# **Offensive Application of Airpower**

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#### Abstract

Airpower leverages speed, range, and flexibility to provide calibrated force application options. The propensity for offensive application of this force leans on a nation's psyche. In this regard, Israel's aggressive use of airpower has been consistent. In the past, doctrines and, thereof, the strategies for offensive airpower were mainly centred on fighter aircraft and bombers. Offensive power projection now includes unmanned platforms, commercial drones, and better air defence systems. These emergent 'Means' of force projection do not supplant but complement the existing airpower capacities. The future of airpower lies in the integration of emerging technologies and the collaboration between various means.

#### Introduction

Anew dimension of possibilities was realised when Ferdinand von Zeppelin applied for a United States (US) patent for his 'Navigable Balloon' in 1897. By 1899, the fear of exploitation of the third dimension led to a prohibition on the 'Launching of projectiles and explosives from balloons or by other similar new methods'.<sup>1</sup> The prospects with airpower were such that it was quickly adapted to be launched from ships and barges. World War I saw airpower become an offensive capability that overcame surface friction and delivered national resolve to earlier considered safe spaces. By World War II (WWII), the offensive use of airpower was vital, independently and for land and maritime forces. Post-

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WWII, decades of conflicts across Asia, the Middle East and even Europe saw extensive air campaigns holding the centre stage of strategies.

# Airpower and Offensive Action

The unique characteristics of airpower since its 'First Military Specifications' in 1907 were, 'Speed to compress factor of time' 'Elevation to fly over obstacles and overcome surface friction' 'Flexibility and responsiveness to concentrate force at the point of decision' and 'Reach across land and maritime spaces giving it trans-domain operational capability'.<sup>2</sup> These key characteristics of airpower foster the belief in an airman that 'Offensive Action'<sup>3</sup> is the way for airpower application.

# **Offensive Airpower and National Consciousness**

An airman's doctrinal belief would meet fruition when it transcribes itself into a nation's security strategy. In this regard, one has to consider the nation of Israel and its response to existential and persistent threats.

Offensive airpower is Israel's go-to for national security. Backed by national resolve, the Israeli Air Force (IAF) plays a vital role within the Israel Defence Forces (IDF), deterring terrorism and upholding Israel's strategic advantage in times of war.<sup>4</sup> The operational doctrine of the IDF is based on the principle that the best defence is in a good offence. It lays emphasis on the need to fight short, violent wars that result in the enemy's annihilation.<sup>5</sup> During the 1956 Suez crisis, Israel successfully tested this doctrine. In the '1967 Six-day War'6 it was executed to perfection, resulting in a resounding victory and gain of considerable territory. In 1973, Israel was surprised onto the defensive, resulting in substantial losses for the IAF.<sup>7</sup> A fightback from a purportedly nuclear threshold drove home the point that offensive action was key to Israel's survival. In 1982, Bekka Valley operations and achievement of air dominance paved the way for a siege on Beirut.<sup>8</sup> In 2006, during Operation Specific Weight against Hezbollah, the IAF conducted over 12,000<sup>9</sup> missions in an urban battlefield. Israel's retribution for the 07 Oct 2023 Hamas attack was three weeks of aerial targeting before the ground invasion was launched. The IAF leading a response is consistent with the doctrine of IDF. Israeli response led by airpower is consistent with the doctrine of IDF. It has consistently displayed that airpower is a powerful and flexible tool of national security and statecraft.

# Airpower Strategies and Emergent Means of Force Projection

Each conflict influenced by technological adaptations, tactics, and strategies, develops its own character.<sup>10</sup> In recent conflicts missiles, unmanned platforms, and commercial drones have been used across domains to project force. These emergent means have cast aspersions on offensive airpower strategies and traditional means. These debates need a reference frame of military history to allow enduring inferences to be drawn.

