russians are deeply appreciative of their new homes, for it gave them a chance to start a decent life again. Most of them are unusually well educated, cultured, and refined people who were members of the upper strata of the Russian Empire.

Their sudden integration into our mode of life and customs has been a difficult process in spite of their eagerness to become real Americans. As their upbringing and education were governed by age-old traditions set in rigid patterns of social level, they underwent a painfully uncomfortable adjustment to the loosely knit social strata of the United States. It was hard for them to understand a new language, new customs, and what seemed at first like a rugged and abrupt people devoid of the fine mannerisms of the old world.

Many of the White Russians, especially the officers, had been brought up with a sense of high integrity and obedience to their rulers. Outspoken criticism of the American government, so normal for us, seemed shocking to them at first. The hail-good-fellow back slapping attitude of some Americans caught them off balance.

A few never recovered completely from the shock of having their whole life wrecked by the revolution. Old traditions were too deeply ingrained. They often formed clubs to find relief from the loneliness induced by their inability to adjust themselves fully to the modern society and to the strange customs of their new homeland. Once in the midst of their own company, they felt more at ease. Some relived their glorious past, forgetting for the moment the cold outside world. Most are violently anti-Communist. However, because of their inhibitions it is doubtful if many of them will ever fully understand and enjoy the freedoms of our Democracy.

A few of them still dream of returning to Russia, of taking possession of their lost lands and living again the indolent life of a landlord with their peasants working for them and catering to their smallest whims. Such people are dangerous to America should their voice ever be heard outside the U. S. A. Their selfishness could quickly wreck what little good-will and cooperation we may build up behind the Iron Curtain, although their knowledge of both the Russian and English languages may, on the surface, make them seem like attractive candidates for certain types of foreign duty.

Type III Russians: The Soviet Emigrants and DP's. After 1925 there was only a trickle of emigrants from the U. S. S. R. The bloody purges of the mid-thirties increased that trickle. By the early forties it swelled to the proportions of a stream and culminated in a flood of DP's who refused to return to their native land, preferring the slave-laborer life in Axis nations to the fate awaiting them back home. When compared to the Russians of Type II, they differ mainly in the degree of self-reliance, discipline on the job, reluctance to mentioning or even thinking of American politics. The U.S.S.R. DP's definitely surpass the "White" Russian emigrants in the above respects.

The average Type III Russian is a fairly rugged person with a robust constitution (the weaklings did not survive the famines of the 20's). His hatred of the Soviet government is pronounced, and he is quite outspoken about it, especially if

he thinks that we want to hear him criticize it. Because of his environment during his upbringing in the U.S.S.R. he is foxy enough to tell a lie now and then to help attain his goal, and he is capable of successfully carrying out small intrigues.

In spite of the Communist efforts to stamp out religion, the vast majority of Soviet DP's are devout. They take active part in Russian churches here but normally avoid the company of old White Russians because of an immense cultural gap. These DP's are keenly aware of their shortcomings in social *savoir faire*, and they are constantly on the defensive in that respect. The smallest hint of snobishness or inattention deeply hurts their feelings. They consider it a personal affront.

They are proud of their Russian background, yet the idea of Communism produces a shade of guilt in their minds. Most of them realize that some of the blame for the turn of events rests squarely on their shoulders, for probably not too long ago they willingly supported the growth of Communism in their native land. When questioned, only a few are honest enough to admit it. The reasons they give for their Communist behaviour in their early years range all the way from the cold "that was the side my bread was buttered on" to the apologetic "at that time I was so young and foolish."

The Type III Russians adjust themselves to life in the new world with less pain than Type II Russians, for they are less inhibited. They are more lively, more energetic, much surer of themselves on the surface, and seldom do they bow and scrape. They can bluff remarkably well—an art, they claim they acquired for survival in the U.S.S.R.

Their education is thorough in their chosen field. It is not, however, as extensive as that of the better class White Russians. The U.S.S.R. DP's may not know too much but what they do know, they know well. Those among them, who can think objectively in retrospect, are the best sources of information regarding the present living conditions in U.S.S.R.

Most of them are politically reliable, as they took a one way road when they left their country. These people will never seriously think of going back, for should they return to their native land, they will lose everything—their life, they say. The violent change of government in their old country has been a good lesson for them in a way. It has developed in them a sense of political adaptability which helps most of them quickly to become mentally American. However that adaptability is understandable, for they have lost nothing compared to the

White Russians. The U.S.S.R. DP's gained in freedom, in standard of living, in comfort, and in peace of mind when they took the road to America. What they left behind was abandoned willingly, and with few regrets.

Russians in the U.S.S.R.

Type IV Russians: Political leaders and party members. These people, when taken at face value are what we call the hardest in the world to understand. Their outlook on life and on all surrounding phenomena of nature seems to be exactly the opposite of ours. When we consider the Type IV Russians or their thoughts, words, or actions, we must keep several basic facts in mind. In the past these few basic facts were unfortunately either unknown, disbelieved, or intentionally ignored by people on our side of the Iron Curtain.

Had they been seriously considered, the "unexplainable" about these Russians might have been understood, and their "unexpected" actions might have been anticipated with a reasonable degree of accuracy. These facts are in the open for all willing to see; no secrecy shrouds them. They have been written down more than once by the founders of the Communist Party, and the method for their application is clearly outlined in the latest writings of present Party leaders.

Considering the order in which they most affect the behaviour of Type IV Russians, these facts are:

a. The Party to which the Type IV Russians belong is not a political party as we know such parties, *i.e.*, Democrat, Republican, Socialist. For all practical purposes the Party is a military organization with its commander in chief, the general staff with its normal subdivisions, outlying commands, administrative areas, and divisions, regiments, and companies. These Russians consider themselves soldiers in spite of their civilian clothes. Every line of their conduct is prescribed. They live the life of the soldier, with his sense of duty, of supreme sacrifice, of honor, of strict discipline, and of *esprit de corps*. In their own eyes and in the eyes of their fellow members they are "Soldiers of the Revolution."

b. They consider themselves as constantly at war, a war that is merciless to the loser, from the day it started with the bloody formation of U.S.S.R. to the day it will end with either a complete conquest and transformation of the remaining

capitalist world into a Communist state or with the total collapse of Communism.

c. Their world has but one boundary line, a fluid and constantly shifting border between their own and friendly Communist states on the one hand and the enemy states of the capitalist world on the other. Nations as we know them, do not exist, save for the two areas—theirs and the enemy's.

d. There is no room in their view for anything but complete destruction of their enemy. They will never accept a "negotiated peace" or a "diplomatic settlement" as a permanent solution. Their government cannot co-exist at peace with another one of a different type. Diplomacy as we know it has been eliminated from their concept. To them, diplomacy is just another tactical weapon or tool for attaining final victory in their grand strategy for Communist world conquest.

e. Communism as a political theory and a way of life is, according to them, the only true form of government. All others, they claim, were wickedly designed for the purpose of exploiting the fruits of the worker's labor. They parry any attempt at a realistic comparison of benefits and drawbacks between their system and others: "How can perfection be compared with half-truths? There can be no comparison!"

f. The backbone of their incredibly strange morals is one of the fundamental principles upon which the success of the Revolution is based: "The end justifies the means." Here they find justification for their deeds and their relations to others.

g. The driving force that makes the Type IV Russians stick together is a combination of two dynamic factors: ideological zeal and fear. Each of these Russians, or any Communist in this world for that matter, is pushed along by a varying combination of the two. Some have more of ideology than of fear. Others are driven practically by fear alone. They all have one thing in common, however. It consists of at least one grain of fear permanently incrusting into the structure of their mentality.

This dual driving force, cleverly applied, provides the cohesion that keeps all Party members bound together in a monolithic whole which exerts enormous pressure in the direction of the expansion of Communist power. It makes possible the undisputed total control of unorganized millions—a control that tolerates no deviation from its designated course nor sanctions any contradiction of its will. That is why all of the Type IV Russians, for all practical purposes, think as one, act as one, and pull in the same direction, each adding his bit of

ingenuity, of strength, and of plain hard work to the common cause—the success of the Revolution that has world-wide Communism as its final goal.

Type V Russians: The Masses. There are about 180 million of them. Some of their cousins, uncles, fathers, children—came to the USA recently as DP's. They are everyday people: workers, clerks, teachers, bricklayers, and engineers. They serve where they can, on the collective farms, in factories, or in the armed forces. They are the people whose labor makes the fields of Ukraine a rich green, the forests of Siberia yield their treasures in lumber, the oil-rich Caucasus give up its black gold. They herd the cattle and sheep in the endless plains of Central Asia or dig up tons of metal in the northern vastness of their land. They make the five-year plans a reality as they feed themselves and their rulers.

They are a quiet, silent lot—resigned to their fate, turning to religion for the courage needed to carry on, constantly afraid. Many of them once tried to express their thoughts, to deviate from the narrow path that the Party had charted for their daily living. Such people dared incur the wrath of their government. Now they no longer belong to their society, and they are out of the picture in so far as their friends and relatives are concerned. They found themselves confined to the government labor camps that are scattered throughout the U.S.S.R. in "special zones." There work follows sleep in an endless procession. One day is like the next, with no horizon of hope, no glimpse of a different future. Bodily discomforts are not too bad, for one becomes numbed with pain, hunger, and cold. What hurts most at first is the lack of spirit, the broken spine that paralyzes will power and brings on fear, constant fear.

But life goes on in the land as the 180 million toil and earn their daily bread. Their thoughts are on the immediate future, on tomorrow and on the day after. They never think of politics. Politics are not for them, as that die was cast long ago. They enjoy a bit of simple fun once in a while, but mostly it is work and more work, for the hungry mouth of the five-year plan has to be fed. The bosses say that the Revolution must go on. They hear that the enemy surrounds them—a fate worse than death awaits them. So "work, Tovarisch, work all you can, to the best of your ability and use just what the government decides you need—no more!"

There is little time left for thought, the Party sees to that. They have compulsory meetings which everyone attends, for no one dares say no. These meetings are usually designed to take up leisure time. Too much leisure would be dangerous these days, as people with a little time on their hands can get together and talk and think. The government sees to it that they have no time to discuss such lofty things as democracy, freedom, America—no time to even think of anything else than tomorrow or of their work on the day after.

The thoughts of refrigerators, new cars, politics, and freedom seldom enter the minds of an average Type V Russian. He rather dreams of a new pair of shoes that he can ill afford or of a new suit, or of some butter on the table—other thoughts are dangerous. They may lead to a labor camp, for a slip of the tongue has proven itself to be a fatal error for more than one person. One cannot trust his wife, or brother, or neighbor, or sweetheart. Anyone may turn you in, even your own child. It is much easier to forget those things, to file them in the dead file section of your mind. It is surprising how fast one can forget when the driving force is fear. These Russians have become experts at never speaking their minds. They avoid the younger generation like a plague, for that generation has been sold on Communism. Their outstanding common characteristic besides constant fear is their lack of trust and belief in anyone.

Type VI Russians: The First Soviet Generation. They do not even call themselves Russians, and rightly not, for they are Soviet citizens, born under the Communist government and reared like good Communists under intense Party supervision. They are a strange species of human beings, full of force and drive, fanatically confident of their power and destiny. They consider themselves the saviours of the worker, the crusaders for the emancipation of the toiling masses. They have but one goal and only one destiny—to give their all to ensure the success of the world Revolution.

From kindergarten on through all stages of education, they have neither heard nor learned anything except the Communist doctrine and what technical training they have received.

The history, geography, literature, and philosophy they have studied are brands unheard of in our country. Their belief in what they have learned is unshakable, and their trust of the Party leaders is blindly faithful. They know that the future leaders of the Communist state will be chosen from

their ranks. They will never accept new ideas, for whatever does not agree with Communism is automatically classified in their mind as false. Such one-track minds, intent on one purpose, seeing only what they were taught to see, blind to everything else, could have been produced only through a well-planned training program, a program that required complete isolation of the students from the outside world and a thorough editing and censorship of texts and teaching from start to finish.

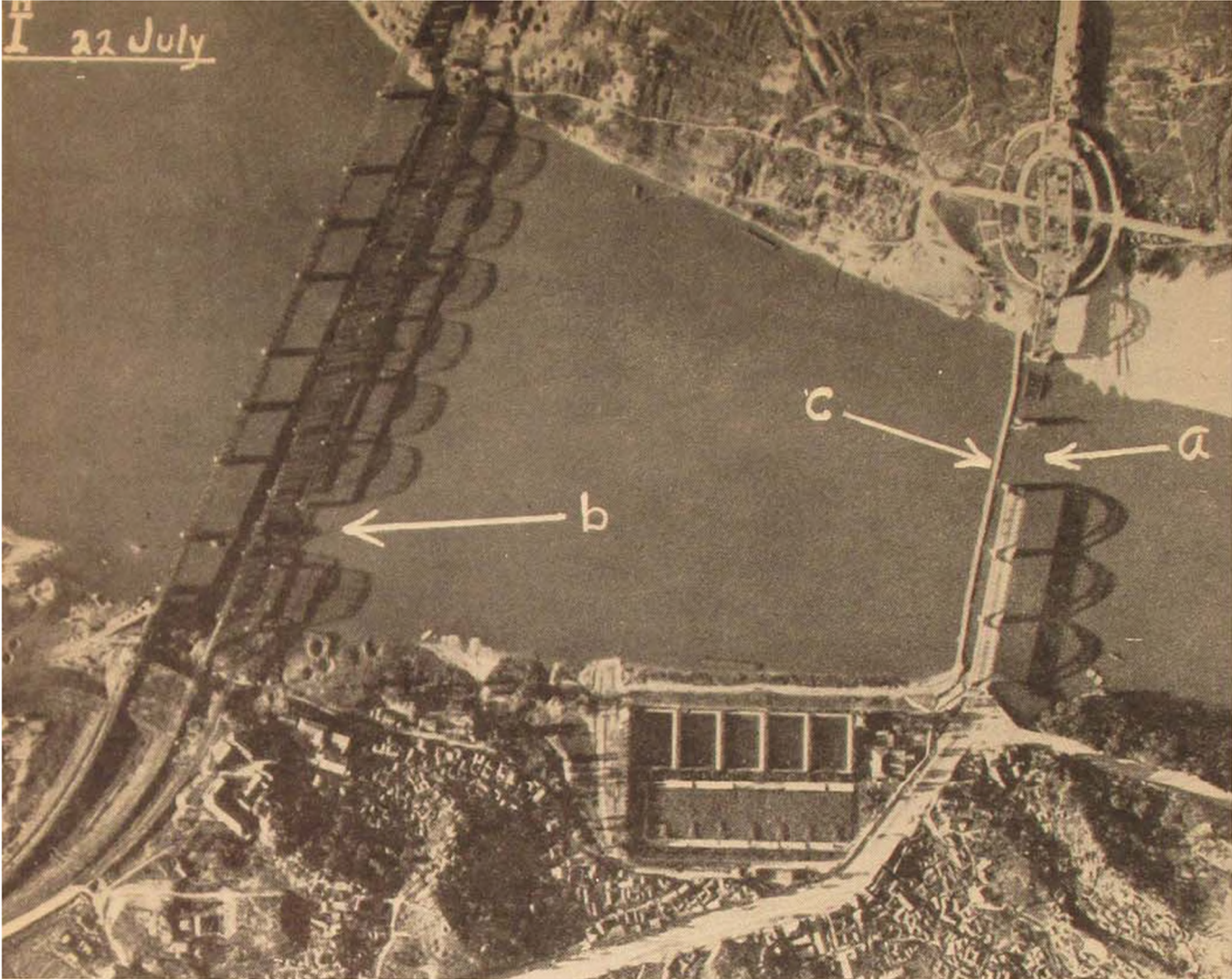
This first Soviet generation speaks a virtually different language; their outlook on life and politics is just what the Party wants. They cannot compare values without prejudice because of unwillingness to give an inch in compromise. They are the "Pit Bulls" of Communism, the most trusted followers who believe because they know nothing else. Teaching them the facts about the rest of the world will prove to be harder than can be anticipated at first impression. They will listen with attention and assumed reverence to anything that is being said, for they are well-disciplined; yet when the talk is over, they will instinctively discard all statements and facts that do not jibe with the Communist teachings that have been drilled into them since childhood.

As time goes on, their ranks will swell, while the older Russians die off. This first Soviet generation will be followed by the second, then the third. Each succeeding generation will be more and more fanatical than the first, less and less given to absorbing the truth with an open and impartial mind. Their outstanding characteristic is that they are totally blind to any Western ideas of freedom and democracy. Discussion, arbitration, and successful settlement of international questions will become impossible when they will fill one end of the scales of human destiny in this world.

