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SOME NOTES ON THE EVOLUTION OF AIR DOCTRINE

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Military strategy is of all the human sciences at once the most ancient and the least developed. It could hardly be otherwise. Its votaries must be men of decision and action rather than of theory. Victory is the payoff, and is regarded as the most telling confirmation of correct judgment. There is no other science where judgments are tested in blood and answered in the servitude of the defeated, where the supreme authority is the leader who has won or can instill confidence that he will win.

Some modicum of theory there always had to be. But like much other military equipment, it had to be light in weight and easily packaged to be carried into the field. Thus, the strategic ideas which have from time to time evolved have no sooner gained acceptance than they have been stripped to their barest essentials and converted into maxims. Because the baggage that was stripped normally contained the justifications, the qualifications, and the instances of historical application or misapplication, the surviving maxim had to be accorded a substitute dignity and authority by treating it as an axiom, or, in latter-day parlance, a "principle."

The so-called "principles of war" have been derived from the work of a handful of theorists, most of them long since dead. Their

specific contributions to living doctrine may not be widely known, because their works are seldom read, and the dimensions of the original thought may find but the dimmest reflection in the axiom which has stemmed from it. Nevertheless, by their ideas, however much those ideas have suffered in the transmission, these theorists have enjoyed in the most pragmatic and "practical" of professions a profound and awful authority.

Air power is too young to have among the theorists of its strategy more than one distinguished name, and he has carried all before him. The views of General Giulio Douhet would be worth study today even if Air Force thinking had progressed considerably beyond him and away from him, because he would still remain the first to have presented an integrated, coherent philosophy for the employment of air power. But the fact is that air strategists have moved very little beyond or away from him. American air strategists today may or may not acknowledge in Douhet's philosophy the origin of their present doctrine, but there can be no doubt about the resemblance between the two.[1]

We know, however, that Douhet's basic essay, "The Command of the Air" was read avidly in a condensed translation by leading American air officers during a crucial stage (the mid-thirties) in the development of the ideology of the U.S. Air Corps, and that it was warmly

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1 See the one volume edition of Douhet works in English called The Command of the Air (New York: Coward-McCann, 1942), trans. by Dino Ferrari. The title of the volume is that of the first essay contained therein, but other of Douhet's essays are also included.

embraced by its readers.[2] We know that the development of Air Force doctrine followed Douhet not merely in a broad emphasis on strategic bombing, but also through some of the finer ramifications of his philosophy, such as a de-emphasis on fighters, whether for defense or for escort of bombers, and a corresponding emphasis on destroying the enemy air force at its bases. The relative disregard of air combat in official doctrine and planning was something that was distinctively Douhet's, and it is notable because it directly repudiated World War I experience. There are other comparably striking examples of identity -- in fact, no important instances of difference.

It is of course obvious that Douhet's philosophy would not have been embraced so warmly, one might almost say so uncritically, if it had not been so congenial. Ground force and naval officers have certainly not regarded it as self-evidentally true, whether in detail or in broad outline. But for Air Force officers, its emphasis upon an independent mission for the Air Force and upon the sufficiency of that mission to achieve victory could hardly be unwelcome.

Douhet's success with one kind of military service is perhaps the most striking of any theorist in the annals of strategic thinking. The astonishing popularity of Mahan at the turn of the century comes to mind, but Mahan was after all a re-interpreter rather than a creator of strategic concepts. Douhet's strategic philosophy was by contrast wholly revolutionary. His success was instantaneous and

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2 See General H. H. Arnold, Global Mission (New York: Harpers, 1949), p. 149.

complete, not only in the American Air Force but in every air force which had the administrative and intellectual freedom to follow him. That includes the Royal Air Force of Great Britain,[2a] and even the German Air Force. We would suspect that to be true of the latter organization from the way the Luftwaffe conducted itself in the battle of Britain, but we also have the word to that effect of Generalleutnant Adolf Galland:

> "Douhet's ideas met with a great deal of approval in Luftwaffe leading circles before the war. Although in the first phase of organization it was a fighter arm which stood in the foreground, in the second it was unequivocally the bomber. I still remember clearly a period when the talk was all of strategic bombers and one referred with something of pitying condescension to "home defense fighters."

Of course, the German Air Force like all continental air forces, was bound to the ground forces by the tremendous prestige and insistent demands of the latter. But the handling of the Luftwaffe in the battle of Britain, which was supposed to prepare the way for a trans-Channel invasion (Operation Sea Lion), shows how restive it was under German Army and Navy demands. The airmen were determined to fight their own war, and to the best of their ability did so.

