Let the Women Do It

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The views expressed in this article are the author's and are not necessarily those of the Department of the Army, the Army War College, or the Command and General Staff College.

—The Editor

At the Key West meeting of the Joint Chiefs of Staff, in 1948, the roles and functions of the three services were delineated. One of the functions assigned the Army was: *to provide Army forces for the defense of the United States against air attack in accordance with joint doctrine and procedures approved by the Joint Chiefs of Staff*. The Navy and the Air Force were assigned corresponding functions, suitable to their capabilities. In addition, the Air Force was given unilateral responsibility for the air defense of the United States.

Responsibilities

Accordingly, each of the three services contributes to the air defense of the United States. The Air Force provides interceptor aircraft and an early warning system. The Navy furnishes aircraft, as required, and sea-borne means of air defense, such as antiaircraft vessels and picket ships. The Army contributes antiaircraft artillery and surface-to-air guided missiles. Both the Army and the Navy have organic radar and aircraft warning equipment which supplements the early warning system operated by the Air Force.

Costliness

It takes very little imagination to visualize the possible immensity of the air defense effort. The United States is large in area, roughly twenty-five hundred by twelve hundred miles. Our population is preponderantly urban. We have many widely separate population centers and areas of concentrated industry. It is a task that could consume not hundreds of thousands, but millions of men, and billions of dollars of matériel. The end items employed in air defense—interceptor aircraft, radar, guided missiles, and antiaircraft artillery—are expensive, very expensive. These end items are not push-button affairs. Many intelligent, well-trained people are required to operate them.

Defensive *versus* Offensive Effort

Not only is the air defense of the United States costly, but it constitutes a purely defensive effort, a direct subtraction from offensive means. Every aircraft employed to protect the United States from air attack is one less available for tactical air support. Every soldier at an antiaircraft gun site in the United States is one less available for offensive action against the enemy. The decision as to the extent of the resources to be employed for this purpose is a major one, involves many complex factors, and may have far reaching effects.

The Germans, the Japanese, and the British were faced with this dilemma in the past war. The million and a half persons employed by the Germans in air defense and the industrial effort expended for

It is the privilege of every man and woman to fight any enemy attempting to destroy this country. So that available manpower may be utilized for offensive action, the use of women in AA units in the US is favored.

aircraft, armament, and munitions were significant and important factors contributing to their ultimate defeat. Similarly, the air defense effort by Great Britain was a strain that was sorely felt throughout the war. Fortunately, this was not a problem for the United States. But remote as the threat may have been, we had able-bodied men manning antiaircraft guns in defense of Washington and other areas regarded as vital.

The shoe is now on the other foot. It is painfully clear that this immunity from air attack, which we enjoyed in the past war, will not be repeated in a future conflict. Aircraft of the *B-29* type, operating from unfriendly bases, have the capability of penetrating the air space over any area of the United States. True, to reach some areas, one-way missions may be required, but this cannot be regarded as a serious deterrent. The loss of an airplane and crew after the successful delivery of its A-bomb is readily acceptable.

The Problem

What do we do about it? Can the United States be left unprotected against air attack? The answer is *no*: a *no* that becomes more emphatic with the passage of time, and the consequent increase of opposing A-bomb stock piles. On the other hand, do we place primary emphasis on the air defense of the United States? Again the answer must be no, at least for the present or foreseeable future. This is a task that could absorb our entire military potential, and ensure nothing more than a high attrition rate of hostile aircraft.

The answer obviously lies somewhere between these two extremes: a solution which will, first, place primary emphasis on offensive means, in other words, the ships, aircraft, and divisions which will carry to a successful conclusion any war thrust upon us; and, second, provide for the protection, in this country, of those areas contributing most vital support to these offensive means. After all, the carrying of the fight to the enemy and the destruction of his capabilities at the source constitute the best and only sure defense.