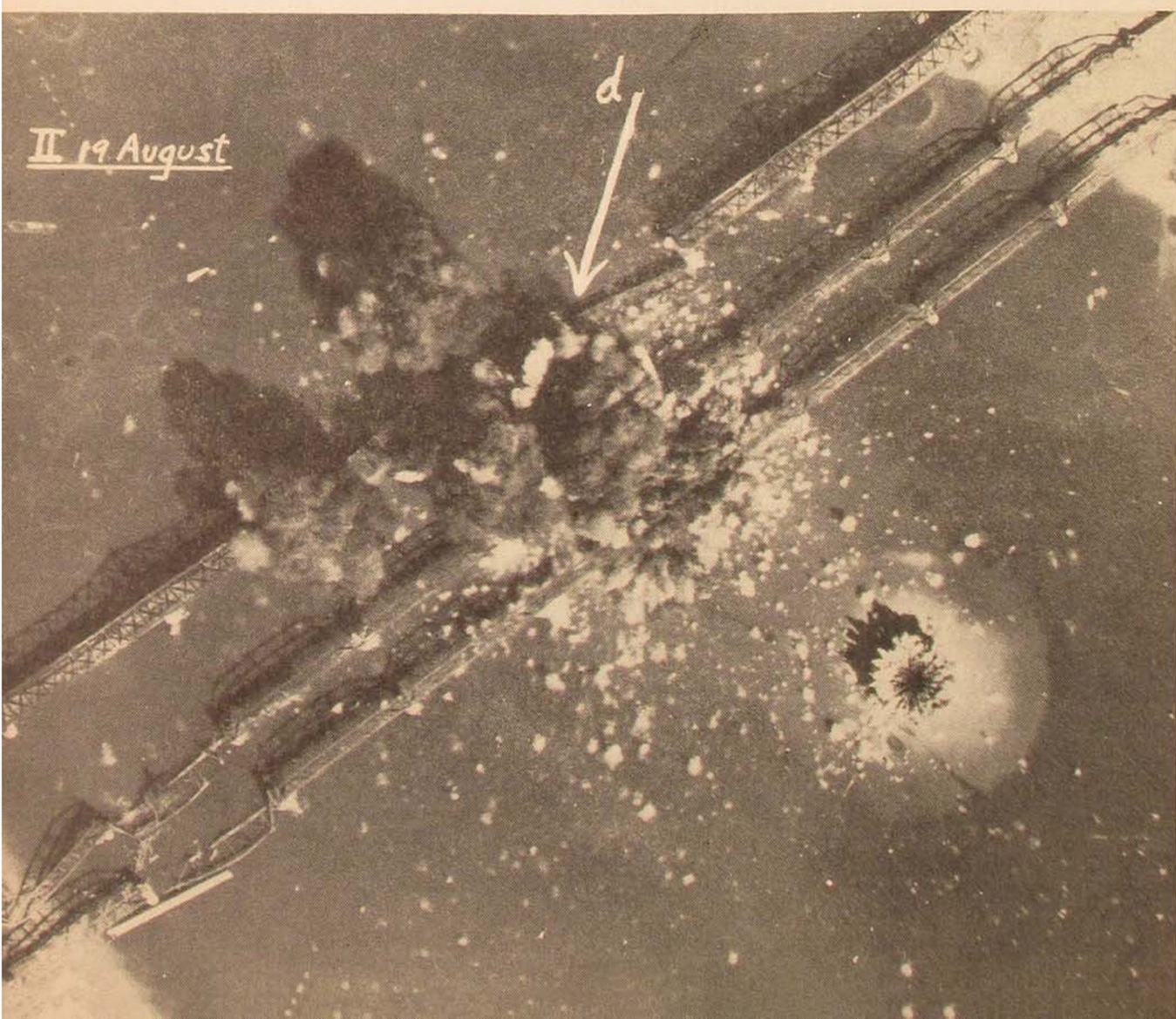
These are today's six general types of Russians. Of course borderline cases exist—cases that seem to be either of two types—but they are few in number and are likely to be indecisive in action. They can safely be disregarded. It is an aid to "understanding" the Russians, or their intentions, if one will attempt to type an individual or group whose words or actions he would understand. Then if he keeps in mind the fundamental characteristics of the type, some light may be cast on his problem.

Air Command & Staff School

I 22 July



II 19 August





The Seoul Bridge Complex

Two single-track railroad bridges, one double-track railroad bridge, and a highway bridge spanned the Han River at Seoul, gateway to the main supply route feeding the divisions smashing at the Pusan beachhead. North Korean command devolved on no generalissimo loosely ordering route armies armed with rifles and cooking pots to isolated battles. It rested in a highly competent modern staff organization that directed its resources toward carefully planned objectives. Prime evidence of its energy and resourcefulness was displayed in its effort to maintain the all-important Han River crossing.

I. Two spans (a) of the highway bridge were destroyed on 2 July by demolition conducted by the U.S. Military Mission in South Korea. One span (b) of each of the single-track railroad bridges was destroyed by air strike on 5 July. On 20 July there had been no indications of the vehicle pontoon bridge (c), the vehicle approaches and decking of the double-track railroad bridge allowing it to serve both rail and vehicle traffic. But by 22 July, in two days, it was in place and in operation in response to top priority change in requirements.

II. Three spans (d) of the double-track railroad bridge were destroyed on 19 August, after repeated air strikes. Photography of 20 August showed no activity of new construction.

III. By 22 August railroad grades on each side of the river and bridge construction across the river were observed. By 3 September the grades (e) and bridge (f) to by-pass the permanent bridges were completed, in spite of two successful air strikes on the new approaches and bridge (g) between 22 August and 3 September.

In My Opinion . . .

WHY TROOP CARRIER AND MATS SHOULD NOT BE MERGED

MILITARY PLANNERS are agreed that air transportation is of primary importance in the conduct of military operations. There are two forces in the United States Air Force that provide the major air transport effort—the Military Air Transport Service (MATS) and the Troop Carrier forces. Because both forces transport personnel and materiel by air, some of us have erroneously considered the mission of both to be the same. Lt. Col. George E. Stover expressed such an opinion in his article, "Why Two Air Transport Organizations?," in the 1950 Summer issue of the *Air University Quarterly Review*. Lt. Col. Stover's approach was prompted to attain more air transport from the forces available. His discussion was based on the four considerations of mission, training, equipment, and organization. He concluded that both forces have the same mission and the same equipment capability and minor cross training problems. He therefore disagreed with the practice of maintaining two separate transport organizations.

Let us approach the problem along the same avenue that Lt. Col. Stover has chosen. What are the missions of Troop Carrier and MATS? As Lt. Col. Stover indicated, both forces transport personnel and materiel, but that is only part of the picture. More important is how, why, where, when, and under what circumstances each performs its job. To understand the mission of an organization, the tasks involved and the methods of employment must also be studied.

The primary mission of MATS is to provide world-wide logistical support for air, land, and sea forces. Such operations are continuous. Long-range, heavy-load-carrying aircraft are employed over regularly established routes on a scheduled, single-ship, all-weather, round-the-clock basis. This strategic airlift provides the means for keeping the air supply pipe line in adequate flow. Theaters of operation have no control over this air transport force. It operates from the Zone of the Interior and between the various theaters. Although it is assigned to and is operated by the USAF, priorities are established

and monitored by a control agency in the Joint Chiefs of Staff. If, as Lt. Col. Stover suggests, any USAF organization has the primary mission of furnishing air effort for the Joint Chiefs, this is it.

Troop Carrier forces are charged with providing tactical air transportation within a theater of operations. Their equipment must be capable of dropping parachute troops and supplies and be light enough to land on hastily prepared air strips. The tasks involved in tactical air transportation are varied. Troop Carrier-Airborne operations include parachute assault in conjunction with amphibious and Army ground operations and independent penetrations of enemy territory. Each of these operations require varied types and techniques of delivery. Parachute assault is followed with resupply by parachute, landing aircraft, gliders, or assault transports. Reinforcements may be landed on combat prepared air strips or even in unprepared areas. Air Evacuation of the entire force may be necessary. These operations involve glider pick-up as well as normal formations of aircraft.

Since Troop Carrier operations are conducted primarily in conjunction with ground forces, tactics and techniques are patterned to accomplish the ground requirement. Formations and low-level flying are designed to exploit the principles of mass and surprise. The size and type of formations depend upon many tactical considerations. The size of the airborne units employed, the size and location of the drop and landing zones, the tactical air support available for escort, and the time limitations imposed are some of these considerations.

Comparison of the tasks of MATS and Troop Carrier shows that they are no more alike than the tasks involved in strategic, tactical, and air defense fighter missions. To say that all air transportation should be merged is just as reasonable as saying that we should have one fighter command.

Actually neither all ground nor all sea transportation is assigned to one command. Ground combat units are equipped with personnel carriers of several types to provide transport in the combat area. While these vehicles are equipped with limited defensive fire power, their primary use is transportation. (The only reason Troop Carrier aircraft were not equipped with defensive armament during World War II was that a reduction in payload would have resulted.)

Sea transportation is charged with world-wide logistical support. It is not charged with assaulting an enemy coast line

for which special assault craft under command of the amphibious task force are utilized. Strategic logistical support by air, land, or sea begins to operate after adequate facilities are available in the combat area and after the combat situation is favorable for such activities. Committing MATS to an assault operation not only risks its hard-to-replace transport aircraft but also jeopardizes military operations in the areas from which it is withdrawn.

Accomplishment of the missions or tasks involved is dependent upon aircraft and related equipment. Troop Carrier and MATS each have certain aircraft specifically designed for its particular mission. MATS has or contemplates having C-97 and C-124 aircraft. C-54's are being utilized until the large replacement aircraft are available. The C-97 and C-124 can transport 59,300 lbs. and 74,407 lbs. of cargo respectively, when employed on what is termed their basic mission (1000 nautical miles radius of action). Such large aircraft require permanent airfield construction. Since MATS operates on scheduled routes, this presents no handicap. However it does dictate adherence to regularly established routes for normal operations. Both aircraft are capable of long-range air transportation.

Troop Carrier is presently equipped with C-82 and C-119 type aircraft. They can transport 6522 lbs. and 14,500 lbs., respectively, for their basic mission (1000 nautical miles radius of action). The C-82 is obsolescent and eventually will be replaced by the C-119. Both of these aircraft have been designed to accomplish any of the tasks required of tactical air transportation. In addition to the C-82 and C-119, G-18 and G-20 gliders are being tested for use in airborne operations to replace the smaller type gliders of World War II. Assault transports capable of transporting 8000 and 16,000 lbs. are undergoing tests for possible replacement of gliders altogether.

Also it has been proposed that C-124's be assigned to Troop Carrier wings with the designation, "Troop Carrier wings, heavy." This proposed assignment of large, heavy aircraft is one of the cornerstones of Lt. Col. Stover's contention that there should be only one air transport organization. Actually Troop Carrier has received no C-124 aircraft. Further, it is questionable whether the C-124 is capable of performing tactical air transportation. The take-off gross weight is 210,000 lbs. For emergency operations 6400 feet of runway, 200 feet wide, is required, which must be increased to 9000 feet and 300 feet for continuous operations. The equivalent single-wheel

load for which airfields must be constructed varies with the type of materials used. However, regardless of materials used, the airfield for a C-124, with its present gear configuration, must be stronger than that needed for a B-36 bomber.* To construct such an airfield in a theater of operations would require approximately nine battalion months. This time requirement practically eliminates the usefulness of the C-124 in a forward assault area. As for parachute operations, the C-124 is not designed with jump doors. Even if modification were accomplished to include jump doors, the ground parachute pattern of the two hundred troops involved would not be acceptable on any drop zone of reasonable size. Utilizing two exits, the length of the C-124 pattern would be approximately three miles. The C-119 can parachute 40 men into an area only 900 yards long. Mass is a basic principle of airborne operations. Formations of the smaller C-119 achieve a concentration of troops that is not possible with large aircraft of the C-124 class.

Another item of importance, determined during the Berlin Airlift, is the maintenance requirement for large aircraft. Zone of Interior maintenance was determined as best for the C-74, which is the forerunner of the C-124. If maintenance presented a major problem in a theater during peacetime, it is logical to assume that global war would magnify the difficulties. Airfield requirements and lack of acceptable parachute capability limits the role of the C-124 to MATS operations. The difference between the capabilities of the C-119 and other type MATS aircraft is readily perceivable without further discussion. Although much thought has been given to development of an aircraft suitable for both MATS and Troop Carrier, the tasks involved are so different that standardization would jeopardize one or the other's mission.

World War II training programs support the fact that aircraft crews can be trained to operate any type equipment. However they also show that refresher training is necessary when changing from one type of equipment to another, or from one technique to another. MATS and Troop Carrier crews could be trained to accomplish each other's mission, but in changing from one type operation to another, the time factor imposed by military necessity would preclude refresher training. As previously mentioned, MATS operates single-ship

*AC&SS Pamphlet No. 44, Logistics, January 1950, Part IV, "Construction," Figure 801, "Criteria For Airfields in a Theater of Operations."

schedules and therefore would need unit training. Although Troop Carrier could accomplish much normal supply and re-supply in a theater by single aircraft, unit formations are flown whenever possible to maintain proficiency in the primary mission of airborne operations.

Since a large-scale airborne operation probably utilizes all of the airborne troops in a theater, the air transport effort must not fail. Bombers can strike an alternate target or schedule another mission if the objective is missed. Airborne operations neither include alternate targets nor a stockpile of troops to be loaded for a repeat effort. Poor technique on the part of combat crews can jeopardize the operation. Also the staff planning involved in strategic and tactical air transport is quite different. Strategic air transport is a directed operation, and tactical air transport is a negotiated, or coordinated, operation such as exists in tactical air and Army ground-support operations. It must be concluded then that each type air transportation effort requires a specialist. The jack-of-all-trades cannot be depended upon when the chips are down.

In order to accomplish their specific missions, MATS and Troop Carrier are organized differently. Troop Carrier units are organized, as are other Air Force units, into wings, groups, and squadrons and in accordance with Tables of Organization and Equipment. Assignment to higher echelons in a theater of operations depends upon certain factors. Employment of the Troop Carrier force, the tactical or strategic situation, the geographical size of the theater, lines of communications, and the degree of flexibility desired are important considerations. While it is desirable for Troop Carrier to be a major command assigned to the theater air force headquarters, it may be assigned to Tactical Air Command. The primary consideration is that all Troop Carrier units be grouped together under one command and that a control agency be operated at theater headquarters level. Piecemealing the effort to various commands reduces the effectiveness of the units for combat operations. For large-scale airborne operations, Troop Carrier and Airborne forces are assigned to a task force. This headquarters is assigned directly to theater headquarters.

Although MATS is organized into wings, groups, and squadrons, it is staffed and equipped in accordance with Tables of Distribution. Another difference of significance is that in addition to his home base a wing commander may command several bases along a given route. His wing is then divided to

staff and operate these intermediate bases. This is a logical arrangement for MATS. However if this organization were gathered hurriedly together for commitment to a combat operation, difficulties might arise. Separate squadrons and flights would be brought together for the first time or at least after long absence from each other. Many military leaders place great emphasis on unit *esprit de corps* for combat operations. Could this intangible element be attained, by even the strongest leader, in the short time that would be available? Such action could not be taken except as an emergency measure because of jeopardy to the world-wide logistical mission. Therefore time would be short. It is not intended that the impression be given that MATS does not have the organizational capability of assisting in Troop Carrier operations. As long as it is committed in its normal manner, single ship, scheduled, all weather, it can render valuable effort. The essential item is that Troop Carrier-Airborne operations require unit effort entailing complete coordination and cooperation between both members of the team. Such coordination and cooperation is not the result of just good fellowship and friendly feeling. Knowledge of the capabilities and limitations of each force must be understood by the other, and complete confidence must exist in order to coordinate effectively. The major differences between the organization of MATS and Troop Carrier occur because of different missions and equipment capabilities.

Consideration of the mission, equipment, training, and organization of MATS and Troop Carrier leads to a single logical conclusion. If these two forces were merged, the mission of either one or the other would be placed in jeopardy.