The only major air forces which seemed at the time of World War II not to be innoculated with Douhet's ideas were the Japanese and

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2a In a published lecture Marshal of the Royal Air Force Sir John Slessor scoffs at the idea that Douhet had had any special influence on R.A.F. doctrine, but his subsequent remarks unwittingly confirm that influence. He incidentally attributed to Lord Stanley Baldwin the dictum "the bomber will always get through," which, whether or not Baldwin ever actually repeated it, is certainly the heart of the Douhet thesis. Of course it is not remarkable that persons should not know the source of their own ideas, since only professional scholars make a virtue of such knowledge. Slessor's lecture is reproduced in the Journal of the Royal United Service Institution, "Air Power and the Future of War," August, 1954, pp. 343-58.

3 "Defeat of the Luftwaffe: Fundamental Causes, "Air University Quarterly Review, April, 1953, (Maxwell Field, Alabama, Vol 4, No. 1), p. 23.

the Russian, and the reasons for these two exceptions is fairly obvious. In Japan the respective air forces were not only under the dominance of the army and navy organizationally, as they were nominally in the United States, but also the conservative army and navy leaders were in fact in control of the government, which was certainly not true in the United States.

In the Soviet Union, the control of the armed services by the government was absolute and complete. There had been an enormous purge of leading army officers in the late thirties, and in such an environment one does not have novel strategic ideas. The leading military theorist in the Soviet Union was the same man who was also the leading social, political, cultural, and biological theorist, namely Joseph Stalin. There is nothing like having a genius who regards all knowledge as his province. The western world has not had such a one since Francis Bacon, who incidentally also had his say about strategy. And let us not be too contemptuous of the military comprehension of Stalin, who seems to have delved considerably into the work of Clausewitz. One of the major problems we are concerned with today is that of determining how much the new weapons, and the example of the USAF, have stimulated a re-orientation of the air strategy thinking of the present Soviet regime, which now has to depend on assorted lesser geniuses than Stalin.

The contribution of Douhet which commands greatest respect is that he turned upside down the old trite military axiom, derived from Jomini, that "methods change but principles are unchanging." He insisted instead that a change in method so drastic as that forced by the introduction of the airplane must revolutionize all the so-called

principles of war. It took a bold and original mind to conceive that the sacrosanct principles might be outmoded, and a strong and independent will to assert it. He not only asserted it but supported his arguments with remarkably firm and consistent logic. It would be well if we were capable today of the same kind of originality and boldness with respect to the new nuclear weapons.

But Douhet's most avid followers are not under the same compulsion as he to emphasize the violence of his break with the past. Military officers of all services seem to feel obliged to acknowledge allegiance to an ancient orthodoxy known as "the principles of war." The homage is usually towards a vague symbol, but there have also been attempts on the part of Douhet's adherents to mesh explicitly and in detail the new orthodoxy with the old. Douhet himself refused to justify his ideas according to whether they did or did not accord with some inherited gospel. He was much more interested in whether they accorded with the facts of life as he saw them. But perhaps his vision of the facts of life was not altogether uninfluenced by his training. At any rate, although he was too proud of his intellectual independence to appeal to the authority of the old principles where they happened to implement his own views, the fact is that they often did. Thus the controversy over the proper role of air power has often, on its more intellectual fringes, revolved around the question whether the Douhet thesis, or, more loosely, the emphasis on strategic bombing, does or does not conform to the tried-and-true, "enduring" principles of war. On occasion the argument has even proceeded to

exegesis of venerated authorities like Clausewitz, who after all had been dead for a century and a quarter.[4]

Douhet is himself too recent, too controversial, and even too "foreign" to be much of a makeweight in his own name. He is therefore rarely cited in support of a point of view, but a proposal for the use of air power which runs counter to his doctrine, may well be crushed under the ponderous assertion that it "violates all the principles of war."

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What then are these ancient teachings to which appeals are so constantly made? More important, from whence do they derive such commanding authority? We are here concerned with a body of ideas or axioms to which in our own time literally millions of lives have been sacrificed, and on the basis of which within the last decade great battles have been organized and fought. More to the point, we are concerned with a heritage of thought which even today dominates decisions on which the life or death of our nation may

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4 See especially Captain Robert H. McDonnell, "Clausewitz and Strategic Bombing," Air University Quarterly Review, Spring, 1953, pp. 43-54. This article is a reply to the book by Admiral Sir Gerald Dickens, Bombing and Strategy--The Fallacy of Total War, where Admiral Dickens argues that strategic bombing offends against the Clausewitzian doctrine "that the subjugation of an enemy is best accomplished by defeating its armed forces in battle." Replying to this and like objections, Captain McDonnell asserts that what is needed is "a closer examination of Clausewitz' principles"! For a more general effort to equate Air Force doctrine with the traditional principles of war, see also Colonel Dale O. Smith and Major General John D. Barker, "Air Power Indivisible," AUQR, Fall, 1950 (Vol. IV, No. 2) pp. 5.

well hinge.

