

Air Power and the Modern World, Jeremy Black

“We were very young in those days” is the most weighty phrase near the beginning of *The Case of the Constant Suicides*, a novel by the major Anglo-American detective writer John Dickson Carr. Published in 1941, this novel begins in London on September 1, 1940, before the heavy German air attacks on the city had started: “An air-raid alert meant merely inconvenience, with perhaps one lone raider droning somewhere.” By 1941, as today, the experience of bombing was very different, although not as different as it was to be by the end of the war in 1945. Bombing by 1945 had become a key experience notably of urban life, both in Europe and in East Asia. Refracted through the media and the arts, the civilian experience has to be remembered as a backdrop to the discussions about effectiveness and practicality, although it was far from the only backdrop.

Air power has played a key role in the military history of the last century, both independently and affecting land and sea conflict. Air power has been particularly important at the tactical and operational levels. It has also been seen as a strategic tool, even if bringing this element to fruition has proved very difficult; and difficult, moreover, for the range of states that have sought to pursue this means. The debates about what air power can provide have taken considerably different directions based on whether the army was the dominant service and the degree to which the air force was independent. These issues raise questions not only about how best to present the history of air power, but also concerning its past and continuing rationale and relevance. Air power, especially if missiles are included, has always appealed to those who are looking for “the modern,” the “latest and the greatest,” and for a strategic “magic bullet.” However, the accounts of contemporaries about effectiveness, and the hopes of the advocates of air power, have frequently proved misplaced, and often seriously so. This is the case both for the military outcomes of its use and for their political consequences.

Nevertheless, despite the problems confronted in adapting circumstances, learning lessons, coping with the pressures of commitments, and responding to fiscal exigencies, air power has dramatically changed equations for firepower and mobility. More specifically, both in its own right, and as part of combined air operations, air power has made manoeuvre warfare a more central part of conflict. As a result, air power has greatly increased the tempo of war as well as its potential deadliness.

As with armored warfare when it was introduced in the 1910s, the perception of the capability of air power and its reality were very different. This was also true for fears of what it might mean for warfare. There is generally a poor understanding of the reliability of aircraft systems. In practice, the more complex a system, the less reliable it is. And there is the issue of appropriate use. Thus, air power is not a panacea. However, in one particular respect, air power fulfilled the hopes of some early

advocates. Thanks to the successful integration of reconnaissance information with artillery, aircraft helped overcome the relative stasis of First World War land operations. In doing so, aircraft helped restore mobility and, at least, a sense of results to ground operations, although this achievement was heavily qualified in terms of outcomes. In the 1918 Allied victory on the Western Front, more was due to the effective use of artillery incorporating the advantages of air-derived information than to new weapons, whether tanks or aircraft, operating in ground support roles, let alone to long-range bombing. Nevertheless, air power indeed proved part of the equation in translating advantages into the ability to defeat opposing forces on the ground, as it also did in 1918 with the British success against the Turks in Palestine.

This factor remained important in the understanding, presentation, and use of air power. All of the combatants in the Second World War believed in the value of air dominance or supremacy and in its impact on operations on the ground, even if not all pursued the latter with the immediacy understood by the term ground support. Indeed, the stress on the war-winning dimension of air power encouraged Britain and the United States, neither of which saw their army as war-winning, to focus not on ground support but on gaining an air dominance that could be used for strategic bombing campaigns against their opponents' home countries, rather than, at least as primarily intended, to affect operations on the ground. However, the latter was also an objective, even if the relationship between strategic bombing and theatre dominance was frequently somewhat unclear in practice.

These goals and priorities were not static. They were affected by resources, opportunities, doctrine, and the ability to respond. Thus, the American ability to demonstrate flexibility and rethink the situation, and to plan and produce accordingly, led to the development and use of a long-range escort fighter capability. Similarly, in large part in response to Japanese advances in China and in the Pacific, the Americans moved their focus for air attacks on Japan from China-based aircraft to those operating from Pacific bases, and this had significant strategic and operational consequences. Ground-support proved more significant from the outset for militaries that were reliant on their armies for war-winning, rather than on strategic bombing. This was the case in the Second World War for Germany, Japan, the Soviet Union, and China.

