

Conclusion, U.S. Strategic Bombing Survey, p. 107

United States Department of War, September 30, 1945

Conclusion

The foregoing pages tell the results achieved by Allied air power, in each of its several roles in the war in Europe. It remains to look at the results as a whole and to seek such signposts as may be of guidance to the future.

Allied air power was decisive in the war in western Europe. Hindsight inevitably suggests that it might have been employed differently or better in some respects. Nevertheless, it was decisive. In the air, its victory was complete; at sea, its contribution, combined with naval power, brought an end to the enemy's greatest naval

threat—the U-boat; on land, it helped turn the tide overwhelmingly in favor of Allied ground forces. Its power and superiority made possible the success of the invasion. It brought the economy which sustained the enemy's armed forces to virtual collapse, although the full effects of this collapse had not reached the enemy's front lines when they were overrun by Allied forces. It brought home to the German people the full impact of modern war with all its horror and suffering. Its imprint on the German nation will be lasting.

Some Signposts

1. The German experience suggests that even a first-class military power—rugged and resilient as Germany was—cannot live long under full-scale and free exploitation of air weapons over the heart of its territory. By the beginning of 1945, before the invasion of the homeland itself, Germany was reaching a state of helplessness. Her armament production was falling irretrievably, orderliness in effort was disappearing, and total disruption and disintegration were well along. Her armies were still in the field. But with the impending collapse of the supporting economy, the indications are convincing that they would have had to cease fighting—any effective fighting—within a few months. Germany was mortally wounded.

2. The significance of full domination of the air over the enemy—both over its armed forces and over its sustaining economy—must be emphasized. That domination of the air was essential. Without it, attacks on the basic economy of the enemy could not have been delivered in sufficient force and with sufficient freedom to bring effective and lasting results.

3. As the air offensive gained in tempo, the Germans were unable to prevent the decline and eventual collapse of their economy. Nevertheless, the recuperative and defensive powers of Germany were immense; the speed and ingenuity with which they rebuilt and maintained essential war industries in operation clearly surpassed Allied expectations. Germany resorted to almost every means an ingenious people could devise to avoid the attacks upon her economy and to minimize their effects. Camouflage, smoke screens, shadow plants, dispersal, underground factories, were all employed. In some measure all were helpful, but without control of the air, none was really effective. Dispersal brought a measure of immediate relief, but eventually served only to add to the many problems caused by the attacks on the transportation system. Underground installations prevented direct damage, but they, too, were often victims of disrupted transportation and other services. In any case, Germany never succeeded in placing any substantial portion of her war production underground—the effort was largely limited to certain types of aircraft, their components, and the V-weapons. The practicability of going under-

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ground as the escape from full and free exploitation of the air is highly questionable; it was so considered by the Germans themselves. Such passive defenses may be worth while and important, but it may be doubted if there is any escape from air domination by an enemy.

4. The mental reaction of the German people to air attack is significant. Under ruthless Nazi control they showed surprising resistance to the terror and hardships of repeated air attack, to the destruction of their homes and belongings, and to the conditions under which they were reduced to live. Their morale, their belief in ultimate victory or satisfactory compromise, and their confidence in their leaders declined, but they continued to work efficiently as long as the physical means of production remained. The power of a police state over its people cannot be underestimated.

5. The importance of careful selection of targets for air attack is emphasized by the German experience. The Germans were far more concerned over attacks on one or more of their basic industries and services—their oil, chemical, or steel industries, or their power, or transportation networks—than they were over attacks on their armament industry or the city areas. The most serious attacks were those which destroyed the industry or service which most indispensably served other industries. The Germans found it clearly more important to devise measures for the protection of basic industries and services than for the protection of factories turning out finished products.

6. The German experience showed that, whatever the target system, no indispensable industry was permanently put out of commission by a single attack. Persistent re-attack was necessary.

7. In the field of strategic intelligence, there was an important need for further and more accurate information, especially before and during the early phases of the war. The information on the German economy available to the United States Air

Forces at the outset of the war was inadequate. And there was no established machinery for coordination between military and other governmental and private organizations. Such machinery was developed during the war. The experience suggests the wisdom of establishing such arrangements on a continuing basis.