The best defensive means the British and Americans could provide alleviated, but did not prevent, the German *V-1* bombardment of London. The menace was not eliminated until allied divisions had cleared the Pas de Calais, Belgium, and parts of Holland. Nevertheless, the effort expended in the *V-1* defense of London was not wasted. As a defensive effort it was very successful, eventually accounting for 70 percent of the missiles launched. Similarly, the allocation of resources to the air defense of the United States is necessary, but it must be a frugal not a lavish allocation. The unimpairment of our offensive strength must be kept in mind. Nevertheless, sizable forces will be required to defend this country from air attack.

The Army's Role

The part that the Army will be required to play in the air defense of the United States should not be underestimated. The Army may and probably will be the greatest contributor of the three services in personnel and materiel. With the development of surface-to-air guided missiles, Army weapons may well be the backbone of air defense. Fighter aircraft may even be relegated to a secondary role, that of constituting a mobile attack force to reinforce or to plug gaps in static air defenses. Since these statements may be regarded with some skepticism, a few examples of the last war are cited in illustration.

Illustrations

In 1943, German flak accounted for one-third of the Eighth Air Force losses over Germany. In 1944 and 1945, flak accounted for two-thirds of the bomber shot down—and considerable numbers *were* shot down. True, that in 1944, the *Luftwaffe* was beginning to lose its punch. But, at the same time, German flak had neither the proximity fuze nor radar of the quality equivalent to our SCR 584, both of which were then available to us. It has been said that these technical advances or improvements multiplied the lethality of our antiaircraft artillery guns by three.

On our side, between D-day and the cessation of hostilities, the antiaircraft artillery of the 12th Army Group made 2,100 confirmed kills, inflicting an attrition rate of approximately 11 percent. Despite our overwhelming air superiority, fighter kills never approached this total. On 1 January 1945, the Germans made one of their biggest air efforts, an estimated 700 to 750 sorties, directed at our airfields. Antiaircraft artillery destroyed 220 of the attackers; fighter aircraft less than 100.

We again turn to World War II for some indication of the drain on manpower imposed by the use

of antiaircraft weapons. Germany, at a time when a maximum of a million and a half persons were employed in air defense, had 850,000 persons manning antiaircraft weapons. In Great Britain, the greatest number similarly employed was slightly more than 300,000, but this figure does not include the Royal Air Force personnel who operated barrage balloons and automatic weapons in defense of airfields.