# Long Range Fires as Substitute to Offensive Platforms.

• The long-range fires had humble beginnings as rockets, centuries ago. In contemporary warfare, during WWII Germany launched 1,100 V-2 rockets at Great Britain, causing nearly 5,000 deaths.<sup>11</sup> During the Cold War period, rockets not only advanced space exploration but also became ballistic missiles. With an increase in precision, the nuclear warheads were swapped for conventional warheads, often creating strategic ambiguity.

• A 2012 RAND study determined that using disposable missiles is cost-effective for short wars, and reusable platforms in longer conflicts.<sup>12</sup> In the Indian context, the 1947-48 War lasted fourteen months and the 1962 War in two phases across two months. In the wars that saw extensive use of platforms, in 1965 a three-phased conflict included a 22-day war in Sep in which nearly 4,000<sup>13</sup> sorties were flown. The shortest war was the fourteen-day 1971 war in which the Indian Air Force flew around 7,346<sup>14</sup> sorties on two fronts. The Kargil conflict of 1999, despite the nuclear overhang, lasted three months and 7,631<sup>15</sup> sorties were flown. When plotted on the base chart (Figure 1), 1947-48 and 1971 favour reusable platforms over expendable ones, while 1965 and 1999 fall on the equal cost line.

**Ballistic Missiles**. Ballistic missiles have a vital role in strategic deterrence, while long-range fires have crucial tactical and operational roles. Platforms, on the other hand, offer flexibility and adapt responses to various levels of conflict. Among the thirty-one countries with ballistic missiles, the US, China, Russia, India, Pakistan, Israel, France, North Korea, and Iran stand out in terms of capacity.<sup>16</sup> Besides North Korea, these nations also have the

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largest air forces with potent platforms for offensive power projection. Thus, despite their offensive capability, a rocket force replacing reusable platforms is improbable. Ballistic missiles, longrange vectors, and platforms, each serve their purpose. They complement each other across the spectrum of conflict and are not a substitute for each other.

#### Unmanned Versus Manned.

Unmanned platforms for military purposes have been around for a century.<sup>17</sup> However, it was the out-of-proportion effect of the attack on the 'Oil processing facilities at Abgaig and Khurais'18 that catapulted them to prominence. The Russia-Ukraine war has left a lasting impression with images of drones destroying armour, and artillery and accepting surrenders. Unmanned platforms and munitions have been successful in destroying battleships, aircraft, and important infrastructures.<sup>19</sup> Thirty-five different drones and loiter munitions have been used in the Russia-Ukraine conflict so far.20 In the contest between unmanned and Air Defence (AD), Russian Radio-Electronic Warfare and AD systems till 18 Apr 2024 have claimed 21,734<sup>21</sup> unmanned aerial vehicles while Ukraine claims 9311 tactical UAVs and 2096 cruise missiles.<sup>22</sup> Despite losses, Douhet's vindication lies in the inevitability of offensive airpower surpassing AD.

• Small drones have offensive roles in tactical battle areas. Large drones and remotely piloted vehicles have roles in a relatively benign AD environment and un-contested airspaces. However, at present, they have a long way to go before replacing manned offensive platforms as much as they are from replacing battleships, submarines, and artillery. The assessment of the effect of drones by Eado Hecht is perhaps the most succinct one. He says, "A tactical revolution is not in the offing; however, a strategic revolution is. It comes not from the tactical capabilities of the drones, but from their cheapness, simplicity and availability compared to manned aircraft. For states with large, advanced air forces of manned aircraft, the drones are an incremental, albeit useful, improvement".<sup>23</sup>

#### AD vis-a-vis Offensive.

In air warfare, means of offence and defence have been contesting each other forever. In the beginning, the zeppelins seemed invincible as they could cross defensive lines at will, float high above a city, and rain down bombs with impunity.<sup>24</sup> "Thousands were killed by Zeppelin raids and cities were razed, but by 1917, the anti-airship defence had downed 77 out of 115 Zeppelins".<sup>25</sup> By the end of World War I, there were over 239 different types of aircraft and the zeppelins had been replaced with specialist ground attack aircraft like the Gotha bomber.<sup>26</sup> In WWII, the aeroplane played a crucial part in leading successful charges across Europe, Africa, Russia, the Middle East, and later the Pacific, either in a supporting or supported role. During the Battle of Britain, AD rose to the occasion with radar and observation flights as its eves and ears. Ack-ack and balloon barrages forced enemy tactics while Hurricane and Spitfire took them on in the skies. The Luftwaffe suffered heavy losses, while Britain endured significant civilian casualties.27