In the main, the maxims or axioms which we call "principles of war" are simply common-sense propositions, most of which apply to all sorts of pursuits besides war. If a man wants to win a fair and virtuous maiden, he must first make up his mind what he wants of the girl, that is, the principle of the objective, and must then practice the principles of concentration, of pursuit, of economy of forces, and certainly of deception.

Let us acknowledge that common sense principles are valuable precisely because they represent common sense, and are valuable only so long as they are compatible with common sense. There have been all-too-many examples in recent war when a slavish devotion to the so-called principles of war offended against common sense. One might say that slavish devotion to any body of maxims is likely to have t that result.[5] In any case, the low intellectual estate to which these maxims have fallen today does not decently reflect their origin.

Karl von Clausewitz is the first great figure in what might be called modern strategy, just as Adam Smith is the first great figure in modern economics -- to mention a science which is in many respects remarkably analogous. But unlike Smith, whose Wealth of Nations proved to be only the headwaters of a mighty and still expanding river of thought to which many great talents have contributed,

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5 For a more extended discussion of the relevance and irrelevance of strategic principles, see my "Strategy as a Science," World Politics, July 1949 (Vol. 1, No. 4) pp. 467-88.

Clausewitz is also, except for his lesser though impressive contemporary, Antoine Henri Jomini, almost the last great figure in his field. Others may also be worthy of honors and of notice, but they do not challenge his pre-eminence. And indeed it was very difficult to be original in this field after Clausewitz.

Not until two thirds of a century later does anyone appear of anything like comparable stature, and Alfred T. Mahan, by confining himself to naval strategy, put himself into a rather more limited context than did Clausewitz. After Mahan we come to the unique name of Douhet, that is, unique in a separate and new field of strategy.

We are of course skipping over the names of some writers, not many, who would have to be considered in any history of strategic thought. Some of these showed real originality, and others are more important for their influence on their times than for originality or incisiveness. One of the latter is Ferdinand Foch, whom we shall discuss presently.

It is interesting to note that Clausewitz, who was certainly the most profound as well as systematic thinker on war that has yet appeared, specifically rejected the idea that there could be such things as principles or rules. One does indeed find discussed at considerable length in Clausewitz, as in Jomini, most of those basic ideas which were later to be exalted to the status of principles. But what makes large portions of Jomini and especially of Clausewitz come alive today in the reading is not the elucidation of basic ideas or principles but rather the wisdom which these two thinkers, one

profound and the other incisive and eminently practical, brought to their discussion of these ideas. This wisdom is reflected in a flexibility and breadth of comprehension which makes Clausewitz dwell as tellingly on the qualifications and historical exceptions to the basic ideas he is promulgating as he does on those ideas themselves, though of course at lesser length.

Another respect in which the wisdom of Clausewitz is manifested concerns a subject in which his contribution is not merely distinctive but unique. No other theorizer on military strategy, with the possible exception of Mahan, has devoted anything like comparable attention and careful thought to the relationship between war strategy and national policy. Clausewitz's contemporaries, notably Jomini, took the dependence of strategy upon policy so completely for granted that they thought it worth little mention, whereas those who are more nearly our own contemporaries, notably Douhet, lost the point entirely or denied it.

In this regard more than in any other, Clausewitz has had not only the first word, but also practically the last. And in this respect as in all others, the fruits of his brooding intelligence have been not transmitted but rather catalogued in the form of capsular quotations taken out of context. It is especially ironical that some of the very quotations which are often cited to prove that he was the prophet of total or absolute war are wrenched from a chapter in which he specifically insists that "war is never an isolated act" and that military aim and method must always defer to the

political object.

Clausewitz is especially subject to such misinterpretation because of his subservience to the method of the contemporary German philosopher Hegel, whom he apparently studied with great reverence. Thus, only after vigorously building up a case for war being in theory subject to no limitations of violence, he goes on to develop with equal vigor the point that in practice there must be many qualifications to the theoretical absolute,[6] which of course reflects Hegel's well-known method of presenting the thesis, the antithesis, and then the synthesis. This method, plus the natural inclination of a searching mind to feel all round the subject, makes Clausewitz amenable to being quoted on whatever side of an issue one desires, and he has been amply abused in this fashion. Moreover, he is of all the noteworthy writers on strategy the least susceptable to condensation. The efforts in that direction have almost invariably condensed out the wisdom and left the cliches, or rather what have since become cliches.