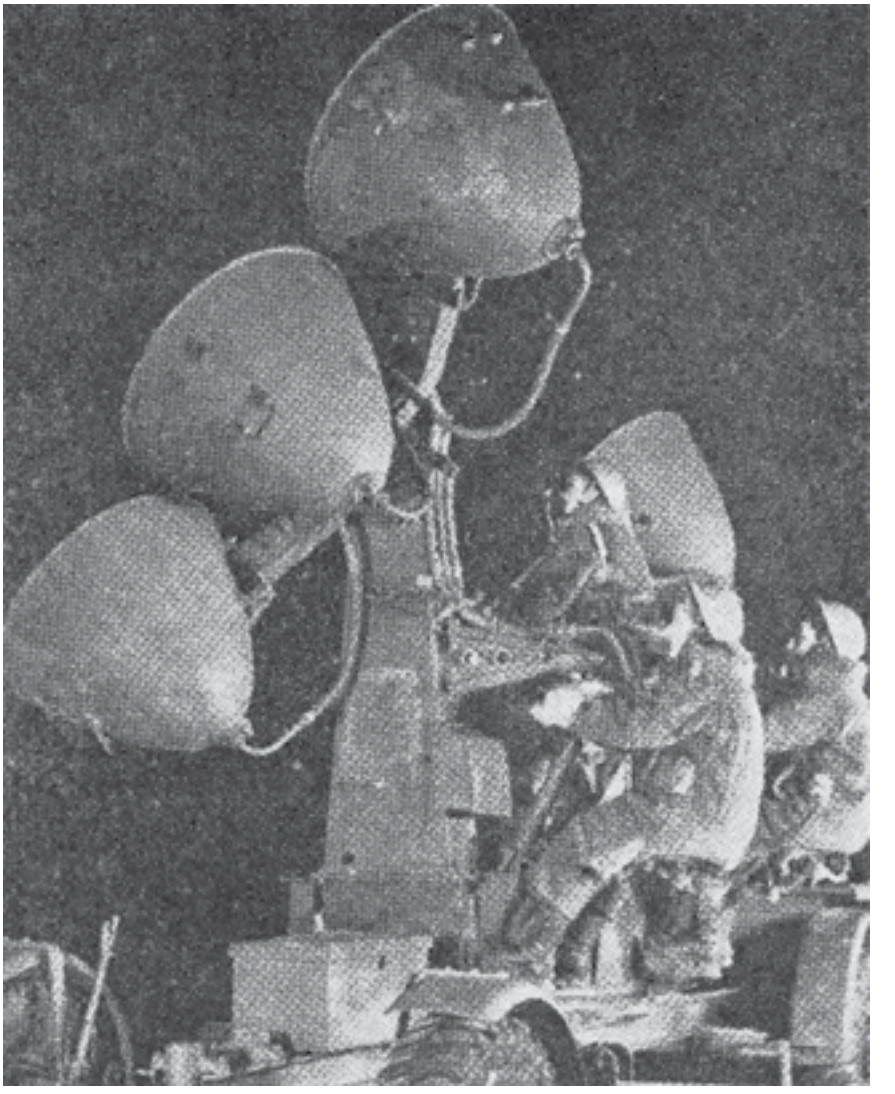
Technological advances during the postwar period, to some extent, alter this World War II picture. Radar has eliminated the antiaircraft searchlight. Barrage balloons are obsolete. In so far as the United States is concerned, the A-bomb has all but eliminated requirements for antiaircraft automatic weapons. The attainment of an air burst of maximum blast effectiveness necessitates the release of the A-bomb, by the carrier aircraft, at an altitude far above the effective range of automatic weapons. Of course, there are certain targets which are attacked most successfully from a low altitude. These are comparatively few. The antiaircraft gun itself may be on the verge of obsolescence, but as long as we have *B-29*-type aircraft to shoot at, it is a very effective weapon. Surface-to-air guided missiles, as they become available, may, in time, supplant the antiaircraft gun.

Therefore, we may expect that the antiaircraft defenses of the United States will consist of a small percentage of automatic weapons, a preponderantly large percentage of antiaircraft guns, and a small but growing percentage of guided missiles. Even with the deletion of searchlights and barrage balloons, and small demand for automatic weapons, personnel requirements will be large.

Great Britain and Germany entered World War II with antiaircraft defenses manned with young, able-bodied men; personnel physically qualified for active service on the battlefronts. Both had to change.

The British Experiment

The British, faced early in the war with manpower problems, began, in 1940, to experiment with women in mixed batteries; that is, units composed of both men and women. It might be added that the experiment was conducted to the accompaniment of many misgivings in official circles. Some politicians were fearful that public opinion would never sanction women operating death-dealing weapons of war. Others felt that women would be coarsened and their morals lowered by military service. Despite these misgivings, the experiment



A searchlight battery operated entirely by women during the Battle of Britain.

was considered a success. Women were permitted to volunteer for service in antiaircraft artillery units, were trained, and then organized into "mixed" batteries. At one time, 74,000, equivalent to four divisions, were enrolled. It was estimated that 170,000 could have been employed had they been available.

As events proved, public opinion did not recoil in horror. On the contrary, the British public appeared to take tremendous pride in the fact that their women were defending the homeland. Morals, in mixed batteries, were no lower than in civilian life. But quite surprising to many, women actually proved better in their assigned tasks than did the average male soldier. Their coolness and courage were amply demonstrated in hundreds of antiaircraft engagements during the remaining years of the war.

ATS girls using a spotter on a gun site, searching the skies for hostile aircraft.

As the war progressed, more and more of the young, able-bodied men were diverted from antiaircraft units deployed in defense of Britain to overseas combat units. Their places were taken by older and physically limited men. Eventually, the Home Guards were employed on a part-time basis, an expedient which was not too successful. By the end of the war, older and physically limited men, the Home Guards, and women were doing the job.