MATS has a man-sized job in accomplishing world-wide strategic air transportation. A theater commander's mission is also of major importance. To accomplish the many tasks involved, he must have the necessary tools. Tactical air transportation is one of these tools. Other than providing its normal effort, the mere existence of Troop Carrier and Airborne forces in a theater constitutes a strategic threat. Enemy forces are caused to deploy to protect areas not vulnerable from other types of ground assault. Also unexpected military gains can be exploited without delay. General Patton's Third Army break out of Normandy and race across France in World War II is a good example of what can be accomplished with tactical air transportation. Third Army reports state that this would have been impossible without air supply. Only by having Troop

Carrier available in the theater at all times can such situations be exploited.

Again it must be emphasized that MATS and Troop Carrier can, and do, assist each other. The Hump operation, the occupation of Japan, the Berlin Airlift, and the transport operations in Korea are examples of this cooperative effort. Although Lt. Col. Stover indicated in his article that major difficulties were encountered when Troop Carrier and MATS joined together for operations, the fact remains that the missions have always been accomplished.

Finally it is fitting to point out that Secretary of the Air Force Thomas K. Finletter, forcefully drew a line of demarcation between Troop Carrier and MATS in a recent address:*

"Closely allied to the question of tactical support is that of the Troop Carrier operation—the planes which are to be available for air drops and for other transport work, mainly for rapid deployment of relatively small units.

"Sometimes, the dividing line between troop carrier work and the transport operation is not clear, but I want to make it clear that in talking now of troop carriers I am not including the obligation which would fall in the Military Air Transport Service for the transporting over substantial distances of bodies of troops and equipment for deployment overseas.

"In calculating our troop carrier requirements, it would be very convenient, indeed, if we could assume that we could divert from the transport work the four engine aircraft now engaged in transport and put them at the service of the Troop Carriers. Even so, this would not be an ideal state of affairs, because the transport aircraft are not designed for this work and are therefore not as good at it as the specially designed Fairchild C-82 and C-119. But we may dismiss this idea by saying that all our plans must be calculated on the assumption that peak demands on troop carriers and transports will be simultaneous."

Air Command & Staff School *Lt. Col. Leroy M. Stanton*

*Before the Washington chapter of the Aviation Writers Association. As reported in the *Army, Navy, Air Force Journal*, 23 September 1950.

This wreckage is all that remains of a nitrate separation bath at the Chosen Nitrogen Fertilizer Factory, a part of the vast Konan chemical-industrial complex. Damage was caused by 400 tons of bombs dropped by U. S. Air Force B-29's of the Far East Bomber Command on 3 August.

Bomb Damage

When the United Nations Forces pushed north of the 38th parallel, they found gutted buildings and mounds of twisted rusting steel where had formerly been the factories and industrial centers vital to the military forces of Communistic Korea. Symbolic of the terrific destructive capacity of the U.S. Air Force's strategic bombing are the ruins of the Chosen Oil Refinery at Wonsan, which had an annual capacity well in excess of one and a half million barrels of crude oil, and of the Konan (Hungnam) chemical-industrial complex, the largest in Asia. An evaluation study by U.S. Far East Air Forces Bomb Damage Assessment Field Teams confirmed the destruction of the militarily-important production potential of the Konan complex by B-29's in late July and August when 1582 tons of high explosive bombs were dropped in four attacks. The Konan complex consisted of three main industrial factories: the Chosen Nitrogen Explosives Factory, bombed 30 July; the Chosen Nitrogen Fertilizer Factory, bombed 1 August; and the Bogun Chemical Factory, bombed 3 August. An ore refinery adjacent to the fertilizer factory was bombed 24 August. It produced materials of possible use in nuclear-fission projects. Facilities of the Konan complex also included a modern, well-equipped pier one-half mile long, with four large cantilever-type unloading cranes. The pier and docks accommodated several ocean-going vessels up to 10,000 tons each. They were not included in the attacks.





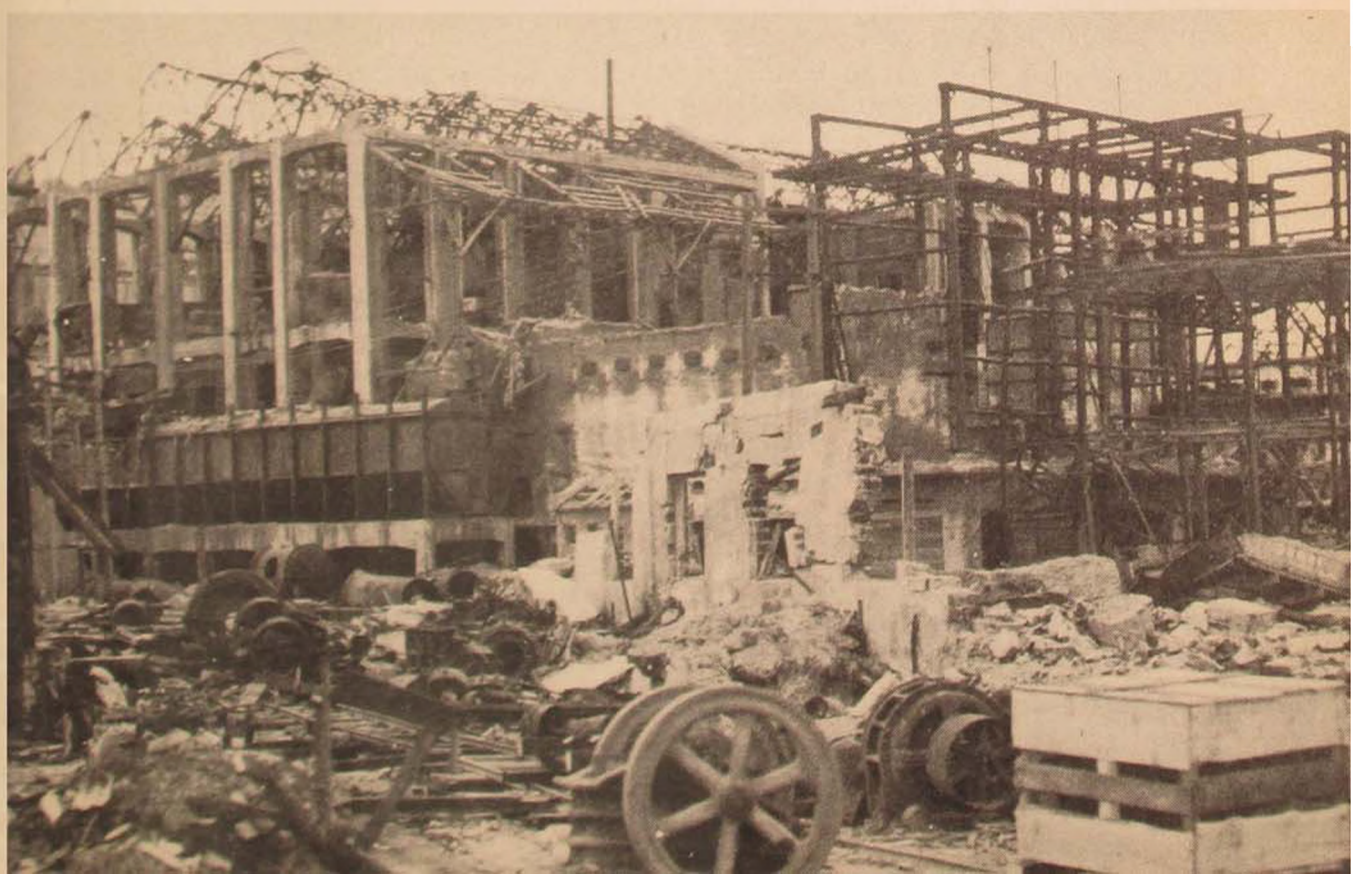
The terrific force of Air Force bombs is revealed by this destroyed kiln used in the sulphate drying room of the Chosen Fertilizer Factory. The huge piece of machinery was blown completely through the factory wall during the attack of 3 August 1950.

The Chosen Nitrogen Explosives Factory, one of the largest producers of explosives in Korea, was bombed 30 July with 500 tons of high explosive bombs. A solid cloud layer below the B-29's restricted bombardiers to radar sighting except for the final bomb runs, by which time heat from the ground fires had cleared away the overcast in the immediate area. The plant was completely wrecked and what minor operations continued were driven first into hastily-established underground shelters in near-by hills, then re-hidden beneath a workers' apartment housing project near the plant. Before the B-29's struck, the explosives factory employed 2700 workers. But after the first attack, the FEAF Assessment Team was told by a plant official, that production fell off 80 per cent. This official also stated that only a "few hundred" workers were kept on hand in an attempt to re-establish shops buried deep inside surrounding

hills. When this proved impractical, what remained of usable factory equipment was removed to a workers' apartment district close by. He expressed surprise that B-29 bombers had obviously been careful to avoid districts in which workers were housed. The explosives plant was of modern construction with large storage warehouses. Combined with the workers' apartments, it covered an area of about one mile along the east side of the Josen River and extended east from one-quarter to one-half miles. It consisted of more than 70 main factory buildings, some of heavy concrete and about half of light steel frame construction. There were also several acres of large revetments and warehouses serving as storage points for explosive material, such as black powder and nitro-glycerin. Some of these huge storage buildings were surrounded by earthen walls 30 to 40 feet thick. The factory at Konan was prominent during the Pacific War, when it was controlled by the Japanese military forces and was on a full-time production basis as a prime munitions manufacturing center. Since 1945 it has been expanded and improved under control of the North Korean government. Classed as a direct, critical war-supporting industry, the plant produced glycerin and nitric and sulphuric acids for the manufacture of munitions and many military explosives that were supplied on a modern production basis to the North Korean forces.

The Chosen Nitrogen Fertilizer Factory: On 1 August, B-29's of the FEAF Bomber Command put 400 tons of high explosives on the chemical and non-ferrous metal plant of the Chosen Nitrogen Fertilizer Company in the second major attack on the Korean industrial complex. The first squadrons over the target released their bombs visually, but flames and thick smoke soon covered the aiming points and necessitated radar sighting. So accurate was the attack that the bombs did a "complete job" of destruction to the 1,600,000 square yards taken up by the industry, according to the U. S. Army advance engineering party. When they arrived at Konan to operate port facilities, they observed that the bombers had completely ruined every usable building up to within

The ore refinery of the Chosen Nitrogen Fertilizer plant shows the over-all destruction caused by U. S. Air Force B-29's. The refinery, which had supplied war materials to nearby factories and processed ores of possible use in nuclear-fission projects, never regained production after being struck by 282 tons of bombs 1 August 1950.





100 yards of the modern docks. "The only salvage value [in the remainder of the plant] is in incidental machinery, scrap iron, and other junk metal." The FEAF Assessment Team also reported that acre after acre of torn walls, shattered pieces of heavy machinery, and smashed buildings several tiers high were churned into one unintelligible scrap heap. Yet only one of the many giant cranes for unloading cargo at the port was damaged. The dock was otherwise avoided by the B-29's; no bombs were closer than 100 yards. Past that point the intense bomb patterns began, and no portion of the manufacturing facilities escaped. The Nitrogen Fertilizer Factory, located on the north side of Hungnam Bay two miles east of the Josen River mouth, and about two miles east of the Nitrogen Explosive Factory, processed nitric acid for explosives, ammonium sulphate, and metallurgical products such as magnesium, aluminum, and some copper. Numerous large buildings of permanent-type construction were in the plant area, including giant buildings for other metals and alloys requiring high voltage electricity for manufacturing. The largest, the hydrogen and oxygen electrolysis building, covered a rectangular area of about 575 by 1125 feet. Within this plant were 16 large hydrogen and nitrogen containers and large tanks for fish oil and glycerin.

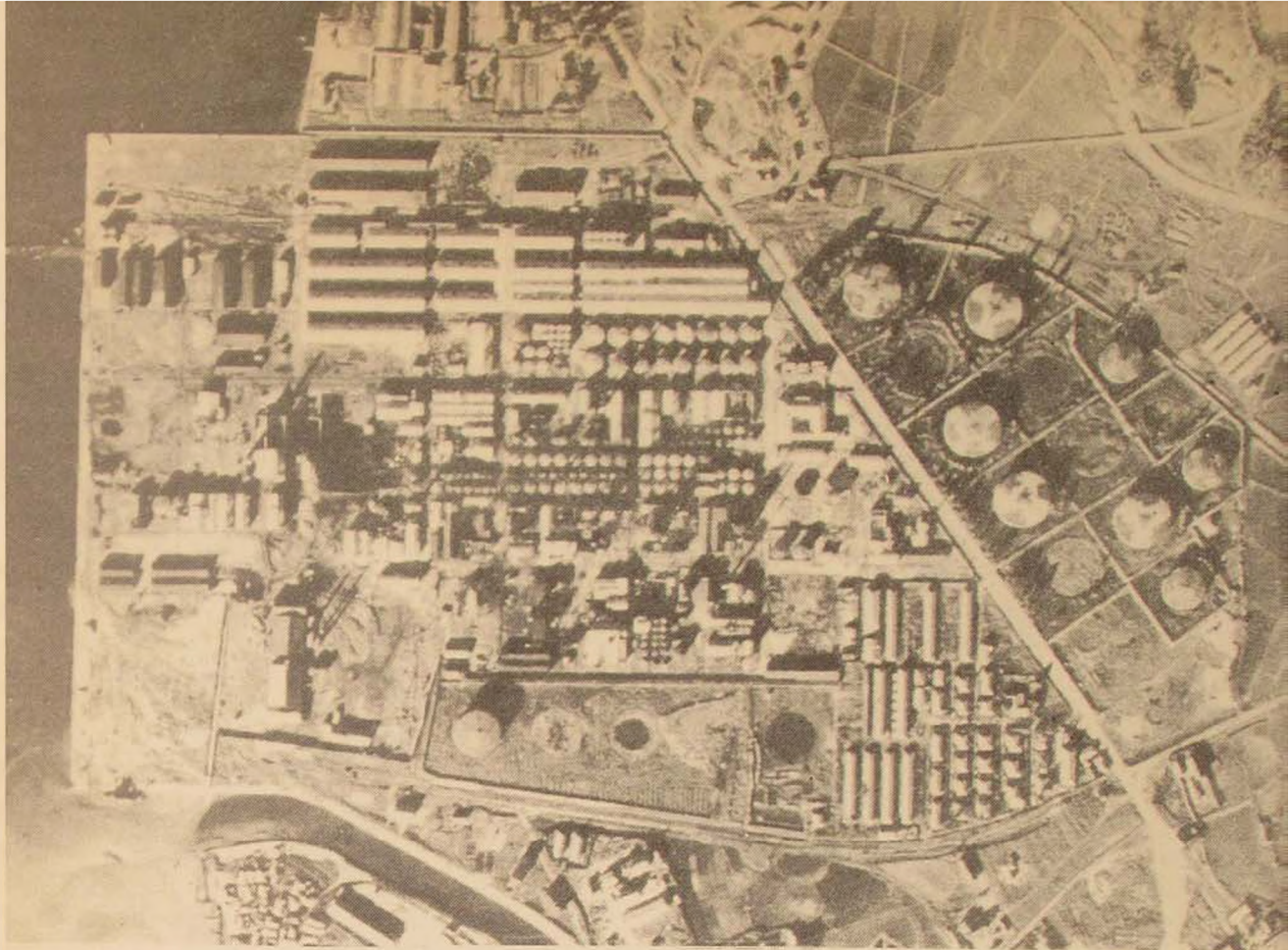
An adjacent ore refinery was wiped out in a separate attack by 24 B-29's dropping 282 tons of bombs on 24 August. When fires died down after the attack, an inspection of the refinery revealed 91 bomb craters directly on the plant. The refinery produced large quantities of silver, gold, nickel, lead, and copper.

The Bogun Chemical Plant was the third major target of the Konan chemical-explosive-nonferrous metal manufacturing complex to be blasted by B-29's. Heavy cloud cover over the target during the first phase of the attack forced

B-29's completely knocked out this power plant at the Bogun Chemical Factory, a part of the Konan complex. The chemical factory, which employed 7800 workers, was reduced to ruins in one attack, 3 August, by 400 tons of high explosive bombs.

Damage to the separation plant of the ore refinery forming a part of the Chosen Nitrogen Fertilizer Factory at Konan after attack by Air Force B-29's 24 August.





