U. S. NAVAL AVIATION in the PACIFIC

The Office of the Chief of Naval Operations
United States Navy

1947

p. 51

LESSONS LEARNED

The lessons of any naval war are of great importance to the United States. The lessons of the war against Japan are unique. Unlike the great conflicts of the eighteenth century and the First World War, where blockade and relatively passive control of sea lanes provided limited, although decisive, naval objectives, Japanese expansion and the United States victory were campaigns fought across the sea.

World War II also witnessed the full development of aviation. In view of the complete lack of factual evidence, many of the opinions expressed between the two World Wars on the role of air in naval operations were based largely on theory and to a considerable degree were ultimately proved false. Bombing of anchored and undefended battleships off the Virginia Capes after the last war led to statements that navies were obsolete and that no ship could operate within range of land-based aircraft. Although certain advocates of independent air power questioned both the possibility and usefulness of close support of troops, such support was proved not only possible but indispensable. The accuracy of high-level, precision bombing was vastly overestimated, as witness both the ineffectiveness of this means of attack against shipping and the improved efficiency of B–29 attacks after the adoption of medium-altitude, area bombing. A considerable body of opinion in both the Army and the Navy held that the airplane would quickly master the submarine. While this was ultimately accomplished, it came about rather late in the war after immense effort in research and design of new equipment and in the development of techniques for cooperation of planes and surface ships. Certain improvements in U-boat design and equipment, which appeared too late to become operational on a wide scale, made it extremely doubtful that Allied superiority would have long prevailed.

LESSONS LEARNED

Those who questioned the importance of the airplane were equally far from the mark. The disappointment of officers who planned for fleet engagements after the fashion of Trafalgar and Jutland was doubtless as great as that of theorists who had confidently dismissed the battleship as a modern weapon, only to find it profoundly useful and singularly invulnerable in support of amphibious landings. The conclusion is that while times do change, revolutions are seldom as complete as the revolutionaries hope.

The efforts of the various nations between the wars to solve the problems of the employment of aircraft in naval warfare were instructive. The debilitating effects of Britain's separate air force on the British Navy are well known. The effectiveness of the lumbering Swordfish torpedoplane was a high tribute to the gallantry of the pilots but hardly complimentary to the organizational system which produced it. Counting on their geography, the Italians established a land-based air force with which they thought to control the Mediterranean. Constantly outfought by British carrier aircraft, the greatest victory of the Italian Air Force was scored against its own navy which it once put to ignominious flight. The Japanese developed aviation as part of their fleet, and the operations of their carrier striking force from Pearl Harbor to Ceylon set the pattern of the Pacific war, but they failed to solve the defensive problem and this failure, with their limited recuperative abilities, nullified their whole war plan. The outbreak of war found United States aviation, both military and naval, woefully deficient in types and quantities of aircraft. Doubly fortunate in geography and industrial power the country was able to go forward with the building of great forces incorporating the early lessons of the war and the most recent technology, thus achieving an unexpectedly early victory. As it may not again be possible to extemporize, the importance of correct evaluation of the experience cannot be overestimated.

The experiences of warfare, however, are never conclusive. They cannot be controlled like experiments in a laboratory but must be taken as they occur. Two examples from the recent conflict may be cited to show the dangers of facile generalization from insufficient evidence. In the past it had been taken for granted that aircraft carriers could not operate for extended periods within range of a large number of enemy air bases, yet from September 1944 until the end of the war this was done and in every instance the shore bases had the worst of it. It would be unwise to deduce from this experience too rigid theories for the future because against an enemy, equal plane for plane and pilot for pilot, it would have been much more difficult and costly, although at what point such operations would become unprofitable it is

impossible to determine. Likewise the operational capabilities of B–29's with full bomb loads against heavily defended targets were somewhat limited. Although islands within 1,300 miles of Tokyo had been secured, it was necessary to pay a great price for Iwo Jima, 600 miles nearer the objective, in order that the bomber bases might be free from attack and that the bombers might have fighter protection and an emergency landing field.

The impact of technology on modern warfare is such as to render generalization and prediction doubly dangerous. Although the carrier task force was the outstanding fighting unit in the advance across the Pacific, if the developments in radar and fighter direction had not occurred when they did, the event would have and equipment, which a p p e a r e d too late to become operational on a wide scale, made it extremely doubtful that Allied superiority would have long prevailed.

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The impact of technology on modern warfare is such as to render generalization and prediction doubly dangerous. Although the carrier task force was the outstanding fighting unit in the advance across the Pacific, if the developments in radar and fighter direction had not occurred when they did, the event would have been far different. On the other side of the picture, had the Germans developed the proximity fuse for antiaircraft fire, the important effect of the heavy bomber in Europe, achieved as it was at great cost in men and effort, might have been drastically reduced.