German Experience

The German experience, in many respects, parallels that of the British. Until the end of 1942, German antiaircraft units, deployed in defense of the homeland, were composed of men physically qualified for service on the active fronts. Beginning in 1943, the manpower pinch began to be felt severely, and antiaircraft units defending the homeland were among the first to be tapped. To meet these manpower demands, an antiaircraft auxiliary was organized, composed of a hodgepodge of factory workers, foreign nationals, prisoners of war, and women. This auxiliary eventually comprised 44 percent of the personnel in antiaircraft units. The remaining 56 percent were regular military personnel, but the majority were in the older and physically limited categories. Women were employed in limited numbers, but were poorly trained and did not do well. The German expedient, as a whole, could not be considered a success.

It would be well for us to look rather closely at the British and German experiences. Both found, early in the last war, that manpower demands would not permit able-bodied men to be utilized in the antiaircraft defense of their homelands.

Both resorted to the employment of women and over-age and physically limited men. The Germans, in addition, used prisoners of war, factory workers, and foreign nationals.

Need for Air Defense

But there is an essential difference between the early '40s and the present time. The rate of

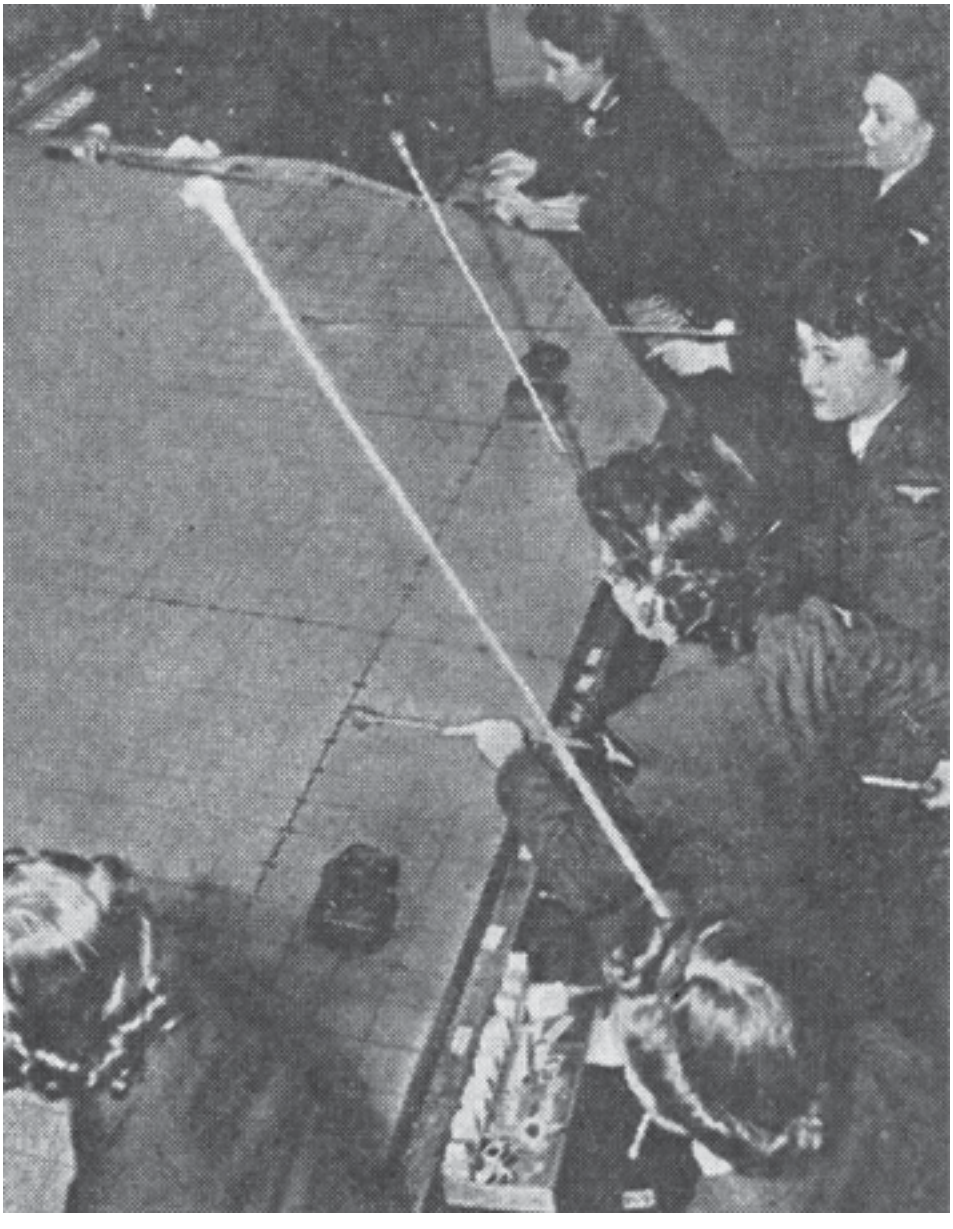
destruction, then, of a nation's industries and population by conventional explosives was far less than that now capable of being inflicted with mass-destruction weapons. Despite punishing air blows, Britain and Germany had some time to adjust their defenses. Time was costly then, but it is infinitely more valuable now. The first month, even the first days of a conflict, could see very severe, if not crippling, casualties and damage inflicted on this country.

