The Big Concept Safari:
Another Look at Strategic Bombing and the RMA

by

Maj Angela Maria Lungu, USA

Introduction

> For a zoological comparison, there is a sense in which scholars are High Concept Hunters ever on safari in hope of capturing Big Concepts which clients can display in captivity. There is always a market for the big organising [sic] idea. The idea does not have to be original, but it does have to be inclusive—indeed to the point where it can be hard to identify what it excludes—somewhat unfamiliar, arguably neglected (ever if for excellent reasons), and it should sound deep and significant. It would be difficult to discover a concept that appears higher than the idea of a revolution in military affairs; truly this is the High Concept for which the marketing department for strategically digestible and orderly history has been waiting. (Gray, 8)

Historians and analysts often compile lists of significant military innovations, label them revolutions in military affairs (RMAs), and get on with their business of analyzing the way of the future. Usually among the top of this list is strategic bombing, yet, given the current trend for identifying innovations, evolutions, and revolutions, this deserves perhaps a second look, if only to use this case as a stepping point to highlight the necessary elements of RMAs for future identification and to prevent reckless bantering about of important terminology.

Although a significant military development and possessing Krepinevich's four elements of an RMA, strategic bombing by itself failed to produce a dramatic increase in the combat potential and military effectiveness of armed forces, and thus was not a true RMA. This is evidenced in the five major conflicts after the development of this operational concept. A further characteristic is the displacement of "formerly dominant elements of military power, including weaponry, weapons platforms, and doctrines" (Krepinevich, 30) and the "marginalization of traditional systems, missions, and organizations long-cherished by the armed forces" (Krepinevich2, 2). This also failed to occur with the advent of strategic bombing, although the concept has remained popular for political reasons based initially in the Douhet model of inflicting high costs to shatter civilian morale (Pape, 60) and, more recently, for avoiding casualties, both friendly and enemy.

This paper first defines RMA, and then applies the essential elements to the concept of strategic bombing. Finally, several cases are examined to determine the effectiveness of strategic bombing as a concept to strategic concept to accomplish policy objectives, as

well as to determine whether the strategy achieved a determinant comparative advantage.

Revolution in Military Affairs

Andrew Krepinevich, a recognized figure in the ongoing RMA debate, defines several elements of an RMA. They are (1) technological change, (2) systems development, (3) operational innovation, and (4) organizational adaptation. Additionally, although each element is necessary, they are not sufficient by themselves "for realizing the large gains in military effectiveness that characterize military revolutions and advances in technology alone do not constitute the revolution…The phenomenon is much broader in scope and consequence than technological innovation, however dramatic" (30). The former Director of Net Assessment also notes that "the new methods of warfare will be far more powerful than the old," adding to Krepinevich's assertion that RMAs often displace the previously dominant systems and tools of warfare.

Strategic Bombing

The purpose of strategic bombing is to either harm enemy civilians in order to decrease morale and motivate them to force their governments to end the war, or to damage an enemy's war economy to the point that sufficient production cannot be maintained to continue the war successfully. The goal of both the Douhet model and the US industrial web theory is to cause general social collapse (Pape, 46, 60).

The technological change that launched strategic bombing was the development of long-range or heavy bombers and supporting technologies such as long-range escort fighters, radio navigational aides, and radar. Beginning with German Zeppelin raids on England in the 1914-15 period, technology progressed to more adept aircraft in 1917 by both Germans and British. Civil aviation development, on the other hand, played a much larger role in the US (military technological revolutions, MTRs, typically borrow technology from the commercial sector), particularly when supported by the government. By the late interwar years, German, British, and US aviation technologies had matured to a significant level, the first element of an RMA.

The second element—systems development—occurred with the integration of existing military systems such as communications (radios), weapons (bombs), and intelligence agencies and systems (targeting, decryption), as well as large-scale economic mobilization (industry and labor) (Murray, 99-101).

