Espousing the Utility of Contemporary Air Power in the Strategic Domain for Small States

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Abstract:
In this essay, the author examines how air power, defined as the ability to project military power or influence through the medium of the air to achieve strategic, operational or tactical objectives, may be utilised by the armed forces of small states like Singapore in the modern context. Firstly, using the example of Israel, he challenges critics of the early proponents of strategic bombing such as Douhet, arguing that traditional bombardment still has a decisive effect on the outcome of war if used effectively and with precision. He then explores other strategic applications of air power for small states, namely in intelligence-gathering, psychological operations and logistics. Lastly, apart from displaying ‘hard power’, he contends that a strong air force may help small states accumulate ‘soft power’ through developing close relationships with other armed forces and engaging the international community through Humanitarian Assistance and Disaster Relief (HADR) operations.

Keywords: Air Power; Strategic Bombardment; Small States; Psychological Operations; Hard and Soft Power

INTRODUCTION

Air Power is the ability to project military power or influence through the medium of the air to achieve strategic, operational or tactical objectives. At the turn of the 20th century, early proponents of air power, such as Giulo Douhet, William Mitchell and de Seversky, contend that the command of the air is a necessary element to determine the victors of war. These luminaries focused primarily on advocating strategic bombardment as the means to extract the full utility of air power, asserting that devastating attacks from the air would lead to decisive victories without the need to first defeat the enemy’s ground forces. Since then, experience gleaned from contemporary wars and conflicts in Vietnam, Kosovo and Gaza has shed light on some of the fallacies of these assertions. Furthermore, the evolving strategic and operational security landscape, coupled with technological advances in aircraft performance and weaponry, has necessitated the development of new applications of air power, beyond the traditional strategic bombardment role. This has effectively thrust air power from the periphery into the forefront as a valuable trump card in the geopolitical bargaining table. Aply encapsulating the essence and strategic nature of air power, General Omar Bradley surmises: “Air power has become predominant... both as a deterrent to war, and in the eventuality of war, as the devastating force to destroy an enemy’s potential and fatally undermining his will to wage war.”

For small states such as Israel, New Zealand and Singapore, constraints in resources and geography have hampered their abilities to build sizeable armed forces to meet the challenges of their respective geostrategic environments. Greater efforts would thus need to be taken to circumvent these limitations,
through meticulous force planning and judicious investment in military capabilities, prolific use of the latest advanced technologies, as well as innovative force employment. Recognising the ability of air power to rapidly respond to national defence or mount lethal offensives with inherent speed, range, and flexibility, Singapore has built up a strong air force as the backbone of its military. With a credible air force, a strong deterrence is ensured, and should hostilities ensue, the full range of retaliatory options will be available to ensure a swift and decisive victory.

This essay will confine the discussion to the strategic-level, with a more long-term view in terms of time horizon compared to the operational and tactical domains. Mission objectives at the strategic-level typically involve the progressive destruction and disintegration of the enemy’s war-fighting capacity and will to wage war, stretching over the entire campaign.

Upon reviewing the arguments on air power’s traditional function of strategic bombardment in today’s context, the case for its applicability by small states will be discussed. The position elucidated is that the utility of air power still stands for small states, and that strategic bombardment is still a viable option, provided it is adapted to suit the context of small armed forces. The essay will go on to discuss the other strategic applications of air power, and how the applications are relevant to small armed forces such as the Singapore Armed Forces (SAF).

### RELEVANCE OF STRATEGIC BOMBARDMENT AS A CONTEMPORARY AIR FORCE MISSION SET

Critics of air power hail that the conclusions reached in the propositions of Douhet and his contemporaries on strategic bombardment were based on unrealistic assumptions and overly optimistic...
extrapolations of available data. Lessons gleaned from the Vietnam and Kosovo wars in general show that sheer numbers and scale of bombing alone were insufficient to overcome the enemy. In the air war over Gaza, Hamas used the Palestinian civilian population as shields, by placing weapons caches and rocket launcher positions right next to schools, mosques and hospitals. This made them difficult to target, and if the decision to strike is made, risk of high civilian casualties and collateral damage will be brought to bear. In the recent months leading up to the winter of 2014, as the United States (US) scaled up the bombing campaign against Islamic State (IS) militants in Syria and Iraq, it became increasingly clear that the airstrikes were proving insufficient in ‘destroying’ or even ‘degrading’ IS forces. Analysts have attributed this largely to the non-traditional structure of the IS, where many of the IS targets are non-static and temporary, coupled with the fact that IS forces were adept at blending into the civilian population. These examples are stark reminders that the enemy does not always adhere to convention, and that traditional notions of strategic bombing will prove ineffective against such an enemy.