This time factor is so clearly unmistakably vital, that it is stating the obvious to say that an air defense system is an urgent necessity. It is apparent, too, that the Army, the Navy, and the Air Force components of our air defense system should be at effective strength, well trained and efficient, and must be so maintained as long as there is any threat of an air attack with mass-destruction weapons.

Sources

Initially, the Army's obligation to provide forces for the air defense of the United States may be met, wholly or partially, by the allocation of existing antiaircraft units of the Regular Army, National Guard, and Organized Reserve earmarked for overseas service. Although this expedient is certainly necessary at the present time, it is dangerous to rely too heavily upon it. An equally urgent requirement will exist for these units to provide antiaircraft protection for overseas field forces, their bases and ports, and for overseas airfields and air bases. The need for antiaircraft artillery is certain to be acute during the early stages of the battle for air superiority. A margin of safety requires that at least a nucleus of antiaircraft units be earmarked for the air defense of the United States. This would alleviate the problem of conflicting demands between the United States and overseas commands, in the early stages of a conflict.

Further, antiaircraft units to be employed permanently in the air defense of the United States should be comprised of personnel physically not suitable for service in the combat zone. Certainly they should not contain able-bodied men likely to be withdrawn



Women plotting the course of friendly aircraft for Royal Air Force controllers.

as the urgent need for such manpower arises. We can and should avoid the loss of efficiency and waste motion which would result. The alternatives are limited—workers in industry and over-age and physically limited men and women.

Use of Workers

The employment of workers in antiaircraft defense is suggested frequently. The premise is that a preponderant amount of the antiaircraft artillery will be sited in or near industrial and heavily populated areas; that workers can be formed into home guard antiaircraft units to function on an alert or part-time basis. The idea is attractive and, if practical, would result in appreciable savings of manpower. Unfortunately, there are many serious drawbacks to this scheme. In the first place, most antiaircraft units will be located outside the area defended in order to intercept attacking aircraft before bombs can be dropped. Those distances, outside the defended area, may not be great, but they may be sufficient to create a transportation problem. But much more serious is the training problem. Antiaircraft actions are short and intense. Perfect timing, co-ordination, and teamwork are required. Months are required to train personnel to operate and maintain radar, fire control equipment, and armament. Control and discipline are essential. This system of worker utilization provides none of these elements. Now add the problems engendered by constantly shifting personnel, sickness, absence, and boredom, and we have an impossible situation. The value and capabilities of the equipment are too great to be wasted in such arrangements.