Although all three countries evidenced operational innovation in applying the technologies, their environments influenced them differently. The British RAF strategy was based on the Luftwaffe threat and geography, and survived as an independent military force despite political malaise and economic problems. American geography played a large role by forcing the technological development of long-range aircraft to push far offshore, and the great distances made civil aviation a necessity for travel within the US. Government support and American industry also provided an economic base, which further encouraged innovation. The Germans, on the other hand, were

initially far more constrained due to the Treaty of Versailles. As Dr. Arquilla observes, late entry is not always a disadvantage, and in some cases imitation may, in fact, be better, since investment in early equipment may result in expensive and obsolete inventory (Arquilla, lecture). Despite the constraints (or because of them), the Germans invested "eagerly" in aviation technology. Geography, here, too, played an important role, causing the Germans to focus operationally and primarily on continental reach.

The fourth element is that of organizational adaptation. All three countries evidenced changes to their organizational structures, with the authorization of the RAF in 1917, followed by the Luftwaffe and Army Air Corps. Once again, the factors described earlier also influenced the development of these organizations, which will not be discussed in any more detail, other than to note that these represented significant organizational changes to the existing structures.

Thus, the first four elements exist for the case of strategic bombing as an RMA during the interwar period. The last element, however, is the most critical: that of effectiveness. Continuing Gray's analogy, "scholarly RMA find that for which they are looking. Who is to say whether a candidate RMA truly is such or whether it is instead some lesser, or greater, breed of change?" (Gray, 49). The critical element in determining this is the level of effectiveness.

Clausewitz's intervening variables made the difference between war in theory and war in practice. Similarly, the four elements of an RMA, by themselves, do not incorporate intervening variables. The resultant effectiveness of the purported RMA is the final determinant, incorporating such variable s as interaction and adaptation (primarily on the part of the adversary) as well as political, social, economic, and other factors of uncertainty and chance. For this reason, it is critical to determine the effectiveness of strategic bombing in translating military strategy into a more appropriate policy match, as well as the relative success in achieving a comparative advantage. Although Dr. Handel warns, "in strategy, the results are never final"(lecture, 17 Aug 00), the effectiveness of strategic bombing in the Second World War, Korean War, Vietnam War, Persian Gulf War, and in Kosovo is important in determining whether all the conditions for an RMA exist.

Effectiveness.

In the Second World War, the Allies' objectives in Germany were to conduct a direct assault on enemy civilian morale and deny Germany's war industry its work force. British and American strategic bombing did, in fact, according to extensive studies by the US Strategic Bombing Survey, erode German morale, to include the morale of soldiers at the fronts, and somewhat increased work absenteeism in the later part of the war, but it "largely failed to achieve their central purpose of denying labor to Germany industry"(Hosmer, 8). Allied objectives in Italy were to break civilian morale and induce the government to sign a peace agreement, while the objectives in Japan were to weaken Japanese capacity and will to resist US amphibious landings on Japanese home islands and force them to surrender without an invasion. Allied bombing (limited in Italy), however, was the not the sole reason for the Japanese surrender, although it did speed

and influence Italy's agreement to make peace and surrender, since both Italy and Japan had suffered repeated battlefield defeats. This, rather than strategic bombing, was the primary cause of their surrenders (Hosmer, 9).

In Korea, the UN objective was to leverage for Korea to end the war, but the political constraints against direct attacks into China or the USSR limited strategic bombing. In 1952, General Clark began an air pressure campaign, which, with the nuclear threat, turned out to be the decisive factor in the armistice agreement (Hosmer, 17-18)(Pape, 141). The campaign, however, employed ground and tactical airpower, not strategic bombing. The only strategic air power used was strategic air interdiction, and was largely ineffective (Paper, 140-1).