Let us now consider Ferdinand Foch, not because he fits anything like the same frame that Clausewitz does, but because he

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6 This entire exposition is contained within the opening chapter of his On War, though it is of course amplified throughout the book. The best and most available English translation of On War is that of the Modern Library, O. J. Matthijs Jolles translator.

represents the more recent trend in strategic thought. He reflects on the one side something against which Douhet reacted violently, and on the other and greater side something which Douhet absorbed without question. Foch acknowledged himself to be a fervent admirer of Clausewitz; but where Clausewitz was the philosopher, wrestling with conflicting insights into contradictory truths, Foch was the teacher, determined to inculcate and indoctrinate. His object was not to explore but to explain, which meant inevitably to simplify and to exaggerate.

It must be said that on the battlefields of World War I he unlearned more quickly than most of his colleagues and pupils some of the notions which as a writer and as a lecturer at the French War College, of which he was also for a time Commandant, he had been so instrumental in promulgating. It took real nobility as well as insight for him to say, as he is reported to have said to his staff following the disastrous French offensive at the frontiers at the opening weeks of the war: "Gentlemen, it remains for you to forget what you have learned and for me to do the contrary to what I have taught you." How deeply this conversion went is another question.

We are here interested only in the two main points in which Foch differed from his great predecessor of a century earlier and which are also meaningful for an understanding of the context in which Douhet wrote. First is the apotheosis of the offensive, which Foch and his followers pushed to the ultimate extreme; and second was the almost unconscious development of the

conception that war was an end in itself pursued for its own objectives.[7] Both these points remain of over-riding importance today, and explain much that would otherwise be inexplicable about patterns of military thought.

Foch was hypnotized with the offensive for morale reasons. Victory or defeat was to him not a physical fact but an attitude. One surrendered not because one was defeated, but because one felt defeated. Whatever the material costs, the posture of the attacker gave him the feeling of being the conqueror. Douhet, who wrote after World War I, had reason enough to consider that attitude preposterous, and his rejection of the ground offensive is one of the basic elements of his philosophy. He nevertheless exalted the offensive for aerial warfare, purportedly from strictly technical and physical reasons.

Clausewitz and Jomini had acknowledged that the winning of a favorable decision requires that one ultimately go over to the offensive and be successful in it. But Clausewitz had nevertheless reasoned that the defensive was the "stronger form of war," as evidenced by the fact that it was normally and appropriately resorted to by the weaker side, and, since he carefully distinguished between a defensive attitude and passivity, he insisted that the advantages of initiative and surprise did not necessarily accrue entirely to the attacker. He admitted that an army on the attack derives from the act of attacking a feeling of superiority which stimulates its courage, but "the feeling very soon merges into the

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7 See especially F. Foch, The Principles of War, trans. by de Morinni (New York: Fly, 1918).

more general and more powerful one which is imparted to an army by victory or defeat, by the talent or incapacity of its general." Jomini agreed with him so far as the tactics of battle were concerned. Waterloo was hard to forget. But he did insist that to be on the offensive strategically was always an advantage.

The school of which Foch was the intellectual leader had no patience for even those mild qualifications of the merit of the offensive which Jomini had seen fit to express. Its members exalted the offensive in all its forms, tactical as well as strategic, and refused to be confined by any considerations of circumstance. It was the favored pupil and protege of Foch, Colonel de Grandmaison, who said: "In the offensive, imprudence is the best safeguard. The least caution destroys all its efficacy." Theirs was the religion of l'offensive brutale et à outrance.

Did no one admonish them to consider the machine gun? Possibly so, but it would have done no good. Foch did not deny that on the battlefield the attacker might lose more men than the defending opponent. Since his scholarship was always at the service of his convictions, he pointed to several historic battles in which, as he put it, "the decimated troops beat the decimating troops." Incidentally, if one wants to see how military history can be prostituted to the service of doctrine, it is a good exercise to check Foch's account of Napoleon's conduct at the battle of Wagram with

any of the standard accounts of that battle.[8] This is only one case out of many which suggest that when one hears the phrase "history proves" one should get ready for bad history and worse logic.

Our comment above that Foch and his generation had slipped unconsciously into an assumption of victory being an end in itself cannot be implemented by quoting specific statements. After all a statement to that effect would be too obviously absurd. One sees it simply in the attitude which prevades all of Foch's writings and utterances, and especially in the exaltation of the offensive regardless of cost. And in this, we must remember, Foch was only representative of his time. The British military leaders of World War I, who seem not to have read Foch at all and certainly did not attend his classes, clearly shared his convictions.[9]

We see in the ideas and attitudes just described one important explanation of the greatest disaster of modern times -- World War I. World War I contains lessons which are in many respects more relevant to us today than the more recent war, which was after

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8 Ibid., p. 322.