The United States possessed no single weapon sufficiently effective in itself to defeat Japan. All the tools of modern war were used in the advance across the Pacific. The integrated employment of all forces each possessing its specialized weapons and equipment was essential to accomplish the ultimate aim. Each assault clearly demonstrated that we had no single means of destroying the enemy or securing the objective. The extent to which man could protect himself and absorb punishment, particularly from air attack, was a striking feature of World War II and revealed limitations in the capabilities of modern weapons.

The fact is that there exists no single science of war. There are many sciences with which war is concerned, but war itself is a practical art and skill. It is impossible ever wholly to anticipate war's requirements as the experiences

of the Germans and the Japanese revealed. Any exclusive adoption of a single weapon or type of weapon immediately limits freedom of action and greatly simplifies the enemy's problem of defense. War is a phenomenon of immense complexity whose problems are solved pragmatically by hard experience and clear thinking. There is danger that investigation of a single aspect of one war may give rise to an unbalanced interpretation. Limitations are as significant as accomplishments.

Certain features of the war in the Pacific, however, are of such importance that they must be considered in any planning for the future:

1. Control of the air was prerequisite to control of the sea.

2. Control of the sea permitted the concentration of carrier air power to control the air, and the construction of bases necessary for continued local control of the air.

3. Local control of the sea permitted the landing, support, and supply of amphibious forces on hostile shores.

4. General control of the sea was decisive against an enemy dependent on ocean commerce for vital supplies.

5. Control of the sea, including the landing of military forces on a hostile shore, was properly a naval function achieved by air, surface, and submarine forces acting in concert.

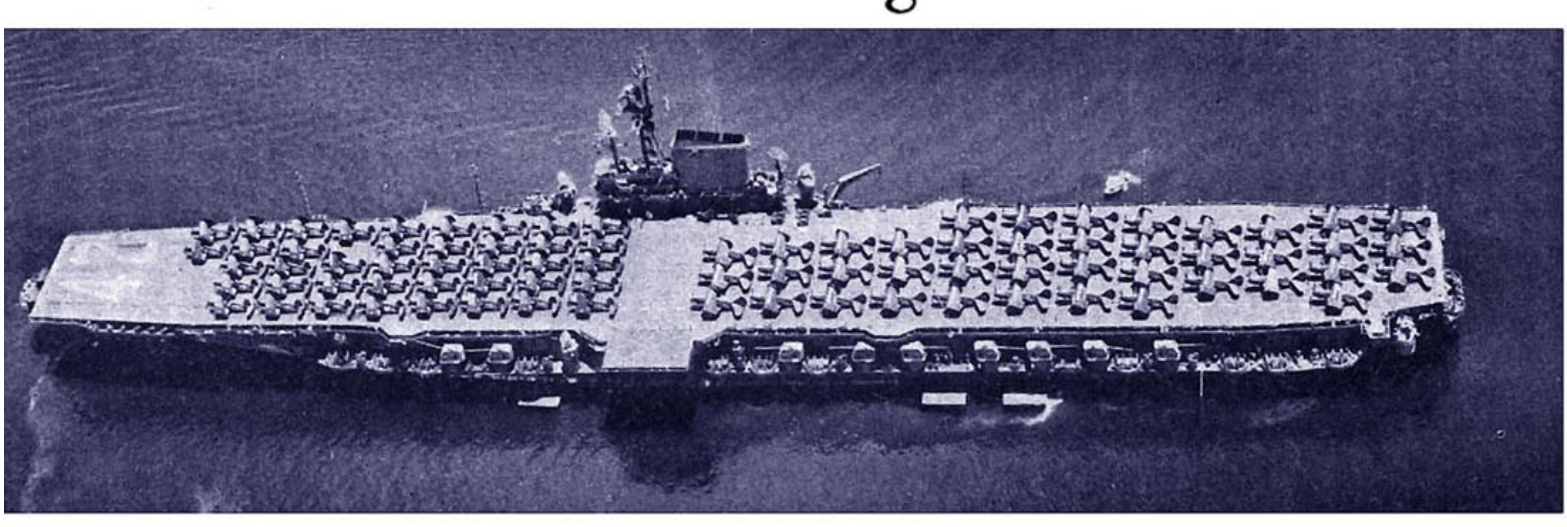
6. Naval aviation was an integral part of the naval forces and, as such, possessed the especially designed planes and equipment and employed the special tactics necessary to fulfill its role.