In Vietnam, the US objective was to force the NVA to end their support to the South as well as to raise the morale of the Southern forces (Hosmer, 27). The US fought with self-imposed constraints, again for fear of provoking direct Chinese or Soviet intervention (Arquilla et. al., 33). While "Rolling Thunder" failed to accomplish these objectives, strategic bombing did achieve success during "Linebacker I and II," causing the Easter offensive to fail and bringing Hanoi to the negotiating table (Hosmer, 31-40). Pape attributes these differences to attacking the correct strategy. During "Rolling Thunder," the US threatened the civilian population, but subsequently adapted its strategy to attack the NVA's military strategy during "Linebacker" (Paper, 175). On the NVA side, the forces used military innovation at the strategic and tactical levels to negate superior US firepower through extensive (and sophisticated) use of tunnels, bunkers, and fortifications; neutralized US artillery and air strikes by the tactic of "hugging" US and South Vietnamese forces; and used other low-tech but innovative methods to offset the US air campaigns against the Ho Chi Minh Trail and North Vietnam itself (Arquilla et. al., 36). Thus, in this case, adaptation, interaction, and innovation on both sides was effective.

In the Persian Gulf War, the Coalition's strategic bombing objectives were mostly psychological (to affect a change in Iraqi government policy), as well as to prepare the battlefield for a ground assault (Hosmer, 43). This was also the first major use of strategic bombing to target enemy leadership in order to achieve victory by changing or paralyzing that government (Paper, 211). It is interesting to note that "while Coalition planners may have hoped, and in some cases, even expected strategic attacks to prompt Iraq to withdraw from Kuwait, they did not count on this eventuality" (Hosmer, 44). The result was a failure to neutralize Iraqi leadership, even helping to change Saddam's terms for withdrawal (Hosmer, 62). Although attacks on Iraqi communication nodes degraded the command and control of military and police units, there was enough redundancy built in to still allow command and control, and similarly for attacks on domestic radio broadcast facilities (Hosmer, 52).

Most recently, the strategic bombing campaign in Kosovo showed the same lessons never get learned and the failure of this campaign to achieve US and NATO objectives (many argue it had the opposite effect of actually supporting Milosovic's objectives) must also be noted.

All five cases show that strategic bombing failed, in almost all instances, to attain their objectives and did not achieve a dramatic increase in the combat potential and military effectiveness, nor did it achieve a comparative advantage. In no case was a formerly dominant element of military power displaced or devalued by strategic bombing, and neither was a traditional system, mission, or organization marginalized. The other ground and naval services still performed key roles, and other missions of air services, such as reconnaissance, transport, interdiction, close air support, and tactical air power, were still performed and improved upon. For this reason, although a tremendous and valuable addition to war fighting capabilities, strategic bombing was not an RMA.

Counterarguments

Some would argue that the element of effectiveness is not necessary to defining an RMA. This is where Gray's RMA hunter appears, and the role of definition becomes the deciding factor. I counter with examples of true RMAs, such as the development of artillery, fortifications, and muskets, all of which were accompanied by increases in effectiveness, until their comparative advantages were overcome. Rather, the case of strategic bombing is perhaps a lesser military technological revolution (MTR) (or "great military innovation," as Krepinevich calls it), a significant factor that when combined with other critical technological advances such as Blitzkrieg and carrier aviation, constitute a collective RMA, as Krepinevich has done by grouping them under the "Revolutions in Mechanics, Aviation, and Information,"

Without the element of effectiveness, there is little to differentiate between "some lesser, or greater, breed of change" and a true RMA. As one analyst quipped, "despite its ineffectiveness, strategic bombing is likely to persist because of bureaucratic interests and political pressures of cheap solutions to different foreign policy problems" (Pape, 314.

Conclusions

While cynical, this observation does highlight the institutional and social dimensions of strategy, and the cases show the importance of these dimensions (as well as the international and material dimensions). Interaction and adaptation are equally important in both innovation and in overcoming asymmetric innovations and comparative advantage (as in the Vietnam case). Finally, it is well advised to remember that not all new innovations and technologies are RMAs, although "what unfailingly brings about change and adaptation is the crucible of war" (Cate).

The adaptation of new technologies and military innovations into military strategy is crucial. Care must be taken to evaluate the resultant effects and ensure there is a translation of these military courses of action into a political endgame, matching policy and strategy. As Dr. Hoyt admonishes and the cases show, "RMA has not proved a replacement for good strategy," and "technology alone is insufficient to produce an RMA...How that technology is used is even more important" (Mahnken, lecture, 21 Sep 00).

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