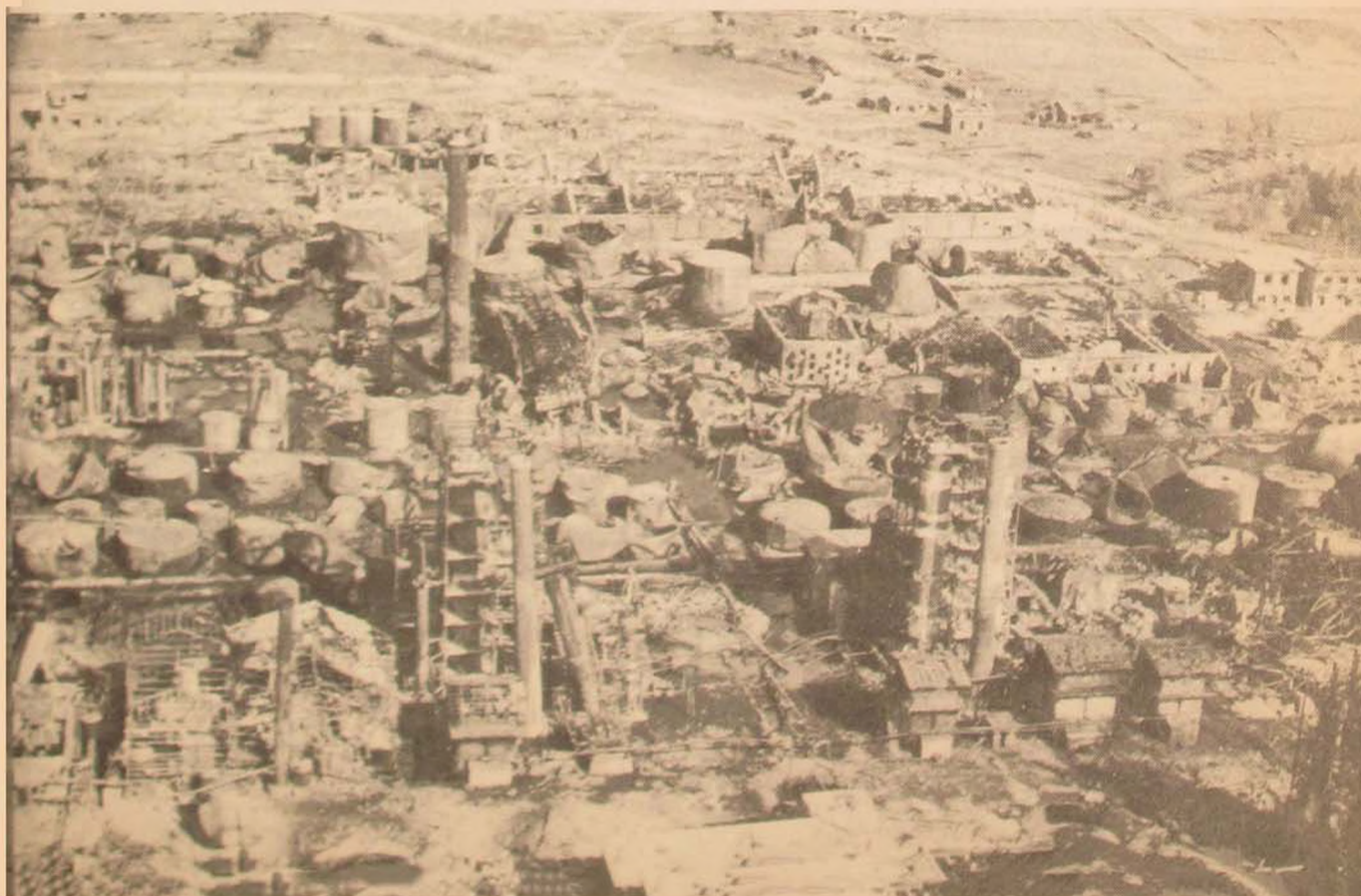
The Chosen oil refinery at Wonsan as it appeared 29 June 1950, before bomb damage.

one group to drop by radar sighting. More than 400 tons of high explosive bombs fell from the bomb-bays 3 August with such accuracy and destruction that the 7800 employees never even attempted to put the plant back into operation, according to the plant manager. The factory was the largest chlorine and electrolytic caustic soda plant under Japanese control before World War II. It had an annual estimated production capacity of 50,000 metric tons of carbide and in recent years had been considered the largest plant of its type in Asia. Since World War II, it has been expanded to approximately four times its previous size. It is directly dependent upon the other two plants in the complex for its existence. Extending nearly one mile along the east shore of the river, the factory consisted of a series of large shops, coke ovens, and tremendous warehouses and storage spaces. It contained several miles of railroad spur lines reaching directly into the shops and connecting with the main line tracks which served the other two plants in the industrial network.

The Chosen Oil Refinery at Wonsan, a major source of fuel for North Korean tanks and trucks, was destroyed by Air Force B-29's 10 August after photo-reconnaissance showed only minor damage by previous small air strikes. Interrogation of prisoners revealed that vehicular operations of the enemy were drastically slashed by its reduction. The Wonsan refinery, the largest in Korea, included a research laboratory and glycerin and potash production units, as well as its important cracking and distillation units. It was capable of producing large quantities of motor fuels, aviation gasoline, and lubricating oils, its annual capacity being rated in excess of 1,500,000 barrels of crude oil. Storage capacity was estimated at 20,000 barrels. The plant was well situated for handling marine shipments with its own pier and dockside installations.



The Chosen refinery as it appeared 12 August after the B-29 attack of 10 August.
Ruins of the Chosen refinery as they appear to U.N. forces arriving at Wonsan.



Air Force REVIEW

The Tactical Air Command School of Air-Ground Operations

The campaigns in Korea have proven once more that the basic doctrine for the employment of tactical air forces which the Army and Air Force evolved during World War II is sound. This doctrine has been the subject of constant study and development since it was first accepted during the last war, and the Korean War has served the important purpose of giving it, in its current state of development, the only completely realistic field test that can be devised for military ideas—the rigid test of actual combat.

One might think that a system of warfare that has not radically changed in the past seven years would be known by most professional military men and that schools designed specifically to enhance the average senior officer's understanding of it would be unnecessary. However the Principles of War which are accepted by the United States Armed Forces today were developed by Napoleon, Clausewitz, Hannibal, and many of the other great military thinkers in past centuries, but it is still necessary for senior officers to spend a tremendous amount of time learning to apply these principles. It is easy to memorize the Principles of War or the doctrine for the employment of tactical air power but any officer can easily spend a lifetime learning to apply them.

What, then, is being done to ensure that the senior officers of the Air Force and the Army and selected officers of the other services understand the tactical air *doctrine* well enough to be able to apply it on the field of battle? The Tactical Air Command School of Air-Ground Operations at Pope AFB, North Carolina, was conceived and established for this very purpose. To this establishment come senior officers of all services to learn the doctrine, techniques, and procedures of air-ground operations.

Let me explain some of the things that the school is not intended to do. The coordination of Air Force and Army effort in battle requires many highly-trained specialists. Some of these Air Force specialists are Forward Air Controllers, Air Liaison Officers, and innumerable electronic specialists. The Army uses specially trained operations and intelligence officers known as G-3 Air and G-2 Air, ground liaison officers, reconnaissance specialists, and communications specialists. The School of Air-Ground Operations is not designed to train any of these specialists. The training of specialists must be accomplished unilaterally by each service.

The Air-Ground Operations School is designed to educate senior officers of both services in the machinery and interrelationships of all specialists used to weld forces from the two services into an effective tactical air-ground combat team. We believe that the graduates of the School of Air-Ground Operations must know the general functions of each of the many specialists. We are trying to turn out graduates who can return to their Army and Air Force organizations and occupy staff and command positions involving joint operations by the two services. In short, we are teaching "the big picture."

Our school was established at Pope Air Force Base because facilities such as the Ninth Air Force's Joint Operation Center and a Tactical Air Control Center were available for use of the school. Theoretic instruction in the course centers around the Joint Training Directive for Air-Ground Operations, which was prepared jointly by the Tactical Air Command and the Army Field Forces and published in September 1950. This directive provides the needed uniformity of air-ground doctrine which is of prime consideration in joint operations and represents the culmination of two years of intensive study and preparation. The contents of the manual are based on studies of World War II history and post-war recommendations of boards established to re-evaluate air-ground problems. The experience gained in recent joint field exercises and in Korea as well as recent and foreseeable developments in organization, equipment, and materiel were considered by the authors.

The doctrine in the Joint Training Directive for Air-Ground Operations has been mutually agreed upon by the Army Field Forces and Tactical Air Command. It represents the latest thinking on the subject in both the Air Force and the Army and as such is the latest step in the development of the air-ground doctrine which was originally evolved under the pressure of World War II. Nothing in recent events has disproved it. To the contrary, it is more important than ever that its teachings be made available to higher level staff officers of both services.

The School of Air-Ground Operations occupies a unique position within the military establishment. It is an Air Force school, but we are striving to make the curriculum joint in every sense of the word. Subjects peculiar to the Air Force are taught by Air Force officers and Army subjects are taught by Army officers. The instructors from both services are given a high degree of academic freedom. The only restraining factor is the doctrine laid down in the joint training directive. We go to the extent of encouraging discussions of controversial subjects so long as the instructors Field Forces and the Tactical Air Command agreed upon in the joint training directive. I might point out, in passing, that the joint status of Training Directive. I might point out, in passing, that the joint status of the curriculum of the school merely reflects the type of joint planning and work that is constantly being conducted by the Tactical Air Command and the Army Field Forces.

The Air Force instructors at present are drawn from the Combat Operations Section of the Ninth Air Force here at Pope. The Army instructors are representatives of the Office, Chief, Army Field Forces who are especially trained in air-ground coordination and who are stationed at Fort Bragg, which is adjacent to Pope Air Force Base. This arrangement makes it possible to inject a high degree of realism into the curriculum because the instructors are actually working in the business every day.

In the few months of its existence the Tactical Air Command School of Air-Ground Operations has turned out 139 graduates from the two services. We of the Ninth Air Force and the Tactical Air Command believe that these graduates and those who will follow them will be better able to fill a very real need in further cementing the air-ground team into an effective fighting force. I have high hopes for their work in future years. —Col. Ernest K. Warburton, Acting Commanding General, Ninth Air Force (Tactical).

The XC-99, First Global Freighter

The largest airplane now operating anywhere in the world is a cargo carrier, the XC-99. A big sister of the B-36 strategic bomber, it has the same wings and the same six powerful pusher-type engines. But the XC-99 is twenty feet longer than the B-36, and its plump hold is considerably deeper than the lean, cigar-shaped fuselage of the bomber. As a cargo plane it is naturally somewhat slower than the B-36, is designed to fly at lower altitudes, and carries no arms for its own defense. All its enormous weight (155 tons, fully loaded) is devoted to the freight it carries and to the airplane that carries the freight.

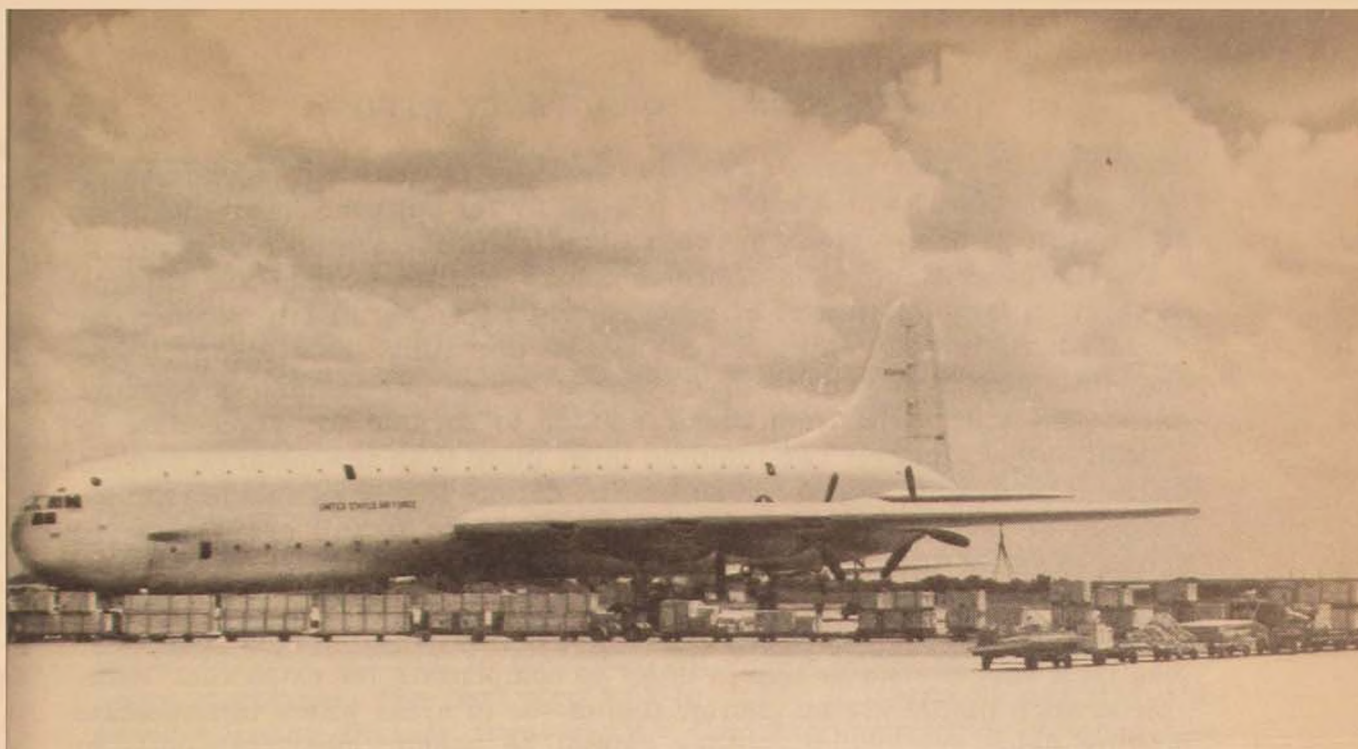
A good many people, even in the Air Force, have wondered to what practical use such a huge sky freighter can be put. Although it has nearly the range of the B-36, obviously it was not built to fly, as the giant bomber does, high above enemy territory. A unique specimen of its type so far, it has to be handled with tender care. In spite of the fact that it is in active operation, it is still classed as an experimental model from which the Air Force expects to gain some valuable data on the load characteristics and design of the huge transports of tomorrow. Many airmen, while impressed by its size and its achievements, are inclined to look on the XC-99 as a sort of freak.

The big plane was built by Consolidated Vultee, manufacturers of the B-36. It was delivered to the Air Force in May 1949 and sent to Kelly Air Force Base, near San Antonio, Texas, for extensive modifications, which included installation of the 3500-horsepower Pratt & Whitney engines that drive the B-36. After exhaustive flight tests, the XC-99 was placed in operation as a freight plane last October, carrying high-priority supplies to bases on the West and East Coasts. With Kelly as its home base, it was launched on a six-month evaluation program while the Air Force examined its behavior under diverse operating conditions.

In its first two months of service the XC-99 broke twenty-three unofficial international records for payloads flown various distances at different altitudes. Its missions out of Kelly included a non-stop flight across the continent from Sacramento to Albany, Georgia—2200 air miles—carrying 85,000 pounds of air materiel. The largest single cargo flown on any of its longer hops was slightly more than the 100,000 pounds for which it was designed. In all, the XC-99 flew 17,182 miles and hauled 1,114,654 pounds of freight on those five missions. Its record, in commercial transport terms, amounted to 602,000 ton-miles—equivalent to the load that could be moved from Chicago to New York by thirteen freight cars.

On the same transcontinental flight with the XC-99 was a C-124 Globemaster II, the next largest sky freighter operated by the Air Force. The Globemaster carried approximately half as much cargo as the XC-99 and made the trip in two hops, landing once in midcontinent to refuel. Even with a capacity load—limiting its range to a good deal less than half the continent—the C-124 can lift only three-quarters of the freight tonnage which the XC-99 has ferried non-stop as far as 1250 miles fully loaded.

The XC-99 carries double the maximum payload of a C-74. For the same distance, without refueling, it carries three times as much as either the C-74 or the C-97. On such a hop it hauls more freight than seven of the C-54's used in the Berlin Airlift, more than twenty of the C-47's



An entire train of dollies loaded with the heavy and unwieldy crates of air supplies that vanish into the vast cargo hold of the XC-99 surrounds the huge airplane at Kelly Air Force Base, San Antonio, Texas. To handle heavy cargo, such as aircraft engines, the XC-99 has four self-propelled hoists on overhead tracks. They can lift 10,000 lbs. of freight at once to either of the two cargo decks. On flights as long as 1250 miles the XC-99 has carried more than 100,000 pounds of payload. By stripping the airplane of non-essential gear, the same payload can be carried even farther. The pilot reports that in spite of its size the XC-99 handles with ease and is extremely stable in the air.

which were the standard cargo carriers of World War II. As a passenger transport the XC-99 can carry four hundred troops fully equipped for combat—the equivalent of two airborne companies—or three hundred and five litter patients accompanied by twenty medical attendants, in addition to its normal crew of eleven.