7. With control of the sea gained and maintained by the Navy, it was possible for land forces to conduct large-scale offensive operations and for strategic bombing to destroy the enemy's industrial potential at will.

Technology is never static, it produces changes in the methods and tactics of warfare, but it does not alter basic concepts of strategy. For centuries control of the sea has permitted a belligerent to remove the field of operations from his own shores and to fight on the territory of an enemy. Since the United States achieved status as a great power in the last quarter of the nineteenth century, it has been three times engaged in war. On each occasion it has been able to carry the conflict to the enemy because it possessed control of the sea. Behind a shield of sea power, the country has employed its great resources and industrial machine to build the forces for victory. Whether the growing range of bombing aircraft and the greatly increased destructiveness of explosives has made immunity from air attack impossible in the future is arguable. However, the amount of explosive carried will continue to vary inversely with the distance a plane must travel. Each added mile of range increases the opportunity for interception before the attacking aircraft reaches its ob-

jective. Although air raids may level cities, they do not lay waste an entire countryside as large-scale land operations do. So long as war remains a possibility, control of the sea will be vital to the national defense.

When the Japanese entered the conflict, they had a plan for a war of limited objectives. They seized a perimeter but soon found that it was insufficient for proper defense. In Europe the Germans conquered large amounts of territory but failed to put either England or Russia out of the conflict, and so long as those belligerents remained in the field Hitler could not force a peace. Experience proves that in the modern world there is no such thing as a war of limited



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objectives; there is only total war which ends with the exhaustion and defeat of one of the contestants. Such defeat can best be accomplished by an attack on the enemy's homeland, the source of his ability to wage war. Against Germany a direct land campaign was required; the Japanese recognized the inevitability of defeat as the strategic air attack was reaching high gear and as the invasion forces were assembling. In offensive air operations the closer the base to the objective the more effective and the less costly will the task be. For the United States this means the establishment of bases supplied by ships, and for the free movement of ships control of the sea is mandatory. Control of the sea will also remain vital to the offense.

Submarines and aircraft, within the limits imposed by range, penetrated enemy-held areas without support. Neither of them could capture and hold territory or supply a beachhead. When the Japanese lost their carriers at Midway the invasion fleet turned back without attempting to land. Control of the air was prerequisite to control of the sea. When United States forces moved across the Central Pacific, they encountered a string of strong, mutually supporting, Japanese air bases which were frequently referred to as so many "unsinkable aircraft carriers." With control of the sea it was possible to concentrate enough "sinkable carriers" to overwhelm and isolate the area under attack and to reduce the Japanese bases to so many unsinkable hulks. After strategic islands had been captured, the freedom of United States ships to sail the ocean made it possible to construct installations and to keep the occupying forces continually supplied with men, equipment, and aircraft, which in turn contributed to control the air in the vicinity. Control of the sea was vital to control of the air.

LESSONS LEARNED

Spanning oceans with loads of atomic explosives may become technologically possible but will not alter the basic fact that each added mile of range will increase the likelihood of interception and decrease the bomb load of the attacker. As the naval task force found in combating guided missiles in the form of Kamikazes, early warning increases the chance of breaking up a raid. For that reason alone, bases which can only be supplied and held as long as control of the sea is maintained will remain important. In the second place, the belligerent possessing bases closest to an enemy will have the advantages of being able to launch a more concentrated attack with fewer aircraft. Since the United States is not connected by land with any great power, the necessary bases must be away from its shores; i. e., in an area where possession can be maintained only by sea communications. Last, control of the sea makes possible fighting the war on an enemy's territory with all the destruction that such a campaign implies. In the War of 1812, superior sea power allowed the enemy to burn Washington. In two great wars of the twentieth century the United States protected by the Navy was safe from devastation.

Except for strategic bombing, in which the Navy did not engage aviation does not function independently. It exists as one of the elements necessary for control of the land or control of the sea and operates with other forces having the same end in view, and the techniques for control of land and sea are not the same. The experience of other nations shows, and the lessons of the war confirm, that modern warfare is highly specialized and each phase requires its particular aircraft, equipment, and tactics, for the use of which special training is necessary. In the United States this has resulted in the creation of separate military and naval air components, capable when the situation demands of operating in support of one another, but each concentrating on the development of planes, equipment, and tactics best suited to its normal sphere of action. In naval warfare the necessity for complete integration of aviation with the other naval forces was completely demonstrated in the conflict with Japan. Because naval aircraft used the same air, because on occasion they took off from the same bases, did not mean that they duplicated the work of the Army Air Forces. The mission in the case of each was different. The Navy must retain every component necessary to its effectiveness, and must further develop the unity of purpose, training, and command that brought victory in the Pacific war.