However, in Douhet’s defence, his theories were formulated at a time before the invention of radar or effective forms of air defence. Outdated as they are in today’s context, given technological advances and changes to the strategic landscape, relevant lessons can still be drawn from Douhet’s tenets of strategic bombing. Winn expounds that Douhet’s key axioms can be summarised as follows: first, in order to assure victory, it is necessary to conquer and command the air; second, the advantage of speed and elevation in the three-dimensional arena of air warfare have made it impossible to take defensive measures against an offensive air strategy; third, airpower should be used against the enemy’s ‘vital centre’—the enemy’s centres of population, government and industry. Winn goes on to explain that when translated to the contemporary context, the axioms can be directly mapped to convey: (1) gaining air superiority; (2) suppression of enemy air defences; and (3) attacking the enemy’s centre of gravity. Indeed, these are doctrinally-relevant concepts in modern war-fighting, with the Pacific theatre in World War II (WWII), Operation Linebacker in the Vietnam War and Operation Desert Storm as examples of strategic bombing being used to great effect. Adding to the case for the relevance of strategic bombing, Edward Warner and Robert Futrell separately concluded that Douhet’s validity has become stronger with time, and that the arrival of the nuclear and thermonuclear age further strengthened the theory’s applicability in modern day conflicts.

The overarching strategic objective is to disrupt and dislocate the enemy’s overall warfighting capabilities, while using the least amount of resources in order to conclude hostilities in the shortest possible time. This will allow the attainment of a quick and decisive victory while avoiding the undue strains of fighting a protracted war.

While it is apparent that it is not possible to break an adversary’s will to fight through bombing alone, it has been generally agreed that air power will have a decisive influence on the outcome of war. However, for air power to be relevant in the modern battlefield, the application of strategic bombardment needs to exhibit more ‘finesse’, as opposed to the mass attack doctrine elucidated by Douhet. This statement particularly holds true for small air forces such as Israel and Singapore.
MEANS BY WHICH SMALL ARMED FORCES CAN EFFECTIVELY PROSECUTE STRATEGIC BOMBING

Sanu Kainikara, in discussing small air forces, suggested that the changing nature of war necessitates the development of innovative concepts for military forces to be effective. Only by the effective employment of air power can its potential be truly maximised. To illustrate, at the commencement of the First Intifada in the Israel-Palestinian conflict in 1987, despite the ratio of Israeli to Arab combat aircraft being about one to four, Israel still had the upper hand because of its higher maintenance standards, higher pilot-aircraft ratio and advanced precision weapons delivery systems.

In the case of small states with limited aircraft Order of Battle (ORBAT) size, material and human resources, adhering to the notion of prolonged large scale mass bombing will result in unnecessary depletion of their limited munitions stockpile and in the long run, affect the national economic functions. Take for example a conscript armed force, such as Singapore or Israel. With the state's economy greatly dependent on international trade, tertiary industries and services, should hostilities persist protractedly, economic activity will effectively grind to a slow halt as long as the conscripts are mobilised for war. Thus the selection of targets and weapon-matching needs to be more deliberate, in order to solicit the highest possible strategic effects by striking the enemy's critical centres of gravity. The overarching strategic objective is to disrupt and dislocate the enemy's overall warfighting capabilities, while using the least amount of resources in order to conclude hostilities in the shortest possible time. This will allow the attainment of a quick and decisive victory while...
avoiding the undue strains of fighting a protracted war. During the Six-Day War in June 1967, the Israeli Air Force (IAF) dealt a devastating blow to Egypt by launching a massive air raid against Egypt, attacking key military installations, airfields and destroying most of the Egyptian Air Force while the aircraft were still on the ground. Following this successful application of strategic strikes, the Israelis emerged the clear victors, and hostilities were able to cease within six days, with Egypt and its Arab neighbours sullenly accepting a United Nations (UN)-imposed ceasefire.

The advent of Precision Guided Munitions (PGMs) and the concept of Network-Centric Warfare (NCW) are two key resource-saving enablers that small states can rely on to better ‘finesse’ the conduct of strategic bombing. The paradigm shift that negated the requirement of mass attack from the air can be partly attributed to the rise of PGMs. In Operation Desert Storm, 90% of the targets destroyed were attributed to the effective employment of PGMs, which constituted a mere 8% of the total number of bombs dropped. Thus, mission planning for strategic bombing can now be done in terms of “targets per sortie, instead of sorties per target.” Separately, the edge that NCW gives is gained when agents across the spectrum of operations are effectively linked and are able to leverage on superior information to attain a common overview of the battlespace. All available strike assets, be it air-launched or surface-launched, can be optimised and integrated, making the prosecution of the strategic strikes a more deliberate and efficient process. Hence, it is important that small armed forces such as the SAF continue along this development trajectory, in order for strategic bombing to still be relevant in today’s context.
The utility of air power does not end at strategic bombing. The next part of the essay will discuss the other strategic applications of air power for small air forces that are outside the domain of strategic bombardment.