The demonstration of air power in the 1940s challenged the traditional geopolitical dichotomy of land and sea. Contemporaries, such as Carl Schmidt in *Land and Sea* (1942), argued that this would revolutionize geopolitics. The range and tempo of geopolitical rivalry was certainly different. During the Cold War, contrasting national legacies, priorities, and opportunities very much affected the protagonists. The United States and Britain continued to place an emphasis on strategic bombing, one greatly enhanced by the availability of nuclear weapons. In contrast, although the Soviet Union had effective long-range bombers, unlike during the Second World War, the stress there was on ground-support.

In China, the stress was also on ground-support. There, the legacy of the Second World War—when air operations in China against Japan had been handled by the Americans—was compounded by the revolutionary character of Maoist military thought. In particular, Mao Zedong, in his emphasis on guerrilla warfare, took farther the anti-technological/weaponry emphasis of early Communist ideas and their conviction of the value of the revolutionary masses. This emphasis remained central to Chinese Communist military thought until the 1990s, even though, under Mao, there was a commitment to new weaponry, certainly in the forms of jet aircraft and of missiles with atomic warheads.

Mao's ideas did not bring victory over the American-led UN forces in the Korean War (1950–1953), but an emphasis on will, mass, and negating the technological advantages of the other side all proved significant across the world in the anti-Western insurrectionary struggles of the late 1940s to the mid-1970s. In practice, success or failure for the insurrections proved more complex in its causes and contexts, both militarily and politically, as the Vietnam wars, among others, showed. Moreover, when applied, in part or whole, later, these ideas met with mixed success, as in the case of Saddam Hussein's plans in 2003 for resistance against American attack.

Nevertheless, the problems latent in employing air power in COIN, or counter-insurgency operations, were present from the outset. Tactical and operational limitations, including maintenance, logistics, and the security of air bases, were matched by strategic counterparts, notably the difficulties of ending insurrections; in short, of translating battlefield advantages into outcomes. The latter problem highlighted a disadvantage not only of air power but also for operations of the regular military as a whole. This problem, more generally, affected asymmetrical warfare, a type of warfare that could be waged against regular militaries by conventional forces as well as by irregulars. At the close of the period, this issue remained a key element in the equations of force.

However, the limitations, both of air power and of conventional military methods, did not equate with uselessness; even if a cost-benefit analysis of air power could be bleak, notably due to the rapidly rising costs of cutting-edge aircraft, munitions, and the support system of air power. Indeed, it would be mistaken to treat air power simply as a lesson in failure. The hopes of its advocates were frequently misplaced, notably in terms of outcomes or political consequences, but air power has both become the key means of power-projection and the most deadly and rapid form of delivering force at a distance.

Moreover, in the period since the 1960s, a period when debates over the ethics of war and, specifically, bombing, became more critical, air attack has, in fact, become more accurate and thus less deadly. The increased use of precision weaponry has combined with a much-improved intelligence and targeting capability, notably for the leading air powers. Targeting policy, furthermore, is driven in part by a determination to limit collateral damage. As a result, civilian casualties and collateral

damage have fallen. The contrast between Vietnam in the 1960s and Afghanistan in the 2000s is highly instructive, although critics of the use of air power in Iraq and Afghanistan made reference to the strategic bombing of the Second World War. Napalm, which was used by the United States in large quantities in the Vietnam War (388,000 tons of napalm bombs, compared to 16,500 against Japan and smaller quantities against German troops), was no longer acceptable, and there was controversy over the use of napalm-like incendiaries in the 2000s in Iraq. This is curious, as the notion that bullets and bombs are less unpleasant is flawed, while incendiaries have been a part of warfare since at least the deadly employment of Greek fire in Antiquity.