Even though the XC-99 has an all-out range comparable to that of the B-36, there is a difference in the potential capabilities of the two planes arising from the difference in their missions. The B-36 is designed to attack an objective at extreme range from bases inside the continental United States. Hence its prime quality is its radius of action. The XC-99 is designed to carry large numbers of men and materials as quickly and economically as possible to any point on earth where they are needed. Thus its prime quality is its capacity, although its range is a secondary factor of importance.

If it were called upon to do so, the XC-99 could fly non-stop from New York City to Guam, a distance of 8115 miles, with a minimum load of five tons. Five tons is more than half the maximum payload of a C-47 and very close to its normal operating capacity. But there is clearly no practical purpose to be gained, under ordinary circumstances, in transporting a comparatively small cargo such a distance in a single hop. The same result can be achieved more efficiently by using smaller planes and refuel-

ing them at various points along the way. Nor is there any advantage in having a transport which can, like a B-36, fly far out over enemy territory and return to base—unless, perhaps, it is intended to drop paratroops.

On the other hand, it is desirable that a transport should be capable of carrying large quantities of supplies and personnel to any part of the world where United States forces may be operating. This the XC-99 is eminently able to do. The longest overseas hop on any regular cargo route is the 2407 mile flight from San Francisco to Hickam Air Force Base in Hawaii—approximately two hundred miles more than the distance covered by the XC-99 on its record run across the nation. It follows that the XC-99, stripped of non-essential gear, can readily carry its full cargo capacity across either of the oceans that separate us from our fighting forces.

No other cargo plane so far has been able to match this performance. Even the largest are compelled to sacrifice a substantial part of their payload on a long overwater hop in order to compensate for extra fuel. Valuable as such planes are on shorter flights—or in areas where intermediate landing fields are available—they cannot be called global transports in the fullest sense of the term. A global transport must be able, like the XC-99, to lift its full weight—which is its most economical payload—over any barrier between its home base and the spot where its cargo is needed.—*Hq. San Antonio Air Materiel Area.*

The Squadron Flyaway Kit

On 12 July 1950, in less than eight days after they were given the order, Strategic Air Command bombers had traveled to new bases 7000 miles from their home stations in the United States and were effectively dropping high explosives on North Korean targets. While the readiness of the trained crews should be given a great share of the credit, the instrument which made such fast action possible is the Squadron Flyaway Kit.

Conceived and designed by the Directorate of Materiel of SAC, the kit is a kind of mobile base supply. In it are the various Air Force and technical spare parts—too many to list here—required to support the combat aircraft of one squadron for 30 days and 100 hours of combat. Most of these supplies, with the exception of bulky items such as engines, are packed in large aluminum containers called "bomb bay bins." These bins, weighing approximately 2000 pounds loaded and measuring 10 feet by 5 feet by 26 inches high, are transportable either in the bomb bays of the unit aircraft or in cargo-type aircraft. Fitted with six-inch casters for ease of ground handling, the bins have lockable, waterproof covers. The bulky items of the kit are carried on platforms that are mounted in the bomb bays of the aircraft. The engines are further mounted on flyaway cradles which can be fastened either to the bomb shackles or to special fittings in the bomb bay. In actual practice the bins are often carried in the upper part of a bomb bay, with the bulky items mounted on the platforms in the lower part.

To keep the flyaway kits always ready, the parts contained in them are never used except in maneuvers or actual combat. Special bin cards and stock card records are maintained to make sure that the kits contain the needed spare parts at all times.

Ease of handling is provided for by making each squadron responsible

for the storage of its own flyaway kit. Air and ground crews are briefed and trained in loading them, with each individual having a specific job to do. This plan has been so effective that a squadron can load its flyaway kit, consisting of ten bomb bay bins, engines, and other bulky items, into its aircraft within thirty minutes.

The conception and designing of the Flyaway Squadron Kit came from the desire to make each combat squadron as nearly self sufficient as possible. Recognizing that getting aircraft to advance bases for combat without the necessary operating supplies is like jumping into a swimming pool without water—you can get there but can not do anything after arrival—the Strategic Air Command began to plan. A detailed study was made of the supply needs, including consideration of a mass of consumption data compiled during the combat operations of B-29's from the Marianas during World War II. The result of this exhaustive study was a concise list of supplies required to maintain ten B-29's flying approximately 100 hours of combat. The next step was to devise a means of carrying the supplies in the aircraft. Strategic Air Command personnel designed the bins, platforms, and flyaway engine cradles, and the Air Materiel Command constructed them. This equipment was issued to the squadrons whose responsibility it was to inventory and store the parts needed in the flyaway kits. The kits have also been adapted for use in other SAC bombing aircraft.

While the flyaway kits are now routine to Strategic Air Command units, there is no intention to stop improving them. For the past three years SAC units have been rotated to oversea stations for short periods of temporary duty. During these tours the units maintain their aircraft from the flyaway kits and thus have provided for extensive service testing. This practice led to the success of the flyaway kits so well demonstrated in Korea. —Hq. Strategic Air Command.

Hypoxia Warning Device

Use of an electric eye to warn a pilot when he is in danger of "passing out" for lack of oxygen has been accomplished experimentally by research scientists of the Air Force School of Aviation Medicine at Randolph Air Force Base.

The new instrument, technically known as a Photoelectric Hypoxia Warning Device, is a new type of oximeter. It was developed in the school's physiology laboratories and was exhibited for the first time at the national convention of the Association of Military Surgeons in New York City last November. It combines the characteristics of an electric eye, or photoelectric cell, with certain physiological reactions at altitudes to produce a flashing red light when the pilot's oxygen supply sinks below a given margin. Using the ear as a light filter, it employs the same principle that causes an electric eye door to open automatically as one approaches it. Here is how it works:

A photoelectric cell, which can be built into a pilot's helmet, is attached to the shell, or upper portion of the ear, which is translucent. The photoelectric cell is also connected with a red light on the instrument panel of the aircraft. So long as the pilot obtains a sufficient amount of oxygen, his blood remains a bright red through which light passes easily. But

when his oxygen supply is reduced, either by altitude or failure of his oxygen equipment, his blood saturation, a term used by physiologists to describe oxygen content of the blood, is likewise reduced. And this loss of oxygen causes the color of his blood to change from a bright red to a dark, or heavy red through which less light passes. Consequently when the blood takes on this dark, heavy color, restricting the flow of light through the ear, the change is detected by the photoelectric cell attached to the pilot's ear and the red light flashes on the instrument panel.

This new device can be set to flash the warning signal at any degree of blood saturation desired. Aeromedical researchers have found, however, that for use as a hypoxia (lack of oxygen) warning device, a setting of 80 per cent blood saturation is sufficient. This means that when the oximeter is set at 80 per cent it will flash the warning signal when the oxygen saturation of the pilot's blood falls from its normal of 98 per cent to 80 per cent.

Experiments at the School of Aviation Medicine have shown that at 24,000 feet and an oximeter setting of 80 per cent the warning will flash within 60 seconds after the oxygen supply to the pilot has been interrupted. He then will have five minutes before loss of useful consciousness in which to descend to a lower altitude, put on his oxygen mask, or correct some malfunction of it.

But at 39,000 feet and the same oximeter setting the warning will flash within 25 seconds after the oxygen supply becomes acute, and the pilot will have but one minute in which to take corrective action.

At the much lower altitude of 16,000 feet the warning signal will flash within 60 to 120 seconds after the pilot is exposed to oxygen deficiency, and he will have an indefinite period in which to correct the situation. Physiologists say he may never become unconscious at this altitude, but his alertness and efficiency would become impaired, something he would not realize without the warning signal.

The oximeter has long been used clinically and in aeromedical research, but this is the first time its principle has ever been supplied to a warning device for use in aircraft. This new version, no larger than a cigar box, has not yet been used in actual flight. It has, however, along with a larger type, been tested extensively with human subjects in altitude chambers. The larger type oximeter, which works on the same principle as the aircraft type, is for experimental and practical hospital use.—*USAF School of Aviation Medicine.*

The 3499th Training Aids Wing

On 14 October 1949 the 3499th Training Aids Wing was organized at Chanute Air Force Base on authority from Air Force Headquarters to monitor the Training Aids and the Mobile Training programs for the entire Air Force. Training Aids activities had been widely dispersed. The Air Materiel Command had developed and procured mechanical devices; the Strategic Air Command, the Signal Corps, and various commercial concerns had produced motion pictures; the Air Training Command had produced film strips; and virtually everyone was involved in some way in the publication of training literature. Given the responsibility for the Training Aids program, the Air Training Command centralized the various

functions generated by its assigned responsibilities into a single organization, the nucleus being the Mobile Training Group—one of the largest single users of Training Aids in the Air Force. The Training Aids Wing was formed, combining the related activities of the Mobile Training Group and those of a newly organized Training Aids Group. In addition the Directorate of Training Aids Requirements, Headquarters, Air Training Command, was located physically with the new Wing at Chanute Air Force Base. The Directorate is responsible for the establishment of quantitative and qualitative requirements for Training Aids for the Air Force under the direction of the Commanding Officer of the Training Aids Wing, who is assigned an additional duty as Director, Training Aids Requirements, under the Deputy Chief of Staff, Operations, Headquarters, Air Training Command.

With increased emphasis on training aids to support the Air Force training program, activities of the Directorate of Training Aids Requirements have greatly increased. New type flight simulators recently developed, for example, have caused instrument flying training in the Air Force to be revamped. These new trainers are stationary, as opposed to the old movable type, and are controlled completely by electronics to simulate actual flight almost exactly. The trainers are so exacting that they simulate every procedure from the dropping of a wing tank to the screeching of tires on landing. They even simulate a "jack rabbit" take off, if the angle of attack is not correct.

In the past year Mobile Training Group operations have also increased over fifty per cent. Twice as many detachments, consisting of highly qualified instructor specialists, supported by trainers and other instructional devices, are keeping pilots and maintenance crews throughout the whole world always abreast of the latest developments. Air National Guard, Navy, and Army personnel have been instructed by these detachments. Several foreign nations have been beneficially served. Over a million man hours of instruction have been credited to Mobile Training since the Wing was organized.

Hundreds of training films, film strips, training manuals, and mechanical instructional aids have been developed since training aids activities were centralized in the Training Aids Group.

Some of the training films completed by the Motion Picture Section in the past year are "General Provisions for Storage," "Flight Surgeon," "Dead Reckoning," "Solar and Terrestrial Radiation," "Alternating Current," and "Survival." In addition the Film Strip Section took photographs, wrote scripts, drew sketches, and gathered technical data to produce fourteen training film strips on "B-36 Propellers," thirteen on "B-36 Electrical Systems," one on "Photo Equipment of the F-80," one on the "Radar Recording Camera," and many others which are classified.

Exploiting publications techniques to interest the student and thus cause him to retain technical material, the Publication Section produced such training manuals as "Radar Circuit Analysis," "Air Force Radio Operator," "Heat Treatment and Inspection of Metals," and "Radio Communication." Two publications, "Instrument Flying Techniques and Procedures" and "Theory of Instrument Flying" were ordered reproduced for every pilot in the Air Force. The Publications Section also produced graphic training aids on subjects needing special interpretation or clarification, such as

"Basic Circuits of Radio," "Instrument Letdown Procedures," and "Zero Reader."

Besides fabricating and modifying trainers for Mobile Training Detachments the Mechanical Squadron, under the new Wing, was given the additional mission of fabricating, within its capabilities, mechanical training devices for the Air Training Command and the Air Force. In a year's time over 1800 work orders have been processed—jobs ranging from spraying insignia on aircraft to building rocket and jet trainers. The shop "cutaway" twelve engines, fabricated several radar trainers, built animated panels, made plastic covers for Norden Bombsights, and is presently developing a transparent mock-up of a human head, with details of the inner ear in relief to demonstrate the functions and limitations of the inner ear in flight.—Hq. 3499th Training Aids Wing.

The Air Force is no place for the man who feels that the job cannot be done. If we cannot protect this nation and its allies against devastation, who can? If we cannot drive home a crippling blow into the vitals of an aggressor—what then can save the Nation from disaster?

Certainly we are entitled to share with other Americans all hopes and aspirations for enduring peace. We can even look forward to a future free from continued crises, deadlines and unusual demands. Whether war or peace is in store for us, the burdens we are now assuming will somehow be relieved. No faith in the future can justifiably be higher than ours. After all, we share the common hopes and the common fate of all Americans. But by our own hands, if they are firm hands, we can lift those hopes. And we hold in our hands the Nation's first and boldest bid for victory if open warfare is forced upon us. Whether we can win will depend, in some degree, upon the intensity and the steadiness of our efforts today.

—General Hoyt S. Vandenberg
Chief of Staff, U.S. Air Force
Address to Air War College
16 June 1950

Airman's Reading

Two Sides of a Coin

Air Power: Key to Survival, by Alexander P. de Seversky (Simon and Schuster, \$3.50), pp. 376, and
Defence of the West, by B. H. Liddell Hart (William Morrow & Co., \$4), pp. 335.

AN INTERESTING EXAMPLE of contrasting views is presented in these two well-written books. Seversky promotes air power, of course, in his usual, vigorous style, whereas Hart campaigns for armored ground forces with a scholarly approach that is quite convincing. A balanced view of the issues at stake is facilitated when the two books are read as a pair.

The effectiveness of strategic bombing is analyzed extensively in both books. Hart approaches the subject from the standpoint of morality. He points out with some logic that the institution of war has grown progressively more humane and subject to more recognized rules. Despite the atrocities found in Nazi concentration camps and the civil destruction caused by bombing in the last war, as examples, this thesis of increasing morality is well supported by historical evidence. In any event the thesis is a beguiling one, because everyone wants to believe in the moral progress of mankind.

The one loophole that might be found in Hart's reasoning is that his historical evidence is confined to Western culture. Whether or not this creeping increase of morality is evidenced in Asiatic cultures is not elaborated. And since the current crisis is involved with a clash between Western and Eastern cultures, can we assume that a resulting war would follow the trend of increasing morality evidenced in the West? Obviously such an assumption would be a dangerous one upon which to predicate strategy. Yet Hart condemns the strategic bombing concept on these rather shifting grounds.

On the other hand Seversky promotes strategic bombing on moralistic grounds. He points out that strategic bombing of

key industries will stimulate an air war fought to control air space. The victor of the air battle will then have relatively free access to the enemy's strategic targets. When this condition maintains, the loser of the air war will throw in the sponge before his civilization is destroyed from above. Thus few lives will be lost and only minor destruction will occur during the course of a war. *Ergo*, a moral conflict.

In justice to Seversky he does not predict such a moral conflict unless one nation (the U.S., of course) has a preponderance of air power. Otherwise he sees a protracted, bloody struggle fought with "balanced" forces which may truly end Western civilization.

A critical analysis of the German slash through France in 1940 is presented by Mr. Hart. Enough time has elapsed to separate some of the kernels of tactics and strategy from the chaff of legend, propaganda, and official pronouncements of that much misunderstood campaign, and Hart's keen insight brings out some unusual points of view. He maintains that the French army did *not* have a defensive Maginot line philosophy. Instead he believes that the French were so imbued with the notion of the offensive that they attacked into Holland instead of containing the German break-through and defended the Maginot line poorly with second-rate troops. A little more Allied attention to the defensive, Hart feels, might have blunted the Panzer armor.

To Mr. Hart the *sine qua non* of modern warfare is the fast armored forces which pierce weak points of the line and then penetrate rapidly into the interior, spreading confusion and severing supply lines. He would like to see all such forces made up of track-laying vehicles supplied by the same kinds of equipment, permitting the logistical "tails" to keep up with the combat echelons. He visualizes such forces moving so swiftly and creating such panic as to cause a nation to capitulate. But to do this he postulates a strong defense at the other combat fronts: a defense made up of modern fortifications manned by well-trained troops skilled in defensive tactics. For this reason he recommends that more attention be given to the defensive phase of war.

This reasoning of Hart carries over to defense against air attack. He believes that through both active and passive defense measures the sting of air weapons can be reduced to the point where they become indecisive.