9 Field Marshall Sir Douglas Haig, when asked by the Prime Minister in October 1918 what he thought the terms of the imminent armistice should be, recommended in victory practically the same terms that two years earlier he had rejected as an unacceptable basis for a compromise peace. The difference was that in 1918 Germany had been "vanquished," a condition that he had several times in his diary specified as being necessary to any peace. See The Private Papers of Douglas Haig, 1914-1919, ed. by Robert Black (London: Eyre & Spottiswoode, 1952), pp. 104, 163f., 252, 294, 333f.

all only the most prominent of a long chain of dismal and catastrophic events which have year by year added proof of how hollow was that victory gained at such terrible price in 1918.

The soldiers of 1914 were not responsible for World War I, though some of their doctrines concerning mobilization clearly made it more difficult to prevent. The war would in any case have been costly, but certainly the doctrines which ruled the western allies and especially the French general staff made it far more costly than it need have been. Any war inevitably means killing and great loss of life, but World War I suggests that it makes a good deal of difference how it is fought. The generals of both sides were imbued with the idea that "war contains its own logic," and that the single object was to win, forgetting that for the nation the word "win" must carry a meaning beyond the mere collapse of the enemy.

On the allied side, especially among the French, there was in addition the religion of the offensive, which the Germans shared but with notably less fervor. The allied captains were always preoccupied with what they were doing to the enemy, never with what they were doing to themselves. In a long series of dreadful and futile offensives designed only to "wear out the enemy" they sent to destruction those millions of young men whose existence was so necessary to give meaning to any victory. They were contemptuous of the politicians because the latter were concerned with casualty rates. And in their contempt they succeeded in imposing on themselves about twice the rate of casualties they imposed on the Germans.

We must always remember the Douhet offered his thesis as a superior alternative to the insensate bloodbaths of World War I, which destroyed the real fruits of victory in the pursuit of the mere symbol of victory and which Douhet condemned in two of his most eloquent chapters.[10] And let us remember too that the soldiers of World War I were professionally competent men. It was their horizons rather than their skills which proved so disastrously limited. They were confident they had the right answers, and there is nothing in the stars which guarantees our own generation against comparable errors.

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In our own time we have witnessed the ultimate segregation from the other military arts of the pursuit of military history, which used to be the essence of theoretical study in strategy. Military history has now been turned over entirely to professional civilian historians, working either privately or under the employment of the services. The result has no doubt been better history, but also a profusion of volumes and monographs which the professional officer has neither the time, the incentive, nor the training to master. One natural result has been the divorcement of

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10 Chapters I & II of "The Probable Aspects of the War of the Future," contained in Douhet, op. cit., pp. 148-77.

doctrine from any military experience other than that which has been intensely personal with its proponents. That fact helps to explain the persistence of deep controversies where each side implements its arguments with historical "facts" which, whether or not accurate in themselves, are almost always distorted in being wrested out of context.

World War II was certainly the best recorded as well as the best reported war in history. It is not the availability or lack of availability of the pertinent facts, but rather their volume, and the magnitude of the event they describe, which makes it so difficult to form a just appraisal of any one campaign in the light of its total context. Naturally, the problem is made a good deal easier if one is emotionally committed to certain convictions which one wants to prove.

World War II brought Douhet's doctrines their first major test. Before we consider the results of that test, it might be well to summarize as briefly as possible the gist of his thought, which was far from being simply an advocacy of the kind of strategic bombing that was to develop during the war. His was a well-integrated philosophy, argued with exceptional internal consistency and built up with impressively rigorous logic. If anything was wrong with his system, the fault lay not with his reasoning but with his premises.[11]

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11 The best source in English for Douhet's ideas is of course the volume of his writings cited above. But a short substitute is my critical summary, "The Heritage of Douhet," Air University Quarterly Review, Summer 1953 (vol. VI, no. 2), pp. 64-9, 121-7.

Douhet rested his thesis fundamentally on what he deemed to be the contrasting situations on land and in the air. In land warfare the defensive had proved itself (in World War I) vastly superior in intrinsic strength to the offensive, and this superiority, which resulted from improvements in fire power, was bound to progress further in the future. Ground fronts would therefore be static henceforward. In the air, on the other hand, the offensive was absolutely supreme. And since Douhet attributed an enormous destructive potential to a modest weight of bombs, and also believed civilian moraleto be altogether incapable of facing up to bombing attack, he concluded that victory would be won, and quickly, by the side which was able to get command of the air and attack the opponent's sources of strength at home. Command of the air was won not by fighting it out in the air, since interception was wasteful of resources and could not be relied upon, but by bombing the enemy air force at its bases. Air defense in all its forms, including interceptor aircraft, was futile and wasteful, both because it was vulnerable to bomber action and because the end would come too quickly to permit the attritive effects of air defense to develop. The quick end also enabled one more perfectly to ignore the land front.

