

# MILESTONES IN THE HISTORY OF AIR WARFARE

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DR SANU KAINIKARA

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General Ozturk Commander Turkish Air Force, distinguished guests, ladies and gentlemen;

## INTRODUCTION

At the outset I must say that I consider it a great privilege to have been invited to present during the fourth session and an honour to be the Closing Speaker of this great two-day symposium. I take this opportunity to congratulate the organisers of the conference on the program that they have put together, both in terms of the excellent professional content of the two days as well as the associated social events. I am sure I speak for all the speakers when I say that we appreciate the thoughtful manner in which all arrangements have been made.

We have had two days of erudite presentations from some of the most distinguished air power theorists in the world as well as from very senior air force commanders and other serving officers, both from Turkey and abroad. The robustness of the discussions that followed every session is testimony to the interest with which the delegates to the conference followed the proceedings and to the thought-provoking and stimulating ideas that the speakers put forward.

The *2014 International Symposium on the History of Air Warfare* was divided into five sessions that dealt with five independent themes related to air warfare and were individually addressed by a panel of experts. I only intend to highlight a few points from each session to bring out the core themes that emerged from these presentations. While doing so, I also propose to signpost one important milestone from each of the session topics that I believe are of sufficient importance for us to consider as pivotal points in the evolution of air warfare. I believe that these milestones had far-reaching influence on the understanding and development of the use of air power as an instrument of war. I also do not suggest that these are the only milestones that can be derived but that, in my opinion, these are of sufficiently great import to air power theory and application to be singled out for discussion. So let us look at the five sessions.

## AIR POWER IN THEORY AND IMPLEMENTATION

The first session discussed various aspects of the theory and implementation of air power. In the key note address for this session we heard that an adversary is a system and that the most efficient and cost-effective way to defeat an opponent is through the incapacitation of selected centres of gravity. Air power is capable of inflicting rapid paralysis on the adversary through parallel attacks on these centres. The panel emphasised that air power had now become the weapon of first choice and the absolute criticality of control of the air for success in all operations. The need for a connection between the application of air power and grand strategy for its effectiveness was elaborated; and it was brought out that the diminishing strategic effectiveness of air power was not of its own making, but predicated on the loss of this connection.

I propose that the milestone within the topic of *Air Power in Theory and Implementation*, is the 'acceptance of air power as an indispensable instrument of war'. In 1907, long before the destructive power of air attacks were ever demonstrated, The Hague Convention prohibited aerial attacks on towns, villages, and churches. While this was a visionary or prophetic approach to the understanding and conduct of air warfare, World War I brought about a significant change in the utilisation of air power. At the beginning, the employment of aircraft was restricted to conducting aerial reconnaissance. However, this role led to a number of connected developments. Aerial observation denied land forces the opportunity to engage in manoeuvre warfare and the result was the stalemate and attrition of trench warfare. To understand the enormity of the attrition that was brought about, one only has to look at the basic casualty figures—there were 9.2 million deaths, or 6050 men dying every day for four years. Since it was aircraft that were denying the manoeuvre opportunities to the army and creating this very high level of attrition, they became high value targets to be attacked and therefore, as a corollary, also to be protected. Thus evolved the concept of fighter aircraft with the fundamental characteristics of speed and manoeuvrability. From these two flowed the other characteristics that we recognise as distinguishing air power today.

With the arrival of the fighter aircraft over the battlefield the contest to control the air commenced. It became an accepted prerequisite to have adequate control of the air over the contested battlefield in order for the ground campaign to succeed. The quest for air supremacy was only a small step forward from this requirement. Air power had well and truly arrived as a critical element of war.

#### AIR AND SPACE POWER IN 20TH CENTURY WARFARE

The second session discussed the contribution of air and space power towards 20th century warfare. It was brought out that the foundations of air power doctrine were laid during and immediately after the culmination of World War I. In the latter half of the 20th century, air power has made great progress in the effectiveness of its application and now has the capacity to attack any target globally with a high degree of accuracy, during day or night and even in inclement weather. The critical role that air power played in the Great Offensive of 1922 during the War of Turkish Independence was described. The panel went on to discuss the need to be aware of the context of the application of air power to ensure its success. This is perhaps a crucial enough point for us to bear in mind, into the future.

I believe that the milestone that exemplifies air power in 20th century warfare is the 'combination of precision, discrimination, and proportionality' that air power inherently brings to the application of force. It is not an exaggeration to state that in the span of a mere 70 years—from 1920 to 1990—air power has become the preferred power projection capability of a nation. Governments across the world now view air power as the first choice option for employment in times of crisis. The First Gulf War of 1991 was without doubt a pivotal moment in the history of air warfare. It demonstrated the sophisticated planning required to successfully conduct a definitive air campaign based on the three characteristics of precision, discrimination and proportionality that are hallmarks of contemporary air power. These capabilities, in combination with other unique characteristics of air power—speed, reach, and flexibility—permit air power to wage war in parallel and neutralise selected multiple centres of gravity simultaneously; something that had not been possible before.