Over-age and Physically Limited Personnel

There is no reason why efficient and effective Army antiaircraft units cannot be organized and trained, utilizing over-age and physically limited personnel. Any position in a headquarters or firing battery can be filled by personnel within these categories, providing they are not infirm or hopelessly incapacitated. However, there will be strong competition for the over-age and physically limited males. They may be gainfully employed elsewhere in the services, particularly in rear areas and in Zone of Interior installations. In addition, industry must draw heavily on these categories for workers to turn out the machines of war.

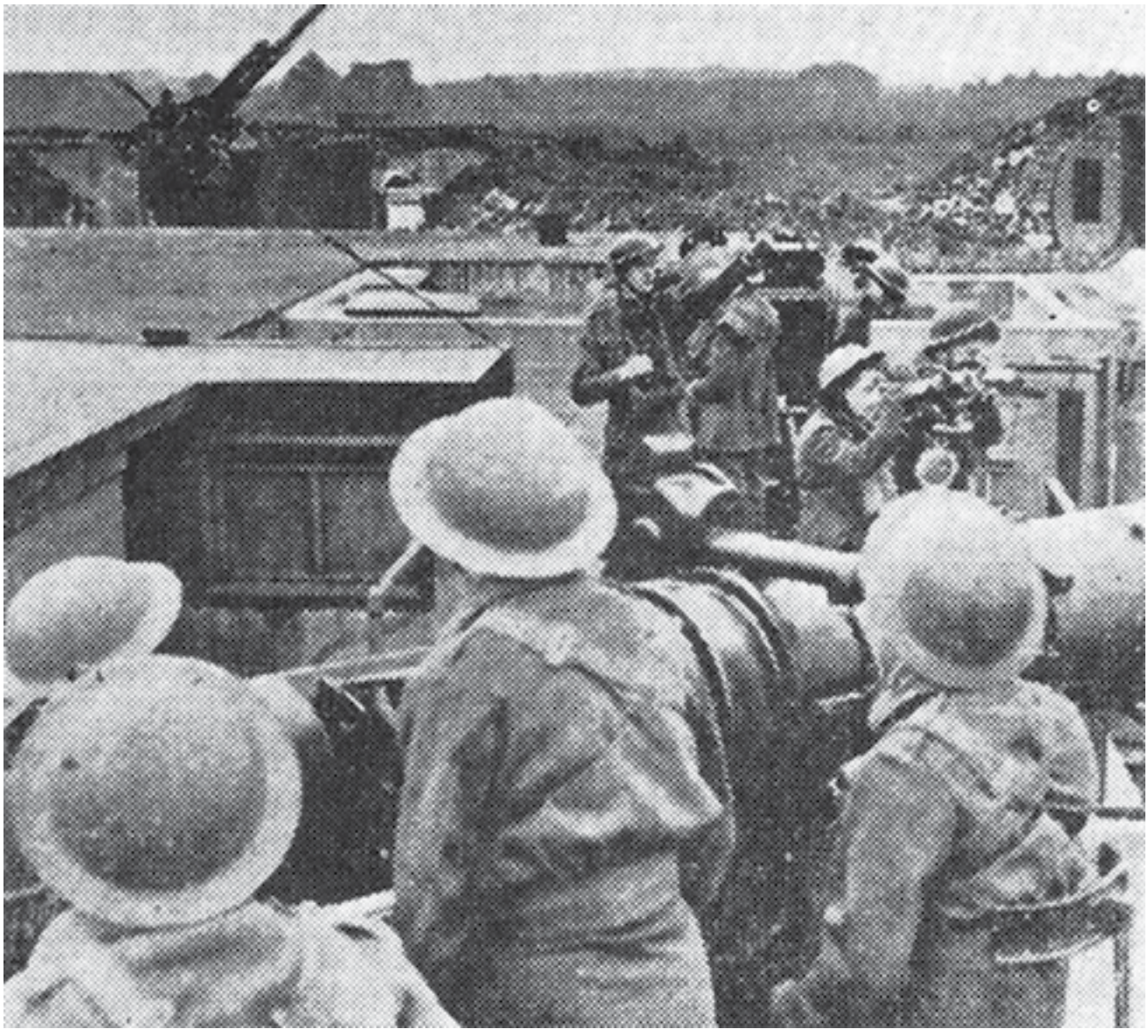
A Suggested Solution

Women can perform 50 to 60 percent of the tasks in a static gun battery, and, as a matter of fact, perform them as well if not better than men. Such tasks include the operation of fire control and radar equipment, plotting tables, telephones, and switchboards. They can act as cooks, clerks, and drivers. Women, likewise, can perform an even higher percentage of the tasks in the various headquarters organization, and do them efficiently and well. The actual manning and operation of the guns is beyond the physical capabilities of the average woman. Again, there is not unlimited womanpower. Women are not only employed profitably elsewhere in the three services, but industry will depend upon the employment of a large percentage of women.

The most serious obstacle to the employment of women in antiaircraft units appears to be fear of public opinion. The suggestion frequently will bring forth the remark that "the public won't stand for it." The basis for this fear is difficult to find. Certainly, some people would oppose the idea of women serving in combat organizations. Unanimity of opinion is not obtained in this country on any issue. Contrary to this frequently expressed opinion, it is believed the great majority of the public would not only stand for it, but like it. After all, this country has a heritage of fighting women. For example, Molly Pitcher, at the Battle of Monmouth, took the place of her husband on an artillery piece after he had been overcome by heat; our pioneer women, who helped build the nation, endured the hardships of frontier life, and, on more than one occasion, fought the Indians, side by side with their men. For the benefit of those who have qualms on this issue, it should be borne in mind that the destruction of aircraft by gun fire is a very impersonal business. The women, operating fire control and radar equipment, contributing to the kill, do no more than those women working in factories producing the munitions and machines of war. In any case, it should be the privilege of every citizen, man or woman, to fight and destroy any enemy attempting to inflict destruction on this country.

Conclusion