From these premises and propositions one could only deduce that the major portion by far of the nation's military resources should be concentrated in its air arm--the land and naval forces needed only enough to carry out their easily accomplished defensive

function -- and that the air arm should be comprised entirely of offensive forces dedicated to what we would now call strategic bombing. His operational slogan was: "Resist on the ground in order to mass [and attack] in the air."

And how did these theories fare in the great test? The answer to that question depends on the level of generality on which one seeks confirmation. If we disregard for the moment Douhet's overall vision (which prompted the effort that was put into strategic bombing) and consider only his specific assertions (which considerably influenced the way the effort was expended), it is clear that in World War II Douhet was proved wrong on almost every important point he made.

Let us be clear that World War II was a fair test. It began fully eighteen years after his Command of the Air was first published and thus after considerable advances in the technology upon which Douhet has rested his thesis. And while none of the belligerent governments was anything like fully committed to his ideas, it is nevertheless a fact that the bomber fleets which ultimately took to the air were vastly greater, by several orders of magnitude, than those that Douhet thought would be sufficient to win a decision in a matter of days. The tonnage of bombs dropped within Germany alone were in wholly different realms of figures from those which populated Douhet's fancies.

Yet the evidence that the Allied bombing of Germany made a really critical contribution to the winning of the war is on the

whole fairly equivocal.[12] Certainly it is clear that whatever important military results followed from the bombing did not come quickly, and as we have seen, speed of decision in the air battle was vital to the integrity of the Douhet argument.

On more specific issues the tally of findings against Douhet is impressive. First, land fronts proved to be anything but static. Whole nations fell before strategic air attacks could fairly begin. Secondly, the fact that bombing could not bring anything like the swift returns that Douhet dreamed of and that vastly greater tonnages than he called for were necessary to bring any returns at all meant inevitably that defenses against air attack proved far more effective than he expected. Douhet did not deny that fighters could shoot down invading bombers, but he was able to postulate a situation where an attacking force could lose one-third of its strength on the first day of a war and then go on to win.[13] In World War II, where the bombing campaigns were trucking operations requiring repeated hauls by any one aircraft, attrition rates of 5 to 10 per cent could be serious to the attacker. The Battle of Britain resulted in an outright victory for the defense, and it does no good to say the attacking Germans "did not understand air power"; they were at the time quite

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12 For an evaluation of our World War II bombing experience, as reconstructed mainly from the U. S. Strategic Bombing Survey, see my "Strategic Bombing: What it Can Do," The Reporter, August 15, 1950, pp. 28-31.

13 In his fictional projection of a future war entitled The War of 19--, contained in the above cited volume, pp. 293-394.

literally following Douhet's precepts. The Allied assault on Germany resulted in a complete Allied victory in the air, but it was touch and go during more than one phase of the operation, and if the Germans had played their hand better--for example, by pushing rocket and jet fighter plane production--they might have made our losses prohibitive. Even the antiaircraft gun, which Douhet so much despised, enjoyed the considerable respect of bomber crews.

The assault on Japan was another kind of case. As a test of Douhet's ideas it was vitiated in several ways, particularly by the fact that Japan was a defeated power--and recognized to be such by her military chiefs, especially of the Navy--before our strategic bombing campaign was well begun. That is not to say that the bombing did not pay dividends; it certainly induced the Japanese leaders to acknowledge their defeat by surrender. But the origin of the defeat lay in other realms of action. In both Germany and Japan, the effects of bombing on civilian morale, and the effects of depressed morale on the strategic decisions of the leaders, turned out to be far less than Douhet predicted.

In one important respect, World War II was a better than fair test for Douhet, because there was for four years as static a land front along the Channel as could possibly be imagined, and this for reasons the exact opposite of those that Douhet presented. The surface stalemate in the west resulted not from the strength of the ground defensive, but from the swift and overwhelming

offensive in 1940 of the German armies, which defeated the French and cast the British armies out of Europe. At the same time, the gigantic land and naval operations taking place in other parts of the world, especially eastern Europe, gave an enormous assist to the effectiveness of the allied strategic bombing in at least two ways. First, that fighting absorbed huge German resources which might otherwise have gone into the defense against our strategic bombing. Secondly, it put an enormous strain upon the German military economy, thereby making the German military posture far more sensitive to the effects of destruction from the air than it might otherwise have been.