We read in his lines the oft-repeated arguments for burying

vital war industries and dispersing populations: all of which make good theoretical sense. But modern war consumes the whole of a nation's industry. If aircraft factories were put underground, would not the bombers switch to engine factories? And if engine factories were fortified, would they not then attack oil refineries which supply fuel to the planes? And if refineries were submerged in the earth (a highly unlikely prospect), would not air forces then strike at the power plants needed to run subterranean factories? It might be rather difficult to bury hydroelectric plants, but assuming it were possible, could not bombers then attack transportation and slow communications to a medieval pace? What would happen then to a nation's vast industrial complex? It can hardly be assumed that railways can be turned into nationwide networks of subways.

It is true that Germany was not prostrate after we dropped tons of bombs on her rail communications. But this target had not been considered a practical one until the latter part of the war (September 1944). Yet before we crossed the Rhine, by March 1945, Speer reported to Hitler that the German economy "is heading for an inevitable collapse within four to eight weeks." The U.S. Strategic Bombing Survey learned that even by the close of 1944, after less than four months of bombing this target system, "the loss of transportation facilities completely disorganized the flow of basic raw materials, components, and semi-finished materials, and even the distribution of finished products. Under these conditions orderly production was no longer possible." Was it necessary to cross the Rhine? Perhaps if we had been less eager to end the war in a hurry, Germany would have soon sued for peace without invasion, as Japan did later.

These factors seem to be taken into account by Mr. Seversky. For him the *sine qua non* of war is offensive air power. Indeed he plugs for an air force that is a primary national arm with an army and navy existing merely for the purpose of supporting the air power. But contrary to the emphasis upon air bombing that is popular among people of this stamp, Seversky stresses the air battle. He asserts that unless the air battle is won, effective bombing will be impossible; that first, access to enemy skies must be assured by defeating the defending aviation. He would bomb in the opening phases merely to draw up the defenders for air battle. Once the air battle had been won, Seversky expects the enemy nation to capitulate without much

further bombing, for it will appreciate the helplessness of its situation. Hence destruction from the air should be relatively minor.

There is food for thought in Seversky's arguments. It may be, however, that an enemy nation might not have the healthy respect for air power held by Seversky. And it might fight on until it is a mass of ruins from air bombardment as Germany did. In other words, the nation might not be nationally attuned to the legends and popular beliefs necessary for quitting even when it was materially defeated. It is not uncommon for a man or a nation to be mortally wounded and continue to fight.

With the air battle won, or relatively so (for it is unlikely that complete air superiority is ever possible while war continues), the enemy nation would likely be in an untenable position, but not yet wounded. Life and industry would go on unmolested, and ground armies would march. Should the enemy government not appreciate the dire potential of air power, it is unlikely that it would give a single thought to surrender.

The bombers would then be forced to wound the nation. How much bombing it would take before the suffering nation would give up is anybody's guess. But certainly, as Seversky maintains, no land invasion would be necessary. We might have to curb our impatience to get the war over by sending out millions of ground forces for a blood bath with numerically superior enemy ground troops. Living off their depot supplies, the enemy troops might put up a vicious defense for months, even years. But eventually their dwindling logistical support would become exhausted and starvation would set in on the home front. Why attempt to accelerate this condition by ground action? Why spill this extra blood? Why not sit back patiently and let the bombers keep open the enemy's economic wounds until it slowly bled to death or surrendered.

Seversky points out that casualties on both sides might be far less than would occur through more traditional warfare. Contrary to popular opinion, the bombing of the last war resulted in relatively few civilian casualties when compared to casualties in uniform. And air force casualties were a small fraction of those suffered by surface forces. Of course destruction of property from the air is widespread, and the problems of occupation are thus accentuated. Hart uses this as an argument against bombing; Seversky argues against occupation.

Both authors are in accord regarding the attitude we should maintain toward the enemy with respect to his capitulation. Give him conditions of peace so that he may give up with some thread of honor and some prospect of future life. He may then say "uncle" before he has reached imminent starvation and thus obviate huge expenditures by the victors to feed and rehabilitate the vanquished.

Major de Seversky believes that our economy could not support adequate air power and at the same time support adequate surface forces to win a major war. Our position, he writes, is analogous to that of a man on a limited budget who lives on a river somewhat distant from the grocery store. This man has three modes of transportation: a horse, a car and a boat. They all perform the same function: to transport him to and from the store. When times get hard, he is liable to choose just one of these carriers, and the one which helps him perform his trips most efficiently. Thus as a nation, we should do the same relative to our armed forces.

Instead, Seversky accuses us of a profligate strategy in attempting to maintain three kinds of military power, each designed to win a war by itself. But this is only an attempt, he continues, because our budget, when split three ways, permits none of the three to be truly effective forces. Hence we remain unprepared.

Both books went to print about the time Korea burst into flames. Each author takes credit for predicting this war, and each attempts to justify his position by referring to Korea. This fact is rather amusing, since each author presents opposite theses and neither had considered such an outburst as the Korean war in anything but the broadest terms.

The present war is a situation which is anomalous to the concept of air war. It is a limited war. It is a war in which strategic bombing, in its true sense, cannot be practiced, since supplies for belligerents are obtained from nations presumably at peace with one another. The economies supporting the war are inviolate. At first glance it seems that only the infantryman with a bayonet could resolve the issue, but have we explored all possibilities? Neither Hart nor Seversky suggested the possibility of quarantining such a nation through air and naval siege. Such a policy might have developed had we not committed ground troops but instead confined our involvement, as originally proposed, to air and naval action.

No one knows how long a government could remain in

power if hostile air and naval forces executed a tight blockade and slowed the nation's external and internal communications to a walk. But it is difficult to perceive of a small nation thus quarantined and harassed not coming to terms eventually. If such a war is to be limited in any case, it would seem reasonable to wait out patiently the recalcitrant nation's demise through horizontal and vertical blockade rather than to rush in with surface forces for physical occupation of the territory.

There is, of course, the question of friendly elements within the nation so harassed. Would they approve of such a quarantine and remain friendly under bombing? The conduct of the French who remained loyal to the Allied cause throughout the bombardment of their industrial and transportation facilities in the last war might lead to the conclusion that nationals in conflict with the government would welcome such a siege. True, they would suffer cruelly, but the prospect of being eventually free from the iron yoke of dictatorship might compensate somewhat.

It seems within the realm of possibility, then, to conduct even a limited war essentially by the use of air and naval action. If such a strategy could ever be tested and validated (the testing would likely tax American patience to the limit), perhaps Seversky's thesis of all-out air power might be acceptable. On the other hand Hart's thesis of swift and self-contained armored forces on tracks has well-tested merit in dealing with a localized war. The progress of such a surface force is visible and hence more understandable. It is much easier to measure the areas of conquest on the ground than to judge the attitudes toward surrender that might exist in the minds of besieged government officials. Hence there will not likely be a revolution in strategy as Seversky proposes, for the conduct of the Korean war has seemed to put an undue emphasis upon ground forces.

As long as only localized wars are conducted, America will be well prepared by this emphasis, but Seversky warns against the fallacy of gearing the strategy of a total war to that of a local war. Should World War III materialize, he predicts a long and costly struggle if we succumb to the temptation of preparing surface forces for global conflict. He then predicts no clear-cut victory for either belligerent.

Yet unless a way is found to employ air forces so that they are able to settle dispersed flare-ups such as occurred in Korea, we shall likely stick to tried and true but quite possibly short-

sighted strategies. We are indeed faced by a dilemma that will soon demand a national decision. As Seversky indicates, it is not likely that we can afford to build up three forces to the stage of effectiveness each deems necessary. Now we are attempting to do just that. Will the end see us armed like Russia and possibly governed in a similar manner in order to make such ponderous war preparations possible?

Liddell Hart argues forcefully against the policy of national conscription. Like Seversky he feels that wars are won with quality troops and weapons rather than quantities. Hart has the notion that conscription merely waters down the effectiveness of regular soldiers by turning them into school teachers. He cites the numerical inferiority of the German forces during the 1940 French blitz as an example. With instantly ready, highly mobile armored forces, Hart feels that a strategic decision can be reached over less skilled but numerically superior forces.

Although Seversky does not discuss conscription, he implies that quality supersedes quantity as a general policy in air war. Using the illustration of the Battle of Britain, in which a handful of British pilots in Spitfires defeated the far more numerous Luftwaffe flying inferior planes, Seversky makes a convincing point.

As divergent as the conclusions of these two books seem to be, the reader is able figuratively to stand at a distance and observe many areas of basic agreement. The quality versus quantity agreement is a case in point, but of more significance are the similar conceptions of how wars are actually won. Not by killing, both agree, but by a dislocation of a nation's communications and internal structure through sudden, penetrating blows which leave the populace, and particularly the government and the national forces, in a state of abject confusion. The resulting chaos leads to demoralization and capitulation. Hart would do this with armored forces; Seversky, with air power.

With ground armor free-wheeling through a nation as occurred when France succumbed, Hart feels the invaded nation would quickly realize its hopeless position. Seversky thinks an air defeat might accomplish the same result, and if not, bombing certainly would provide the *coup de grace*.

Both books are packed with research data profoundly analyzed. Each author has a rich background of military

experience and study upon which to draw, and each presents provocative hypotheses supported by much verifiable evidence. These two volumes will certainly grace the shelves of any air officer and provide him with considerable staff-paper material.

Air University

Col. Dale O. Smith

BRIEFER COMMENT

The Road to Pearl Harbor, by Herbert Feis, pp. 356.

A SOLID ACCOUNT of the diverse threads of the attitudes, purposes, and events that led to war. The author, formerly in the State Department and a member of the Institute for Advanced Study at Princeton University, has probed into such authoritative sources as the pertinent State Department papers, official U. S. military records, the Roosevelt papers, the private diaries of Stimson, Morgenthau, and Grew, the files of intercepted cables, and equivalent collections of official and private Japanese records.

Princeton University Press \$5

Journey to the "Missouri," by Toshikazu Kase, pp. 282.

TOSHIKAZU KASE was the American expert in the Japanese Foreign Office and a participant in many historic events of the war and prewar years, including the signing of the surrender document. His book, written in English and primarily for the American public, is mainly concerned with the background and the causes

of Japan's entry into war and of her defeat.

Yale University Press \$4

The Epic of Korea, by A. Wigfall Green, pp. 136.

AN attempt to highlight some of the issues at stake in Korea, particularly in terms of internal affairs. While attached to U. S. military occupation forces in Korea after the war, the author served as President of the Board of Review for the trial of Koreans, as Director of the Officer Candidate School of the Korean army, and as legal adviser to the Korean Army and Navy.

Public Affairs Press \$2.50

The Hinge of Fate, by Winston S. Churchill, pp. 1000.

THIS is the fourth volume of the wartime Prime Minister's memoirs. Dealing with the crucial year of 1943, it falls into two parts concerned with the Pacific war and the struggle in North Africa. Mr. Churchill relies in the main on the verbatim reproduction of his directives, messages, and minutes to

illuminate the events to which they owe their existence. History in the grand manner.

Houghton Mifflin \$6

Calculated Risk, by Mark H. Clark, General, U. S. A., pp. 500.

A personal account, by the war-time commander of the Fifth Army and now Chief of the Army Field Forces, of the Italian Campaign and its preliminaries, together with postwar dealings with Russia in Austria.

Harper \$5

War and Civilization, by Arnold J. Toynbee, pp. 165.

A small volume of extracts by Albert Fowler from the six volumes of *A Study of History* that have been chosen to illustrate what Mr. Toynbee has to say about war.

Oxford \$2.50

Sourcebook on Atomic Energy, by Samuel Glasstone, pp. 546.

A comprehensive review of basic non-secret atomic energy information prepared under the direction of the Technical Information Service of the U. S. Atomic Energy Commission. This is a guide to the various aspects of atomic energy rather than a sourcebook in the usual sense of reprinted materials. It begins with the earliest theories of the atom and its structure, describes the growth of thought in the field, the development of the-

ories of the nature of electricity and energy, the discovery of radioactivity, and continues through the study of isotopes to the present culmination in cyclotrons, betatrons, atomic piles, new man-created elements, and the release of atomic energy. Only a rudimentary knowledge of mathematics will permit a reader to follow the text. Also included are quotations from pioneers like Einstein and Planck, relating in words of the discoverers themselves nearly all the fundamental discoveries in atomic science.

Van Nostrand \$2.90

Our Jungle Road to Tokyo, by Lt. Gen. Robert L. Eichelberger, pp. 306.

Another personal history, this one deals with the Eighth Army campaigns in the Pacific island war from Buna and Hollandia through Leyte and Mindanao to occupation duty in Japan.

Viking Press \$4.50

The Army Air Forces in World War II, Vol. IV: The Pacific: Guadalcanal to Saipan, edited by Wesley F. Craven and James L. Cate, pp. 823.

The third volume to appear of the projected seven-volume official history. Exhaustively based on official source materials and prepared by the U.S. Air Force Historical Division.

University of Chicago Press \$6

Invasion 1944, by **Hans Speidel**, pp. 176.

THE authorized translation of the story of what went on in Field Marshal Rommel's headquarters when the German Army met the Normandy invasion, this first book by a German general of World War II to be published in America is by Lt. Gen. Dr. Hans Speidel, who was Rommel's chief of staff and was in actual command at the time of the invasion. His story of the Normandy battle is a day-by-day explanation of the succeeding reactions of the German battle headquarters to the development of events at the front rather than an exhaustive military analysis. Over and above the background of battle is the narrative of Rommel's tragic struggle with Adolf Hitler, the Fuehrer's interference in the military operations, and Rommel's part in the plot of 20 July. Lucid and good reading.

Henry Regnery \$2.75

Modern Far Eastern International Relations, by **Harley Farnsworth MacNair** and **Donald F. Lach**, pp. 681.

ALTHOUGH this book is designed as a textbook for courses in Far Eastern history, it will be very useful to the serious reader in international affairs for solid background to the tangle of events in eastern Asia today. Principal topics considered are the political impact of the West upon the Far East in the nineteenth century, the First World War and the Far East, China in revolution, the Second World War and the Far East, and Southeastern Asia, Oceania, Japan, Korea, and China since the

war. Maps and index. The late Professor MacNair, author of *China in Revolution* (1933) and *The Real Conflict between China and Japan* (1937), was Professor of Far Eastern History and Institutions and Professor Lach is Assistant Professor of Modern History, both at the University of Chicago.

Van Nostrand \$5.85

The United States As A World Power, by **Samuel Flagg Bemis**, pp. 491.

A COMPILATION of the major facets of U.S. foreign policy during the past fifty years that provides some background of understanding against which to measure and evaluate the world crisis of today. The author reflects the State Department view in his treatment of the conferences of World War II and the international conferences of that period. While there are many other publications with divergent positions on these very important meetings that should be considered concurrently for a broader view, Dr. Bemis does faithfully portray United States positions and policies, and an understanding of his book will bring a better understanding of the complex relationships of the Western world and the Soviet bloc. The book is well documented, and in addition to being very readable, it will provide an excellent reference volume for the reader's future use. Maps, charts, and graphs.

Henry Holt \$5

Verdict of Three Decades, edited by **Julien Steinberg**, pp. 634.

An anthology of evidence against Soviet Communism from the liter-

ature of the men and women who have known it best: the revolutionaries who assisted at its birth and watched it grow, the intellectuals who liked it from a distance and went close to see, and those numberless others who had no choice but to live with it and hope. Starting with Rosa Luxemburg writing in prison in 1918, thirty-four of these tell the Soviet story over a period of thirty years.

Duell, Sloan & Pearce \$5

This is Germany, edited by Arthur Settler, pp. 429.

A SYMPOSIUM intended to give a detailed picture of today's Germany by twenty-one leading foreign correspondents, who represent such diverse news media as the United Press, the American Broadcasting Company, the London Observer, the Christian Science Monitor, the New York Times, the Saturday Evening Post, the Chicago Daily News, and the Wall Street Journal. Their essays treat with varying competence of such current questions as the refugee problem, denazification, postwar morals, war guilt, education, the psychological implications of the Occupation, and current political trends. The editor chosen by the journalists is a public relations officer in the office of the United States High Commissioner for Germany. There is an introduction by General Clay.

William Sloane \$4

Justice in Russia, by Harold J. Berman, pp. 322.

AN INTERPRETATION of the Soviet legal system in theory and practice written for the layman

as well as the expert that throws a considerable light on how the Soviet social order actually operates. The author views Soviet law as developing from the requirements of the socialist-planned economy, the heritage of the Russian past, and the Soviet concept of man as a child to be educated and disciplined. Of principal interest to the general reader will be the fact of the existence of a working legal system and a system of force side by side in the Soviet Union and the author's attempt to shed some light on their relationship.