8. Among the most significant of the other factors and combinations of factors which contributed to the success of the air effort was the extraordinary progress during the war of Allied research, development, and production. As a result of this progress, the air forces eventually brought to the attack superiority in both numbers and quality of crews, aircraft, and equipment. Constant and unending effort was required, however, to overcome the initial advantages of the enemy and later to keep pace with his research and technology. It was fortunate that the leaders of the German Air Force relied too heavily on their initial advantage. For this reason they failed to develop, in time, weapons, such as the jet-propelled planes, that might have substantially improved their position. There was hazard, on the other hand, in the fact that the Allies were behind the Germans in the development of jet-propelled aircraft. The German development of the V-weapons, especially the V-2, is also noteworthy.

9. The achievements of Allied air power were attained only with difficulty and great cost in men, material, and effort. Its success depended on the courage, fortitude, and gallant action of the officers and men of the air crews and commands. It depended also on a superiority in leadership, ability, and basic strength. These led to a timely and careful training of pilots and crews in volume; to the production of planes, weapons, and supplies in great numbers and of high quality; to the securing of adequate bases and supply routes; to speed and ingenuity in development, and to cooperation with strong and faithful Allies. The failure of any one of these might have seriously narrowed and even eliminated the margin.

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Of the Future

The air war in Europe was marked by continuous development and evolution. This process did not stop on VE-day; great strides have been made since in machines, weapons, and techniques. No greater or more dangerous mistake could be made than to assume that the same policies and practices that won the war in Europe will be sufficient to win the next one—if there should be another. The results achieved in Europe will not give the answer to future problems; they should be treated rather as signposts pointing the direction in which such answers may be found.

The great lesson to be learned in the battered towns of England and the ruined cities of Germany is that the best way to win a war is to prevent it from occurring. That must be the ultimate end to which our best efforts are devoted. It has been suggested—and wisely so—that this objective is well served by insuring the strength and the security of the United States. The United States was founded and has since lived upon principles of tolerance, freedom, and good will at home and abroad. Strength based on these principles is no threat to world peace. Prevention of war will not come from neglect of strength or lack of foresight or alertness on our part. Those who contemplate evil and aggression find encouragement in such neglect. Hitler relied heavily upon it.

Suggestions for assuring the strength and security of the United States are by no means intended as a recommendation for a race in arms with other nations. Nor do they reflect a lack of confidence in the prospect of international relationships founded upon mutual respect and good will which will themselves be a guarantee against future wars. The development of an intelligent and coordinated approach to American security can and should take place within the framework of the security organization of the United Nations.

In maintaining our strength and our security, the signposts of the war in Europe indicate the directions in which greater assurances may be found. Among these are intelligent long-range planning by the armed forces in close and active cooperation with other Government agencies, and with the continuous active participation of independent

civilian experts in time of peace as well as in war; continuous and active scientific research and technical development on a national scale in time of peace as well as in war; a more adequate and integrated system for the collection and evaluation of intelligence information; that form of organization of the armed forces which clarifies their functional responsibilities and favors a higher degree of coordination and integration in their development, their planning, their intelligence, and their operations; and, finally, in time of peace as well as in war, the highest possible quality and stature of the personnel who are to man the posts within any such organization, whatever its precise form may be—and in this, quality, not numbers, is the important criterion.

The air has become a highway which has brought within easy access every point on the earth's surface—a highway to be travelled in peace, and in war, over distances without limit at ever-increasing speed. The rapid developments in the European war foreshadow further exploration of its potentialities. Continued development is indicated in the machines and in the weapons which will travel the reaches of this highway. The outstanding significance of the air in modern warfare is recognized by all who participated in the war in Europe or who have had an opportunity to evaluate the results of aerial offensive. These are facts which must govern the place accorded air power in plans for coordination and organization of our resources and skills for national defense.

Speed, range, and striking power of the air weapons of the future, as indicated by the signposts of the war in Europe must—specifically—be reckoned with in any plans for increased security and strength. The combination of the atomic bomb with remote-control projectiles of ocean-spanning range stands as a possibility which is awesome and frightful to contemplate.

These are some of the many factors which will confront our national leaders who will have primary responsibility for correctly reading the signposts of the past. It is hoped that the studies of the German war, summarized here, and the studies being conducted by the Survey in Japan, will help them in their task.

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