If we were considering World War II as a test of strategic bombing per sé rather than of Douhet's particular theories, some things would have to be said on the other side. First, we learned the importance of proper target selection and of the dependence of that selection on good intelligence. The two target systems which really paid dividends were, first, German oil production and associated chemical industries, and secondly, German internal transportation. Both systems were attacked late in the war, the latter almost at the very end. One of the reasons we attacked oil installations as late as we did -- the big attacks did not start until May and June of 1944 -- was that we had all along assumed the Germans had oil stocks which in fact they did not have. Douhet did not prepare us for those lessons; he almost entirely neglected the importance of target selection and of associated intelligence.

Also, we learned after the war that the attack on enemy morale had been in the net a waste of bombs, which means a waste of perhaps half the total tonnage dropped or more. This was an error which Douhet helped to propagate. The effects of the bombing on enemy morale were not trivial, and they are certainly a complicated thing to analyze; but it is abundantly clear that the deterioration of enemy morale resulting from bombing did not have important effects on military operations or on the outcome of the war. Finally, we learned that it was most important to overcome enemy air defenses, which meant, among other things, considerable dependence on escort by long-range fighters. Assuming we could apply those lessons to another strategic bombing campaign otherwise falling under World War II conditions, our stratigic bombing might have far more positive results and certainly achieve them more quickly than it did in that war. That is not the same as saying that Douhet's theories would be confirmed, except in grossest outline.

Let us also remember that in World War II strategic bombing returned important indirect results besides its direct ones. And it was, after all, the only way we had prior to the landings on Italy and Normandy of striking at German power in Europe, and doing so while it was so heavily engaged against the Red Army.

Thus, one should be inclined to doubt the trite expression that generals always want to fight the next war in the way they fought the last one. If our Air Forces were guided by a consideration of their greater successes as against their lesser successes

in World War II, they would today favor emphasizing tactical as against strategic bombing. There was hardly a more awe-inspiring success in World War II than the air operations in preparation for and attendant upon Operation Overlord, the landing on Normandy. The fact that the emphasis continues to be on strategic bombing is certainly not proved wrong by the experience of World War II, because the weapons and circumstances of today are vastly different from those of World War II; but it does recall Samuel Johnson's observation on the second marriage of a widower as representing "the triumph of faith over experience."

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But now we must consider the effect of nuclear weapons of all sizes and in large numbers upon the Douhet philosophy. Surely if it had not been for the atomic bomb, other advances in the technology of our time would have caused the Douhet thesis to die a natural death. Long-range bombing today would have to be done by jet bombers, which are much more costly to acquire and to operate than World War II types. We have very reason to suspect that even with jet bombers attrition rates in deep penetration sorties would be materially higher than they were in World War II. And in view of the very much longer ranges over which strategic bombing against the Soviet Union would have to be carried on, the H.E. bomb load per unit of sortie cost would fall absurdly low. Even if we could

make every bomb dropped count for more than it did in World War II because of better techniques and more knowledge about target systems, it is hardly possible that we could win a war against the Soviet Union predominantly, let alone exclusively, by strategic bombing with H.E. and incendiary bombs. We might in a test find that strategic bombing even as a totally ancillary activity simply did not pay, except perhaps as a demonstration. The same would be even more true of guided missiles, because of their lesser accuracy, if they lacked atomic warheads.

As we have pointed out, one critical cornerstone in Douhet's philosophy was his assumption of a very high yield of destructive effects from a small weight of bombs. This was proved wrong in World War II, but the fission bomb came along to rescue Douhet from that error and also to compensate for the much larger attrition rates that we should now have to expect. This was a rescue of a completely unforeseen kind, but a rescue nonetheless. It is unquestionably a triumph for Douhet that he was able to create a framework of strategic thought which is considered by many responsible airmen to fit the atomic age astonishingly well.

Let us go back to a period about three or four years ago. At that time our nuclear stockpile was much smaller than it is now, but what we had represented a monopoly. We did not have the necessary ground forces to make even a show of protecting Europe, and we clearly did not have the nuclear weapons necessary for large-scale tactical use if we were to carry out any strategic bombing

mission at all. At that time, and for a limited period, we had no available alternative to a Douhet-type strategy. Whether that strategy would have been successful in a test is another matter. There is no point in speculating on it now. The real question is: does that situation still apply?

Certainly the enormous development of our military power since that time, and the rapid growth of our nuclear stockpile, suggest that now we may have alternatives. One point that Douhet overlooked might have been suggested to him by the World War I experience with naval blockade. The effectiveness of the naval blockade was greatly enhanced by the huge land battles that caused the Germans to consume so much of their military substance. No doubt Douhet overlooked it because he was so sure that the effects of the strategic bombing mission, and hence the end of the war itself, would come swiftly. But the relationship between strategic bombing and surface action has tended in the past to be reciprocal. The large-scale consumption of military commodities in ground action unquestionably makes the military economy more sensitive to hurt from the air.