From the 1991 Gulf War there was no looking back for air power. Subsequent conflicts were all conducted as air power oriented campaigns, with some like Operation *Deliberate Force* being fought, and conclusively won, purely through the application of air power in a coherent manner. The underlying principle being the application of force with precision, discrimination and proportionality. During the conflict in Afghanistan and, to a certain extent, the Second Iraq War of 2003, air power gradually took on the role of being the supported, rather than the supporting, element in the application of military force. This was a diametrical change in the conduct of conventional wars. Further, with the political inadvisability of having boots-on-the-ground, emphasis shifted to air-mobility-facilitated Special Forces operations that became the mainstay of the conflict.

Contemporary concepts of operations, at least for modern military forces, revolves around leveraging the advantages of air power to create its own asymmetry, especially when the campaign is aimed against irregular adversaries. This is an amazing achievement in less than one hundred years of air power experience, all the

more emblematic of its evolution when compared to the long history that supports the development of both maritime and land forces. This quantum leap forward in its ability to project power, almost at will, demonstrates the effectiveness of the conceptual developments and the ability to combine them with technological innovations that air power has unequivocally achieved. Today air power leverages off technology as no other military capability does; not surprising, after all air power was born of technology and is totally reliant on technology for its continued efficacy.

#### AIR POWER AS AN INDEPENDENT SERVICE

The third session discussed the emergence of air power as an independent Service, and brought out the driving forces that led to the creation of independent air forces as the fundamental repositories of national air power. The panel looked at various aspects and developments in different nations. It was obvious that the need to form independent air forces was felt around the world and the reasons espoused were all similar if not the same. The challenges that independent air forces faced from the other Services and the struggle to maintain their independence in the initial years was brought out in detail. However, I believe that an examination of the current, small pockets of discussion regarding the need or otherwise for independent air forces, which was not touched upon during the session, may have enhanced the level of information that came out of this session.

I further believe that the milestone that led to the creation of independent air forces is, or was, 'the concept of strategic bombing'. The German Zeppelin raids on London in January 1915, followed by the Gotha Bomber raids of May, June, and July 1917, while creating only minimal damage, had a disproportionate impact on civilian morale. In fact it is interesting to note that more Zeppelin crew were killed in the raids than there were casualties on the ground. However, this was a clear demonstration of the concept that, with air power, war transcended geographic borders—the entire nation was now at risk of attack as opposed to the fielded military forces alone as was the case till then. This realisation had a significant effect on the thinking regarding the employment of air power, its organisation and the command and control structure required to stop strategic bombing raids on the nation.

In Great Britain, a special committee headed by Field Marshal Jan Smuts examined the utilisation of air power as a military force and came to the conclusion that it was an independent means of conducting a war. The committee recommended the formation of an independent Air Force to optimally employ this new warfighting capability. The fundamental reasons for the recommendation to form an independent air force was to protect the homeland from air attacks and the requirement for an effective air defence. The quest for air supremacy, which subsequently became the primary focus of air forces, was but a natural extension of the concept of defending the homeland. The concept of strategic bombing as practised in both the World Wars has undergone a dramatic change with air forces now emphasising focused precision strikes to neutralise the adversary's centres of gravity. While this development has blurred the traditional distinction between what was earlier considered strategic and tactical, the need for protection against air attacks remains as important as ever. Over the past 100 years, air forces have established themselves as necessary and independent forces without which national security can no longer be assured.

#### CONTRIBUTION OF R&D AND THINK TANKS TO AIR POWER

The fourth session discussed the contribution of research and development (R&D) and think tanks to the overall development of air power. It was highlighted that air power is technology-reliant and four emerging, or cutting edge, technological developments were discussed. The direct influence of R&D in the development of air power was very clearly enunciated, while the need for air power to move into the sphere of information management across all domains was also mentioned. Think tanks, whether in academia, industry or in the policy area, contribute directly to an understanding of the pros and cons of the employment of air power and also establish the connection between national strategy and air power as an element of military power. It was clearly mentioned that think tanks can be very influential in creating an understanding of air power in the public domain and that they act as important vehicles to test air power theories.

I consider the milestone in this aspect to be the 'concepts of Douhet, Trenchard, and Mitchell', which were foundational for the further development of air power. To start with, air power thinkers had no history to base their predictions on, and were quite literally groping in the dark. Considering this situation, the concepts of command of the air, and air control, as well as the demonstration of the vulnerability of battleships to air attacks were, I believe, simply brilliant. These were conceptual excursions at their best. These early theorists were able to visualise the all-encompassing nature of air power, although at that time reality was very far behind, without the benefit of even knowing that future capabilities would move forward in leaps and bounds. Yes, it is true that they exaggerated the physical effect and psychological impact that air power could create, perhaps in a bid to ensure that the consequences of ignoring this new-found capability could be understood. For some reason, although air power has matured into a critical capability, air power theorists even today still seem to subscribe to this flaw of overstating the case. However, the conceptual development of air power has always been one of belief matched by intrepid and astute forward thinking.