Harvard University Press \$4.75

Public Opinion in Soviet Russia, by Alex Inkeles, pp. 379.

How the use of modern techniques of mass communications has mobilized public opinion in support of the Communist regime.

Harvard University Press \$5

Technical.

Aerodynamics of Supersonic Flight, by Alan Pope, pp. 184, Pitman \$4.—An elementary introduction to supersonics designed for undergraduate instruction that assumes a knowledge of calculus and elementary aerodynamics but not of thermodynamics.

Foundations of Aerodynamics, by A. M. Kuethe and J. D. Schetzer, pp. 374, John Wiley, \$5.75.—The object of this classroom text is to build up from first principles a background of sound concepts useful in the application of aerodynamics to problems in aeronautics. It treats the fundamentals of the flow of perfect, compressible, and viscous fluids, including

thin airfoil and finite wing theory, one dimensional flow, flow around wings, shock waves, laminar and turbulent boundary layers, turbulence, and transition. No previous knowledge of aerodynamics is required of the student.

Airplane Design Manual, 3rd edition, by Frederick K. Teichman, pp. 382, Pitman.—An introduction to airplane design suitable for the student working on his own.

Recent fiction.

Long the Imperial Way, by Hana-ma Tasaki, pp. 372, Houghton Mifflin, \$3.50.—This is a war novel written by former soldier in the Japanese Imperial Army and based on his experiences during the three years in the late thirties that he served in China as a private. It is an absorbing revelation of a pattern of mind and a way of military life vastly different from that of the American soldier.

The Friend, by Perry Wolff, pp. 207, Crown, \$2.75.—A vivid novel of a U.S. infantry company in a minor action against the Siegfried Line.

Face of a Hero, by Louis Falstein, pp. 312, Harcourt, Brace, \$3.—Adventures of a gunner sweating out fifty missions with the Fifteenth Air Force in Italy.

Brave Company, by Guthrie Wilson, pp. 246, Putnam, \$3.—A story of the British infantryman in combat in Italy. Fair to middling.

Suggestions for the personal library of liberal arts and sciences.

Reading for Profit, by Montgomery Belgion, pp. 291, Henry Regnery Co., \$3.—Meaning by "profit" a greater understanding of the nature of life and by "reading"

the reading of "great" literature, the author reveals the qualities of the main kinds of literature by studying particular specimens in detail and offers a range of masterpieces as recommended reading. Though he confines himself to British and American literature and dredges rather too deeply into the past for more than a few long dead items and too shallowly at the present even to indicate the richness and quality of today's writing, he nevertheless offers his readers a well-written guide to English literature.

Ideas and Men: The Story of Western Thought, by Crane Brinton, pp. 587, Prentice-Hall, \$6.—A survey of the evolution of Western thought in ethics, religion, politics, and science from its beginnings with the Greeks and Hebrews to the present day. Intense but readable. There is a list of suggestions for further study.

The Planet Mars, by Gerard de Vaucouleurs, pp. 85, Faber and Faber (London), \$2.—An excellent and absorbing summarization of all that is at present certainly known or discussed concerning the planet that has fascinated generations: inhabitants? the canals? physical conditions? vegetation? the weather? A distinguished astronomer examines the evidence and weighs conclusions.

Out of My Later Years, by Albert Einstein, pp. 282, Philosophical Library, \$4.75.—Essays since 1936 on convictions and beliefs, public affairs, politics, science and life, and the fundamental principles of physics. The last includes lucid expositions the layman can follow of the celebrated theory of relativity. An excellent introduction to the mind of one of the great men of all times.



The Periodical Press



Peter F. Drucker, "This War is Different," Harper's Magazine, November 1950, pp. 21-27.

MR. DRUCKER has written an interesting and thought-provoking article which is concerned with some of the domestic problems of the United States in the present grave international climate. In the face of the limited and long-term warfare with which we seem to be confronted, problems of a military and diplomatic nature are matched in gravity by economic problems within our own economy. The real difficulty, according to the author, is not the magnitude of the manpower and materiel requirements, but rather the seemingly permanent nature of the present crisis.

In contrast to total war, the present situation calls for an indefinite period of preparation for a "near-war." While being ready to convert immediately to the tempo of total war, we must not, in the meantime, allow our economy to become rigid or reach its maximum production point. In short, urges Mr. Drucker, we must balance "the requirements of stamina and staying power over the long pull against the requirements of the extreme effort." The author thinks that so far we have not begun to solve this problem, since "all we really know is how to organize for total war."

At the beginning of such a defense effort, full economic controls will be necessary, mainly because of an absence of slack in our economic structure. However, by the end of 1951, he feels that we should be close to our maximum "permanent" effort and the dislocation should be about over. This should allow us to "settle down to a state of 'normal' emergency such as we could live under indefinitely." At that point Mr. Drucker believes we should "de-control" as much as possible, leaving only those controls which will guarantee priority for military production. The author contends that the tremendous problem of inflation cannot be handled by price and wage controls. Controls can only be effective for a limited time and in an economy which still has slack that can be taken up, as in World War II. It is maintained that the only sound method, economically, politically and psychologically, of financing the military expenditure is with current taxes.

All of this is predicated, as the author clearly states, on a situation where we are forced into a long-term semi-war. Total war, he agrees, would present a totally different problem. In the meantime, "it would surely represent an American defeat of the first magnitude... were we to be forced into total war by our own inability to organize for limited war."—L.B.A.

Eric Larrabee, "Korea: The Military Lesson," Harper's Magazine, November 1950, pp. 51-57.

THIS ARTICLE IS A SURVEY of the Korean situation since June 25 in terms of preparation, needs, strategy, and equipment. Mr. Larrabee expounds

the idea that the United States has developed the wrong kind of a fighting man for war of the type now being conducted in Korea.

In contrast to our concept "that nothing is too good for our boys" the writer points out the policy of all Communist armies of living off the country. He finds the U.S. soldier weighed down with equipment really not needed for the job at hand.

Mr. Larrabee advocates a complete turnabout within our army from an economy of waste to one of want. He believes that at present the military machine operates best only on a big scale and that, "... the American soldier is clothed in extraordinary confidence. But the knowledge that he is fighting on a shoestring, as in the early days in Korea, prepares him inwardly for disaster..." He calls for a change in psychology of the security of a great deal of military equipment to a psychology of the security of only bare essentials. Furthermore, in addition to reducing equipment, we should also reduce the number of ineffectively employed soldiers.

Mr. Larrabee is also of the opinion that the confidence of Asiatic allies can only be gained by fighting with an army that does not contrast their need with wastefulness. Thus machines should be secondary to the courage and resourcefulness of man. And a light army is the one which can fight wars like the one in Korea.—C.L.G.

John K. Fairbank, "The Problem of Revolutionary Asia," *Foreign Affairs*, October 1950, pp. 101-113.

IN THIS ARTICLE, John King Fairbank, Rhodes Scholar, Harvard professor, and author of *The United States and China*, asks that our attention be focused on something larger than the Korean problem, because we are in danger again of winning a war and losing the peace.

First, the "raw ingredients of social revolution" must be distinguished from the "process of revolution"—raw ingredients such as undeveloped technology, low productivity, stresses and strains in the old kinship and class structure, frustrations on the part of individual persons infected with hope for a better life yet compelled to live and compete in a society teeming with more people than the old order can possibly provide for. These factors make for the process of revolution, but *not inevitably* for Communism. Our failure to recognize their nature, however, has given the Communists a head-start in organizing and controlling them.

Where the Communists have done so well has been in China. Here they first won the intellectual youth of the land by appealing to nationalism, using the Japanese invasion as the argument, and induced tens of thousands of Chinese students to join Free China. Then they turned the intellectuals upon the peasantry, to exploit the wide-spread feelings of anti-landlordism, to organize the great masses into a rudimentary force. Thus, by the end of the Japanese war, the Chinese Communists "had a grip on the two essentials of power—agrarian revolution as the dynamic of the peasantry and national regeneration as the dynamic of the intellectuals." Then, in a second stage, the Communists began the "economic-political-cultural reorganization of the peasant village society," utilizing suppressed desires, unlocking energies long held inactive by the old social order, re-making the class structure, and capturing the Chinese "liberals."

But Communism has not won Asia. In Japan, India, Korea, Indo-China, the Philippines, the Malayan States, and China itself, another process of revolution is possible. That process, however, must compete with Communism. "An insecure peasantry and a frustrated intelligentsia . . . are ready at hand to be organized."

The United States, as the country most rich in technological and other resources, has an opportunity to participate in remaking Asia. Military strength is the first essential. But to concentrate solely on this is "a shortcut to disaster." The formation of a true alliance with the forces of "nationalism" is also essential—that nationalism compounded of self-respect, self-confidence, the expression of national culture, and dynamic reform.

The practical steps toward forming this alliance lie first in understanding the problem, then in supporting those measures, both private and governmental, that will lead to a better life for Asian peoples. On an economic and technological plane, the Four Point program needs steady expansion, and on the ideological plane, exchange of students, professors, and others must be stimulated. Except by a concerted effort of both study and action, Asia will not be saved from Communism.—W.A.H.

S. B. Thomas, "Government and Administration in China Today," *Pacific Affairs*, September 1950, pp. 248-270.

THIS ARTICLE by the editor of the *Far East Digest* is for the specialist interested in current developments in comparative government and public administration. At the same time the informational analyst concerned with keeping up to date on the internal structure of the Chinese Communist government will find much of value in the thorough study given to the problem by Mr. Thomas.

Chinese Communists are no novices in the fields of local and regional administration, since they have had a score of years' experience in some sections of China. This experience could presumably be applied to all China by the Communists now that they rule the mainland areas. But the complexity of problems and the variations in conditions throughout China provide a challenge to the leaders and the bureaucrats which only time will allow them to reduce to manageable proportions. What steps they are taking to meet these requirements are detailed by Mr. Thomas in this article.

As an interim conclusion Mr. Thomas writes: "... the Chinese Communists appear to have succeeded in creating an effective, functioning government and, by placing before the Chinese people the objectives of peace, unity, industrialization and general modernization of society, to have taken firm leadership for the present in the long-developing Chinese Revolution." How they have accomplished this is in part revealed by Mr. Thomas' factual presentation.—H.P.G.

Robert Strausz-Hupé, "Is Dogmatism Killing Stalinism?" *The New Leader*, August 12, 1950, pp. 16-18.

THIS NOTED POLITICAL SCIENTIST insists the master key to Soviet policy can only be found by integrating the physical factors of Russian power (geography, raw materials, population, industrial and military equipment) with

the intangible factors, namely political ideas, national morale, inventive genius, and historical traditions. While the physical factors determining the foreign policy of Soviet Russia are susceptible to statistical analysis, the intangible factors of great significance are susceptible to logical analysis based on certain philosophic assumptions as regards the nature of man. Man, after all, invests the "physical factors of state power with their political significance."

Professor Strausz-Hupé further insists that all politics obey the dictates of human selfishness. In the case of the politician—be he American or Russian—his actions still take the form of "lust for power." Russia, therefore, is profoundly illustrative of this axiom because of the successful squashing of political opposition to the present regime. Ideological orthodoxy (e.g. Stalinism) is the first commandment of the Soviet regime, for it justifies and maintains the power of the ruling elite.

Soviet policy beyond Russian borders is meaningless unless it is brought into focus with the struggle of the Soviet elite to maintain its ascendancy over Russian and satellite society. The author maintains that Marshal Tito's defection from orthodox Stalinism was founded upon the emergence of a genuine Communist elite with a doctrine as genuine as Lenin's adaptation of Marxist concepts to Russian realities. Mao Tse-tung's wedding of Sun Yat-sen's *Three People's Principles* to Marxism, also an original achievement, only serves to point up the uneven development of Communism in the face of un-Russian realities. Such unevenness, such unorthodoxy, is precisely what the rulers of Soviet Russia cannot tolerate.—E.M.E.

Philip L. Bridgham and William L. Neumann, "Korea and the United States: The Background," American Perspective, Summer 1950, pp. 225-245.

THIS ARTICLE, though written in a matter-of-fact way, "packs a wallop." Tracing the history of American relations and diplomacy in Korea from about 1866 to the present, the authors point out various instances in which American citizens and officials have contributed to the sad state of the Koreans as we find them today.

Beginning with a shipwreck from which American seamen were rescued by friendly Koreans, the account leads us through a series of adventures, schemes, and deals in which Americans in one fashion or another participated. In 1866 the *General Sherman*, sailing under an English charter, trespassed into inland Korean waters; in 1867 an American citizen led an armed expedition to loot the tomb of a Korean king; in 1871 Admiral John Rodgers with the fleet of five warships proceeded up the Han River, some 30 miles from Seoul, and killed 300 Koreans when he met opposition from the local citizens; in 1882 the United States concluded a Korean trade treaty, which one observer said "set Korea adrift on an ocean of intrigue which it was quite helpless to control," followed as it was by similar treaties negotiated by the rulers of Italy, Russia, France, Britain, and Germany; in 1883 an appeal made by the Korean king for an advisor in the field of foreign relations and for army instructors was met by delay and ineffective action; in 1904 President Theodore Roosevelt suggested to Kaiser Wilhelm that the United States and Germany join together in sanctioning a Japanese protectorate over Korea; in 1910 American approval was given to Japan's annexation of Korea; and in 1943 President

Franklin D. Roosevelt said he wanted a trusteeship for Korea and not immediate independence.

Thus, with a record of no great or warm friendship for the Korean people, the American government stepped into the occupation problem in 1945. Lacking both knowledge and clear objectives, the authors hold, the occupiers to the south of the 38th parallel made a dismal failure of their opportunity. In 1948 they withdrew, leaving behind a disillusioned, half-starved people without power to defend themselves from outside attack, without plan to build a sound economy from within, without purpose to achieve moral strength.—*W.A.H.*

L. S. Stavrianos, "Greece: Our Problem and Our Opportunity," *Yale Review*, Summer 1950, pp. 657-674.

AS RELATED HERE, two recent events have strengthened immensely the position of the Western powers in the Balkans. One, the Tito-Cominform schism, contributed to the defeat of the Greek rebels in 1949. The other is the Greek election of March 1950, in which the Center and moderate Left political parties gained something approaching parity with the traditional groups of the Right. This potential "Third Force," in the opinion of Mr. Stavrianos, offers the West (primarily the United States now) a way out of the dilemma of having to choose between a politically unacceptable Left and a socially inadequate extreme Right.

Digressing a bit in order to clarify his main thesis, the author sets out to explode three "dangerous myths" concerning Greece: (1) foreign intervention, (2) population, and (3) "passive pawn." He holds that the causes of the present Greek crisis are inherent to the country itself, and not due primarily to the intervention of the north Balkan states incited by the Soviet Union. He cites findings of American and Greek scientists, with the view of refuting the theory that meager resources and a high birth rate mean inevitable and perpetual poverty and trouble for Greece. That state may once have been a "passive pawn" in international affairs, but not now. The Greek people can no longer be ignored in the formulation of a Greek policy.

From the Washington viewpoint the major significance of the 1950 election in Greece is that now it will be easier to find a party or bloc able and willing both to resist Communist domination and to effect the reforms necessary to revive a sick society. Some may protest that American support for such a reform program would constitute intervention in internal Greek affairs; but, so the author insists, intervention has been a trait of every move the United States has made in Greece since the Truman Doctrine was enunciated in 1947. Effective action, moreover, may require a degree of government interference which would not be accepted within the United States. Yet Mr. Stavrianos hopes that Washington, keeping in mind the differences between the economic and historical background of Greece and America, will go ahead nevertheless and take appropriate action. Anything less would nullify the military gain which has been made against Communism.—*R.E.Mc.*

Lowell M. Clucas, Jr., "Piercing the Iron Curtain," *The Yale Review*, Summer 1950, pp. 603-619.