And yet, developments have moved so rapidly that perhaps even this argument is already obsolete. With large numbers of atomic weapons, and especially with thermonuclear weapons, we do not have to concern ourselves with the sensitivity of the enemy war economy. Certainly we no longer have to concern ourselves with the finer

points of target selection. General obliteration takes care of both sensitivity of the economy and discrimination concerning targets.

But now a quite different problem arises. The atomic bomb saved Douhet from oblivion. But it no sooner appeared than it began to be spewed forth in such numbers and began to wax so great in size that it now threatens to go much too far in redeeming him from his errors. Perhaps, it is threatening to destroy his philosophy with utter finality. For we can no longer bask in the comfort of monopoly. Have we really considered what that change means?

Douhet's thesis rests on the argument that command of the air will be won very quickly, after which the winning side will have little to fear from the enemy's air power. And what happens during the brief struggle for command? Let us quote the relevant passage:

> "Viewed in its true light, aerial warfare admits of no defense, only offense. We must therefore resign ourselves to the offensives the enemy inflicts upon us, while striving to put all our resources to work to inflict even heavier ones upon him. This is the basic principle which must govern the development of aerial warfare."[14]

This idea is really quite sound in an age of H.E. weapons, but how does it look in an age of thermonuclear ones? What are we resigning ourselves to? Is it a military pinprick, or is it

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Douhet, op. cit., p. 55. The italics are Douhet's!

national disaster of an unmitigated sort? And supposing we do achieve "command" in Douhet's sense. Douhet conceded that command could never be complete in the sense that the enemy was deprived of all capability of flying; but he insisted, quite rightly for his weapons assumptions, that a small capability would do the enemy little good. But suppose that small delivery capability is associated with H-bombs? And what happens when long-range ballistic missiles with thermonuclear warheads come into being? Then there will be no such thing as command of the air.

This brings us to what seems to be the crucial fallacy in the Douhet position for today's world. It is the unquestioning and almost unconscious assumption, which he shared with Foch and other World War I commanders, that war is an end in itself, ruled by a logic of its own, and fought for nothing outside itself. This idea naturally implies that every modern war must inevitably be a total war, which must now mean pretty nearly total destruction. There is nothing right or wrong but thinking makes it so, and if all our military leaders, and the enemy's too, are firmly wedded to such a conception, then of course it must be true -- because they will make it true. The Korean war did not turn out that way, but for that very reason it seemed to baffle us completely.

So long as the view persist in high military and political circles that <u>any</u> war which brings the Soviet Union and the United States into direct and open conflict <u>must</u> be total, so long will

preparatory measures be adopted which insure that the opening of hostilities do in fact precipitate total war. It is obvious that one of the great inducements to the American leaders to keep Korea limited was precisely the desire to maintain a favorable posture in the event of a more direct challenge in a more important region.

We must therefore proceed to rethink some of the basic principles, which have become hazy since Clausewitz, connecting the waging of war with the political ends thereof, and to reconsider some of the prevalent axioms governing the conduct of military operations. What are suitable political objectives to be sought through military action in crisis situations, and what are suitable military measures for bringing them about? Above all, what are the available instrumentalities for assuring that military action does not proceed beyond the suitable? If our strategic air force is a retaliatory force, as is so often asserted, what kinds of action will it retaliate against?

We are now obliged to turn against Douhet the very same castigation which he so eloquently hurled against the French general staff of World War I. What did they think their nation was fighting for? Certainly not the destruction of its future. The difference between then and now is a difference in the magnitude of the disaster we have to consider. The capacity of the French general staff to sacrifice the resources of their nation through the obstinate application of a fanciful doctrine was after all limited. They could burn up only that manhood of a given age

group among their citizens who were relatively sound of mind and limb. They could consume the commodities produced by their economy, but not the economy itself. The comparable power of the modern military planner, on the other hand, is for all practical purposes unlimited. He can guarantee a kind of war, which, because of the very exclusiveness of his preoccupation with what he is doing to the enemy, assures us of like destruction.

One cannot assert that the Douhet conception, which obviously still guides our thinking and decisions on air strategy, is clearly wrong for today's world. But it is legitimate and necessary to point out that vast and dire changes in circumstances are occuring before our very eyes, and that it is dangerous in the extreme to hold rigidly to the idea that all these changes merely implement and do not challenge a conception developed before these changes could be in the slightest degree foreseen. Douhet himself would not have done so. He was much too imaginative and original for that.