Values vary: at the same time as the number of civilian casualties due to Western bombing has fallen, in Syria there has been the deliberate bombing of civilians. At the same time, bombing could be presented as an exemplary process. In February 2015, Egyptian state television showed footage of F-16s taking off to bomb Islamic fundamentalist sites in Libya, as a statement was read on the air that included “We stress that revenge for the blood of Egyptians, and retribution from the killers and criminals, is a right we must dutifully enforce.” Egyptian planes hit training facilities and munition sites close to the town of Derna. For Western powers, alongside the determination to keep civilian casualties at a minimum, the problems of identifying belligerents and differentiating them from civilians remains serious and have become more prominent. Discussion of the morality and legality of using drones to kill from a distance is a new aspect of the already-established debate about the ethics of air power. It is instructive to contrast such criticism, directed most prominently at the United States and Israel, with the large-scale killing of civilians by other means, including ground attacks, terrorism, ethnic cleansing, and sanctions. This contrast underlines the extent to which bombing, throughout, has been responsible for a minority of civilians killed, possibly 5 percent, for example, in the Second World War. It is also necessary to underline the difficulties caused by the determination of opponents to locate military facilities among the civilian population, an illegal practice seen for example with North Vietnam during the Vietnam War, and again with Hamas in Gaza in 2014 while in conflict with Israel.

Whatever the public discussion and context, the viability of air power was generally considered by governments and military planners with reference to issues of cost and effectiveness. This consideration was a continual process as funds were contested and allocated and plans debated and drawn up. At the same time, it was a process affected by broad assumptions, as well as by the pressure of circumstances. In the first, air power benefited in its early decades by being new and apparently all-possible, both because it was new and in the sense that claims made on its behalf could not be readily assessed and questioned. However, from the late 1950s, air power, in the shape of manned flight, risked the fate of obsolescence at the hands of unmanned flight, first from missiles and subsequently from drones. Indeed, in 1957, a British defense review, *Defence: Outline of Future Policy*, proposed the ending of manned aircraft in the face of the potential of missiles.

Such ideas vied with those of the continued value of such flight, notably if considering non-nuclear warfare, although in practice missiles could deliver firepower in this sphere and became more effective. Alongside doubt about the value of manned aircraft, there was a trajectory of success that invited attention and citation. In particular, there was a clear link between the Israeli successes in 1967–1982 and the Western confidence in air power in 1991–2003. Not only could air power provide superiority over air opponents, as with Iraq in 1991 and 2003, but it also offered clear advantages for the expeditionary warfare and interventionist operations of the period, notably swift deployability, asymmetric capability, integration with land forces, and targeted destructiveness. The focus in the 1990s on success through air campaigns was a logical extension of the earlier emphasis on strategic bombing. In the United States in the 1990s, there was a military doctrinal debate after the Gulf War with Iraq about what was termed the “halt phase.” The air force argued that it was capable of halting a major conventional advance on its own before the onward movement phase. The army had a different opinion, and a rich body of literature, derived from a considerable body of modeling and simulation, crystalized many of the arguments. However, much of the related rivalry centered around a general conventional scenario that largely was put aside after the 9/11 attacks.

Separately, the conflicts in Afghanistan and Iraq served to demonstrate anew the value of air power alongside the difficulty of translating power-projection and force-delivery into a successful military and political outcome. Ideas of the obsolescence of manned aircraft were queried anew during the crises of 2011–2016 from the East China Sea to Mali. Each crisis underlined the significance of manned aircraft. Repeatedly, indeed, arguments from operational experience have fuelled the optimism that many had regarding air power.

As of the present, air power has confirmed, not challenged, the overall ranking of military strength, even if it has not enabled that strength to operate as effectively as had been proclaimed and as might have been anticipated. At the higher level, air power, like space power, has greatly changed global-reach capabilities, but has not changed the way the global system operates politically nor radically altered the concentration of military capabilities. Britain and the United States, successively the leaders in sea power, became (so far), successively the leading air powers (especially, as it should be, if naval air power is also part of the equation); albeit subject to short-term intense challenges as well as to more lasting questions about their successive effectiveness as the leading state and about the effectiveness of air power. These leading powers have been technological leaders and, like other states with cutting-edge technology, have tended to rely, at least in part, on air power as a function of their economic and technological advantages, whether or not the results have encouraged the process. Moreover, the arrival, and, even more, diffusion, of new technologies suggested that air power in the shape of unmanned aircraft has a great potential. Air power therefore very much continues to be part of the military agenda.