The employment of women and over-age and physically limited men in Army antiaircraft units, allocated to the air defense of the United States, is



Army Territorial Service girls using a range finder during the Battle of Britain.

favored. The argument may be advanced that the employment of women is not necessary and that they can be more profitably employed elsewhere in the services or in essential industry. This is doubted. There is ample precedent, found during the last war, when the British, and to a lesser extent the Germans, found it necessary to utilize women in their antiaircraft units. Women are as well if not better adapted to perform a proportion of the tasks in a firing battery than are men.

The time factor in this period of tension is vital. Advance warning of an attack may be short, indeed. We must be prepared to counter air attacks with effective means, and to maintain our defenses in a high state of efficiency as long as the threat of an attack with mass-destruction weapons exists. We cannot afford to experiment after the air onslaught is launched. It is believed that practical measures can and should be taken now to prepare ourselves better to meet the shock of air attacks. Some of these measures are:

1. Establish, now, mixed antiaircraft artillery units for allocation to the static air defense of the United States. Determine the percentage of women that may be employed profitably; the proportion of over-age males that

may be used; and the types of physical disabilities which do not handicap the performance of such duty.

2. Encourage officers and men, incapacitated by wounds or illness to the extent that they are no longer physically qualified for active combat, to transfer to static antiaircraft units. Train such personnel as battery officers, communications and radar officers, and as radar, fire control, and gun maintenance personnel.

3. Establish Reserve Officers' Training Corps antiaircraft artillery units for women in our colleges.

4. Authorize women to take appropriate courses in antiaircraft artillery and guided missiles at the Antiaircraft Artillery and Guided Missile Center at Fort Bliss, Texas.

We are engaged in a historic effort to hold together all of the free peoples of the world in the face of the greatest danger ever confronting them.
As a leader in that effort, we must demonstrate to the whole world that the Founding Fathers were wise in their faith that our Government of divided powers would never suffer disunity or frustrate necessary action in time of peril.

President Harry S. Truman

National policy on military matters can rise no higher than its source, and that source is the American people. Military power and the will to use it in the national interest spring from the people at large.

Lieutenant General M. S. Eddy

To view "Let the Women Do It" as it was originally published in November 1951, visit https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/JF-22/Original/Davis.pdf.