The early concepts, still valid today, have been adapted to suit the continuing evolution in the conduct of war. The increasing humanitarian sensibilities and sentiments of the international community have manifested themselves into the establishment of the Laws of Armed Conflict and the more restrictive Rules of Engagement. Obviously this has led to refinements in the concepts of operations that makes air power continue to be an effective military element. Today, we are fortunate to have amongst us Colonel John Warden who is the foremost contemporary air power strategist and thinker. He has been instrumental in taking air power concepts forward to a different level of fidelity.

Contemporary conceptual developments are more oriented towards being somewhat of a 'group thinking' process wherein fundamental ideas are adopted to suit peculiar and nuanced requirements of a particular air force, fixed within a clearly demarcated operating context. Think tanks bring together technological developments and the necessary rigour in developing the concepts of operations. This is a complementary process with the influence flowing in both directions.

#### AIR POWER AND SOCIETY

The fifth and last session focussed on the relationship between air power and society, highlighting the provision of assistance to civil authorities that form an essential part of the contribution of air power to nation-building. Discussion centred on societal assistance during crises and the delivery of humanitarian aid and disaster relief. Examples of the Berlin Airlift and also aid provided by air forces across the world in times of natural calamities were highlighted. There was also a mention of the role of air power in peacekeeping operations. Essentially, the panel focused on highlighting the benign contribution of air power in assisting the society at large.

In a somewhat controversial manner I would like to suggest that the milestone in connecting air power to society is the fact that it 'altered the conduct of war,' affecting society in a more fundamental manner than through the rapid provision of aid in a calamity. In July 1909, Bleriot flew across the English Channel in a 25-horsepower engine aircraft in 30 minutes. This feat prompted Baron de Forest to state that 'England could be invaded from the air.' This flight, inconsequential as it might seem today, changed the entire concept of waging war and its relationship to society.

Before the advent of air power, in the 19th century, combat power was totally resident in massed armies equipped with artillery and machine guns and decisive battles were fought on the land. Essentially, mass was the ultimate expression of state power and the civilian society was hardly ever directly affected by war. Air power altered this situation dramatically. With the use of air power as a strategic weapon, war now transcended the fielded forces of a nation. Employed as a weapon of war, air power now could encompass the entire nation and its civilian population within the ambit of the conduct of war. War ceased to be a matter of fronts anymore. Air power ensured that wars could now be conducted over an area, or areas simultaneously, making geographical borders cease to have their conventional meaning. Society, at large, became vulnerable to attack by an adversary. I believe that this is the fundamental relationship between air power and society.

## CONCLUSION

I must mention here that the milestones that I have marked are my personal appreciation of the development of air power, derived within the constraints of the five topics discussed in the Symposium. I am sure that other milestones can be deduced dependent on the scope and direction of the analysis being conducted. For example, the development of a function-based organisation as being the optimum for the command and control of air assets could well be considered a milestone in an appreciation of the early move towards the independence of air forces.

Since we have mainly heard the positives of air power in the past two days, I must end this closing address with a note of caution to air power enthusiasts. In the past 100 years, air power has moved from having a mere observer status to being established as the centrepiece in any conflict of consequence. This elevation in status comes at a price. I will highlight four points. First, the repeated success of air power in achieving goals makes for enhanced expectations from its application. This situation is made more critical by exaggerated claims made by air power enthusiasts. Air power in certain cases could be set up to fail. Second, in today's world, there will always be direct and increased political oversight regarding the conduct of war, the interference at times reaching even to the operational level. This is particularly so in the application of air power, which is seen as the high-end of military capabilities and has a high visibility in the public information domain. Third, it is possible to create a sense of 'failure' at the operational level when operating within extremely restricted Rules of Engagement that tend to dilute the efficacy of air power application under some conditions. This is also a political aspect to be considered at the planning stage itself. And fourth, there is always the issue of collateral damage, essentially overplayed in the case of air inflicted damage, intended or unintended. This is in spite of most collateral damage in all recent conflicts being the result of ground fire. I am afraid, this is an issue that air forces will have to learn to live with and contain as much as possible. In these circumstances it is relatively easy to make air power look inefficient, especially if one is looking to discredit the application of air power. The constant, and at times biased, press coverage makes explaining even genuine mistakes difficult. In the face of sustained adverse propaganda, the chances of a political clamp down on the employment of air power becomes a distinct possibility. We need to tread carefully into the future.

In conclusion I would like to state that studying the history of the amazing evolution of air power over the past one hundred years, the successes and failures, the predictions realised as well as those too far-fetched to come to fruition rapidly, is critical to ensuring that air power continues to evolve and stays as a force of first choice.

I thank you for your patience and courteous attention.