FROM THE PEN of the Assistant Chief of the News Section of the Voice of

America comes this discussion of the joint efforts of the United States, through the Voice of America, and the British, through the BBC, to reach the ears of the masses of Russians with a non-Communist interpretation of news and international political developments. By this avenue it is hoped to prevent the restoration by the Soviet Government of the information monopoly it exercised over its people before World War II. Since April 24, 1949, however, the Soviet Government has fought a continuing war of the air waves with the "Voice." From that date until the present, Soviet jamming methods and techniques have been devised in quantity and used extensively in an effort to prevent the reception of Voice of America and BBC broadcasts within the U.S.S.R. Soviet radio procedures may not have been entirely successful but they have seriously interfered with the reception of foreign broadcasts. Testimony to the adequacy of the Russian program was afforded in the recent Congressional appropriation of \$11,500,000 for "more transmitters and relay bases to saturate the Soviet jamming network." The author makes no personal prediction concerning the possible effectiveness of the new equipment, but records that U.S. radio engineers "are confident" that eventually Soviet jamming will be ineffective against radio signals beamed at the U.S.S.R. from outside the national boundaries.—*R.E.*

C. M. Chang, "Communism and Nationalism in China," *Foreign Affairs*, July 1950, pp. 548-564.

APPEARANCES are sometimes deceptive. The thirty-year treaty of friendship, alliance, and mutual aid, concluded in February 1950 between the Soviet Union and the People's Republic of China, would appear to prove that Communist China will not be a satellite to Russia. But treaties of "friendship, etc.," have been concluded with Poland, Czechoslovakia, and other countries now unmistakably satellite. Is the Stalin-Mao treaty an exception?

Mao Tse-tung's reputation for independent thinking and action is considered by some observers to prove him another Tito. For not only did he win China without the strong backing of the Kremlin, but on one occasion he even publicly rebuked Moscow agents. Moreover, he is backed by the nationalistic feelings of some four hundred million Chinese who outnumber the Russians by more than two to one.

These and other reasons have induced observers like Edgar Snow to conclude that Mao will balk at subserviently following the Russian line. Instead he will lead China into a period of "new democracy" coexisting with "new capitalism."

Chang, however, is inclined to disagree. As a former Professor of Government at Nankai University, he sees other elements in the situation. First of all is the presence of many Russian-trained Communists in China. Liu Shao-chi, for instance, chief Party theoretician, a member of the Chinese Politburo, and Secretary-General of the Party, is also the Deputy Chairman of the People's Republic of China. He is a confirmed Marxian internationalist; he is an admirer of Stalin; he has already begun a propaganda drive to combat Chinese nationalism. "Mao Tse-tung may be the acknowledged leader, but Liu Shao-chi has the whip hand." Besides Liu, the younger members of the Party "are on the whole devoted to the Com-

munist cause," and Mao himself accepts Communist dogma, having proved he can work closely with the Russians now for a considerable time.

Neither can nationalism be counted upon to keep China free of Kremlin influence. According to Liu and other Communist doctrinaires, nationalism is now out of phase. It served well in the revolution, but that is gone. The next phase is Communist internationalism.

Here is the crux, according to Chang. The Kremlin rulers have long since rejected the idea of international Communism for Russia. Yet they use the idea to destroy the nationalism of all Communist states other than their own. Thus, the Russian state, supported by the "internationalism" of the Chinese, the Poles, the Czechs, and other satellite peoples, flourishes as a national power. This chauvinism is probably not lost upon Chinese Communists. But in the nature of their position, they cannot reject the support, cooperation, and leadership of Russia's rulers so long as the lines of world conflict are drawn between Communism and Western capitalism. That this will degenerate into "satelliteism" is not improbable.—W.A.H.

Lewis Galantière, "America Today: A Freehand Sketch," Foreign Affairs, July 1950, pp. 525-547.

THIS IS A MID-CENTURY LOOK at America and its place in the world of today. Mr. Galantière finds much on which to congratulate ourselves, but he concludes that "our failure lies in not winning over to our side that great majority of Europeans who are both anti-Communist and anti-capitalist." The spiritual and intellectual leaders of Europe, he says, do not recognize how America is reforming capitalism to make it fit the pattern of today. So we are losing the support of those Europeans who are trying socialism as an antidote to the evils of capitalism as they have known it.

Our "highest moral contribution to the present age" is the fact that "in a world of centralization of political power we have preserved not only the self-reliance of the individual but also the autonomy of the local community..." We have come nearest to separating economic power and political power. Our one best hope is that "by a continued show of civic sense, generosity of spirit, and comprehension of the world around us" America will win the respect of those in Europe and elsewhere who would be eager to follow our leadership if only they were made aware of the way we are going.—H.P.G.

W. W. Kulski, "Can Russia Withdraw from Civilization?" Foreign Affairs, July 1950, pp. 623-643.

PROFESSOR KULSKI discusses the efforts of the Soviet rulers to divorce the Russian nation from all connections with European civilization, of which he believes Russia is "so inextricably a part." He says the effort is a failure because fundamentally such a separation cannot be achieved, either by fiat or under the natural circumstances of developing nationalism.

Modern Russia, according to the author, has borrowed extensively from the West in every aspect of its national culture. Even Marxism "is a Western theory, although deformed by Soviet practice," he points out. Examples of Russian attacks on Western culture in recent years are numerous, and Kulski cites many of these in his article. Russia claims that

the native genius of the Slavic peoples has resulted in the invention of everything from the steam engine to the radio by Russians long before Westerners announced such inventions as their own, are evidently seriously believed inside the Soviet orbit. How easy it is to prove the contrary everyone outside the iron curtain countries well knows. But the Communists subscribe to the party line and thereby make themselves ridiculous to all but their fellow believers.

The Soviets can no more cut themselves loose from Western civilization than they can change the sun in its course. Russia is tightly linked to the past of the West, and this unhappy, if undeniable partnership, will, Dr. Kulski thinks, prevail in the future.—*H.P.G.*

Quincy Wright, "Political Consequences of the Soviet Atom Bomb," *Air Affairs*, Spring 1950, pp. 414-28.

THE DEAN OF AMERICAN POLITICAL SCIENTISTS has written a useful resumé of the impact of the existence of the Soviet A-bomb upon world politics before the "cold war" ended with the invasion of South Korea. Interpreting the serious opinions of leading American strategists, statesmen, and scientists before Korea, Professor Wright demonstrates that the atomic "explosion" in Russia reoriented perforce the bases of American foreign policy. Realism, however, was not a virtue of some American leaders who clung to the complacent view that the United States could maintain its substantial lead in the atomic armament race. Pre-Korea, therefore, the United States made a reluctant, if not tardy, political effort to match the rapidly deteriorating balance of power in the military field. Our over-reliance upon the monopoly of atomic weapons and our unwillingness to recognize that this monopoly would be short-lived—these fundamental errors have been made apparent by our miscalculation of the relative power of the United States in conventional armaments in view of our world-wide political commitments.

Before the Korean War, Professor Wright explains, three basic emphases in American foreign policy were being seriously considered as answers to the problem posed by Soviet "know-how" in the atomic field: (1) international atomic energy control and strengthening of the United Nations, (2) military preparation and strengthening of alliances to augment the power position of the United States, and (3) conciliation of Russia without appeasement. Today however, build-up of the coalition military power of the non-Soviet world through the United Nations and the Atlantic Pact appears as the only logical policy for the United States remaining by which to deter the ambitions of the Kremlin leaders.—*E. M. E.*

Kazuo Kami, "Japanese Views on National Security," *Pacific Affairs*, June 1950, pp. 115-127.

UNTIL RECENTLY the Japanese seemed to think that their national security would be guaranteed by the United States and the other allied powers. An increasing interest in the problem of their national defense has been brought about by several developments: a war scare in 1947; the communist advance in China; discussions of American strategic planning, which looked upon Japan as a temporary but expendable base; the problem of a peace treaty for Japan; and the alliance between China and Russia.

In the present majority party two main points of view exist as to how national security can be achieved. One is that Japan cannot remain neutral in an armed world. Those who accept this idea differ among themselves on the method to be used: some maintain that Japan should ally herself with the United States or some other major power for protection; others believe that Japan should become a member of a regional defense pact, such as the one proposed by President Quirino of the Philippines. Nationalistic elements object to the first proposal because it would subordinate Japan to the more powerful ally. The major objection to the second idea is one which also applies to the first. Japan would automatically become involved in war if her ally or some member of the pact were attacked, and the majority of the Japanese want to avoid war.

Another point of view is that Japan should remain unarmed. Under such circumstances, it is argued, no nation would attack Japan, since there would be no advantage in it. If some country did invade, Japan could appeal to the world and expect help because of her strong moral position. Many who believe in this point of view argue that Japan should seek security through multiple guarantees of her neutrality. The Socialist Party of Japan agrees with this. They insist that such a course is necessary if internal reforms are to succeed.

Ultimately the decision will probably be made by the United States and the other Allied powers, but the wishes of the Japanese people cannot be ignored completely.—R. W. S.

Ralph E. Lapp, "The Hydrogen Bomb: IV," *Scientific American*, June 1950, pp. 11-15.

THIS IS THE LAST OF A SERIES of four articles on the hydrogen bomb, the first three of which were reviewed in the Summer, 1950, issue of the *Air University Quarterly Review*. The earlier articles dealt with the theory, technical aspects, relative cost, and strategic value of the new weapon. In this fourth article Dr. Lapp, formerly head of the nuclear physics branch of the Office of Naval Research, discusses the problem of organizing an effective civil defense against this bomb. He believes that both the United States and the U.S.S.R. will develop fusion-type bombs within five years. Still other nations will produce them later. The scientific principles involved are of general knowledge. They have been described in articles published in both Europe and America.

The cities of the United States are most vulnerable targets for hydrogen bombs. Dr. Lapp holds that the only effective method of reducing vulnerability is dispersion. He describes a plan for optimum dispersion. It is based on strip cities no more than two miles wide, alternating industrial, business, and residential districts for a hundred miles or more in length. At the current rate of new residential construction and rebuilding of our industrial plants it is estimated that this dispersion could be effected in twenty years. The cost would be some \$300,000,000,000. This is not an astronomical sum when compared with current annual expenditures on new construction. But Dr. Lapp agrees that precipitous or government-dictated dispersion of some two hundred cities in the United States having populations of 50,000 or more might be just as disastrous to our nation as the explosion of numerous hydrogen bombs.—C. M. T.

Jon Kimche, "Is a German Army Necessary?" *Nineteenth Century*, June 1950, pp. 347-55.

THIS BRITISH MILITARY CORRESPONDENT argues that on every count—strategic, tactical, political, and economic—Western Europe would be embarrassed by the existence of a German army, either in the diplomatic conflict between East and West today or in an armed conflict tomorrow. It is his opinion that German rearmament is neither desirable nor necessary, and would "become fatal to the still tender growth of Western European unity." Mr. Kimche departs from the assumption that leading American strategists cannot commit themselves to a mobilization of American manpower for European defense. He contrasts excerpts from the testimony of Generals Bradley and Vandenberg before the House Armed Services Committee with brief examination of the scheme worked out at Viscount Montgomery's headquarters at Fontainebleau. The Western Union scheme appears "to have a more practical bearing on the defence of Western Europe."

Mr. Kimche submits: (1) the U.S.S.R. and its satellites have a numerical superiority in manpower in Europe which can only be redressed by the full weight of U. S. manpower; (2) the West has a superiority in essential mineral and industrial production but economic mobilization of the U. S. would be required to make it overwhelming and effective; and (3) a Soviet invasion of Scandinavia is *unlikely*, of the Middle East *probable* if weakly held, and of Germany *certain* if a German Army were to exist. He supports these conclusions with a formidable array of statistics demonstrating the role of both Eastern and Western German manpower and economic resources in the balance of power in Europe.

The merit of this article is limited by the author's quantitative appraisal of human bodies, raw materials, and industrial capacity. Unfortunately he little appreciates the role of mechanization (i.e., airplanes, tanks, etc.) in a potential Soviet aggression or in the Western European defense scheme. Although admitting the West even without a German Army has a "considerable superiority in military manpower potential," he does not grapple with delicate political and moral factors which have considerable military import. Obviously, the means by which Germany could continue to be retained "neutral" and unarmed in future years requires detailed and objective study. On the other hand it will not be easy to find the means by which Germany could be truly brought into the Western family of nations.—E. M. E.

Ivo Duchacek, "The Strategy of Communist Infiltration: Czechoslovakia, 1944-1948," *World Politics*, April 1950, pp. 345-372.

THE AUTHOR, liaison officer between the Czechoslovak Government and General Patton's army in 1945 and chairman of the Foreign Relations Committee of the Czechoslovak Parliament from 1945 to 1948, describes in detail the methods used by a Communist minority to gain control of a nation. In his official capacities Duchacek had ample opportunity to observe the varied devices used by the Communists to gain the ascendancy in the Czechoslovak Government. Of especial significance is the lengthy portrayal of active interference by the U. S. S. R. in the internal political situation in Czechoslovakia during and since World War II. Through

the use of the Red Army and political agents the U. S. S. R. placed loyal Communists in many vital Czech governmental agencies before the war's end. From these strategic positions these subservient tools of the Soviet Union moved in the next three years to consolidate their power and to bring Czechoslovakia completely within the Russian orbit. In spite of their careful planning and ceaseless operation, it was not at all certain at the end of 1947 that the Czech Communist regime (lacking as it did the support of a popular majority) could long endure. It was then that the Politburo gave the orders resulting in the coup of February 1948. This decision the author aptly points up in his concluding statement: "The Soviet overlords by the end of 1947 had come to feel that the international situation had worsened to such an extent that no possibility of an unfavorable shift in the internal position of their followers in Czechoslovakia could be tolerated."—R. E.

THE CONTRIBUTORS

Maj. Gen. John DeForrest Barker, now Deputy Commanding General of the Air University, has served during the war as Assistant Chief of Staff for plans of the Twelfth Air Force, as senior air instructor in the Army-Navy Staff College, and as a member of the War Dept. General Staff. Later, after duty with USAFE, he was assigned to Joint Task Force 7 and was appointed Deputy Director of the Special Joint Planning Group.

Col. Dale O. Smith, formerly Chief of the Research Division at the Air University, has just completed the requirements for a doctorate at Stanford University. He is now assigned to Human Resources Research Institute of the Air University. He was on the general staff of the AAF Anti-Submarine Command. Commander of the 384th Bomb Group, and Chief, Bombardment Requirements, A-3, Hq. AAF.

Eugene M. Emme (Ph.D., Iowa), wartime naval aviator, is a member of the Documentary Research Division, Air University Library.

He formerly taught history at the University of Iowa.

Maj. Nicholas E. Mitchell, a former SAC Intelligence Officer and more recently Director of the Slavic Languages Division at the Army Language School, Monterey, Calif., is now assigned to Air Command and Staff School. During the war he served in various liaison capacities to the Soviet Air Force in Iran and Germany.

Lt. Col. Leroy M. Stanton (B.S., Clemson) was wartime Assistant A-3, 50th Troop Carrier Wing. He is now Chief, Troop Carrier Section, Air Command and Staff School.

Periodical Press reviews are by Capt. Charles L. Galbraith of the Editorial Staff of the Air University Quarterly Review and by Mr. Littleton B. Atkinson, Dr. Eugene M. Emme, Dr. Hilton P. Goss, Dr. Woodford A. Heflin, Dr. R. Earl McClendon, Mr. Robert W. Schmidt, Dr. Raymond Estep, and Dr. Charles M. Thomas, all of the Documentary Research Division, Air University Library.

The AIR UNIVERSITY QUARTERLY REVIEW

is published to inform Air Force personnel of the development of professional thought concerning doctrines of air strategy and tactics and related techniques. Subscriptions may be secured by completing the form provided below and mailing it to: Air University Book Dept., Maxwell Air Force Base, Ala. The price is two dollars a year.



Subscription Blank

Mail this form and remittance of two dollars to:

AIR UNIVERSITY BOOK DEPARTMENT,
MAXWELL AIR FORCE BASE, ALABAMA.

Enter my subscription. I enclose \$2.00.

(Print legibly)

Name _____

Address _____

PLEASE NOTIFY THIS OFFICE WHEN YOUR MAILING ADDRESS CHANGES.



The QUARTERLY REVIEW offers a prize of twenty-five dollars for the best GUEST EDITORIAL submitted for each issue. Entries will be judged by the Editor and the Editorial Board, whose judgment of quality and suitability for publication will be final. Right to reject all entries is reserved. Closing dates for receipt of submissions are 1 December, 1 March, 1 June, and 1 September. All entries are considered offered for general publication in the REVIEW (non-winners used entire or in part will be awarded a year's subscription). Topics of timely concern to the Air Force or closely related to air power should be treated from a firm point of view in 800 to 1000 words. Mark entries for PRIZE EDITORIAL CONTEST.

The QUARTERLY REVIEW also offers a year's subscription for LETTERS TO THE EDITOR published entire or in part. Comment is invited on any of the materials we print or books we review—or brief discussion of other matters. Three hundred words or less will normally be used, but longer letters will be considered in accord with general significance. Mark LETTER TO THE EDITOR.