• Post-WWII, the contest moved to bombers and ballistic missiles versus AD systems and interceptors. As AD capabilities expanded, so did the range and precision of airborne weapons. When radars became efficient, antiradiation weapons and electronic warfare became potent. This game of one trumping the other passed through the crucibles of Korea, Vietnam, the Yom Kippur War of 1973, Afghanistan (gunship versus man-portable AD systems), 1982 Bekka Valley ops and Gulf War (Scuds versus Patriot), In Serbia, a stealth F117 was tracked by outdated radar and downed by an obsolete Pechora. In this century, it is Katyusha versus Arrow-2,3, David's Sling and Iron Dome to missiledrone strikes penetrating Aramco AD. In Syria, Russian electronic warfare and AD systems battled and often bested Chinese and Turkish unmanned combat aerial vehicles. Whenever defence gains an edge, an innovation will emerge to counter it, mirroring the perpetual struggle between offence and defence in air warfare.

**Complementarity of Offensive and Defensive Means**. In the face of an Iranian missile-drone barrage on 13 and 14 Apr 2024, the multi-layered Israeli AD systems and airborne platforms were fairly successful in intercepting the onslaught mostly outside its sovereign airspace. In doing so, the 'Means' of offence and defence complimented each other. Today, offensive operations perpetually take place under an AD umbrella while the offensive intent of AD is projected by the integration of AD systems and aircraft.

# Decision Dominance and Strategies for Offensive Application of Airpower

Advancements in military technology have altered the nature of conflicts and reshaped air strategies. These innovations span hardware, sensors, and information-communication systems. They enable interoperability and transparency in the battle space. These empower commanders to sense, understand, assess, decide, and act more swiftly and effectively than their adversaries.<sup>28,29</sup> Decision dominance hinges on the attributes of speed, range, and convergence.<sup>30</sup> Airpower due to its inherent characteristics of speed, range and flexibility, is uniquely positioned to fuse physical domains while controlling force, time, and space.

The strategies for offensive application of airpower across domains emanate from two basic concepts: the threat of use of force and the actual use of force. When force is aligned with precise timing, tempo, and strategic choices, it becomes a powerful tool for shaping and dominating the decisions made by adversaries. The strategy for offensive airpower will be to orchestrate multidomain operations that are synchronised in time, timing, and tempo, to beat the adversary 'Observe, Orient, Decide, and Act Loops'.<sup>31</sup>

# Conclusion

The character of air war is changing, and air forces are adapting. Technology has made sensors resilient and shooters potent and diverse. AD is now lethal and inherently offensive. Aerospace feeds off the same technical pool to enhance platform survival while delivering precision from larger ranges. Technology, to an extent, compensates for quantity and the cost of it further forces leaner inductions. In such times, there is a shift from threat-based to capability-based force structure.<sup>32</sup> The draw down in numbers towards fewer but capable platforms is visible across air forces.33 The infusion of the unique characteristics of airpower since its 'First Military Specifications' in 1907 were, 'Speed to compress factor of time; elevation to fly over obstacles and overcome surface friction; flexibility and responsiveness to concentrate force at the point of decision; and reach across land and maritime spaces giving is visible as the next generation air dominance aircraft is planned with a crewed penetrating counter-air and an un-crewed collaborative combat aircraft acting as a loyal wingman.<sup>34</sup>

In the words of Air Chief Marshal VR Chaudhuri, "The impact of emerging technologies and the appreciation that machines and humans have to work in a symbiotic way has to be seen as a requirement".<sup>35</sup> In this process of evolution, airpower will remain crucial to multi-domain operations and will be the most soughtafter even by other domains.

# Endnotes

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