**NEED FOR STRATEGIC INTELLIGENCE DUE TO THE LACK OF STRATEGIC DEPTH**

Unlike large states, small states lack the strategic depth to provide a buffer needed against enemy attacks.22 Backyard threats from Rockets, Artillery and Mortar (RAM) originating from enemy-controlled territory will be within reach of the small states' city centres and key installations. This, in essence, is an inherent vulnerability, characteristic of small states. To prevent the situation of fundamental surprise, small states need advance warning capabilities of massing enemy forces preparing to mount an offensive, in order to have lead time to prepare itself for the appropriate response. Air power in this instance is particularly effective in conducting strategic Air Intelligence, Surveillance and Reconnaissance (ISR) operations, providing Early Warning Indicators.23 During the Cuban Missile Crisis, U-2 reconnaissance planes were able to collect imagery evidence to prove that the Soviets have been secretly building nuclear missile silos at America's backyard, in Cuba. This gave the Kennedy Administration sufficient time to draft out the various options to respond appropriately.24 This underscores the importance of air power to provide the strategic intelligence mission, especially for small states, where the backyard threat is a constant concern.

**PARTICIPATION OPERATIONS, PSYCHOLOGICAL OPERATIONS AND STRATEGIC AILIFLT – INFLUENCING THE OVERALL STRATEGIC CAMPAIGN**

As a conflict escalates into a full-blown war, air power can project ground and naval forces expeditiously, which, without an air force, would be “difficult for a small state with limited breakout points.”25 For instance, during the 1982 Lebanon War, the IAF's operations ensured that the Israeli Army was able to advance rapidly to their objectives, reaching Beirut in merely 3 days.26 The IAF was tasked to first gain air superiority over Israel and the battlefield. Not only would air superiority protect the state's civilian populace and industrial assets from an air attack, it also enabled the army to mobilise and deploy its large reserve forces quickly, which have always formed the bulk of its combat formations. The IAF then supported the army's ground forces by flying battlefield air interdiction and close air support missions, as well as additional duties, such as long-range strike missions against sensitive military and industrial targets in the enemy's hinterland. Similarly, in the case of Singapore, strong air power will allow the quick attainment of air superiority, after which the air force will have freedom of operations to influence the land and maritime battles.

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Additionally, air power can be used to contribute to Psychological Operations (PsyOps), which involves the planned use of propaganda and other psychological actions to influence the opinions, emotions, attitudes and behaviour of the adversary's military and civilian population. Aircraft will drop leaflets to both inform the local civilians about operations and to shape the battlefield. For example, PsyOps units in Somalia...
conducted over 7 million leaflet drops to explain both why the UN was in Somalia and the details of specific operations.\textsuperscript{27} If conducted appropriately in tandem with kinetic operations, psychological warfare can sway opinions of the populace towards friendly forces and create negative sentiment towards the adversary, with the overall effect of eroding the enemy’s will to fight.

Lastly, should the task of securing the Lines of Communication (LOC) over sea or land be overly dangerous or time-consuming, strategic airlift will be the only way to deliver supplies, personnel and equipment to the area of operations. This is particularly true for small states, as the lack of strategic depth makes LOC security a more difficult task. Air power can therefore provide the efficient mobility to expedite and facilitate the conduct of operations to enable quicker cessation of hostilities.

\section*{AIR POWER AS A LEVER FOR FOREIGN POLICY – DISPLAYING BOTH HARD AND SOFT POWER}

The presence of a credible military acts as a form of deterrence, with the overarching objective of compelling the opponent to conform to our intended political will.\textsuperscript{28} Air power, with its responsiveness and flexibility in employment, is able to level the playing field for small states in the international arena, through displaying the requisite ‘hard power’ to provide avenues for enlarging the small state’s policy space.\textsuperscript{29} In essence, with a credible air force, a small state will be able to project a credible ‘threat’ of force, to coerce a larger adversary to change its behaviour or to de-escalate tensions.

Additionally, a small state’s air force can be used to enhance ‘soft power’, contributing to the state’s peace and security by actively engaging international
partners in relationships that will be mutually beneficial. To illustrate, close relationships between Israel’s armed forces and military industrial complex with those of the US are beneficial to both states. In the event of a conflict involving Israel and her neighbours, Israel will be able to bank upon these relationships for US assistance, if required.

Lastly, air power can also be used in Humanitarian Assistance and Disaster Relief (HADR) operations, thereby allowing a country to enhance its international standing. In recent years, Singapore has extended HADR to Indonesia, Thailand and the US, thereby increasing diplomatic mileage and accumulating the stock of soft power. Through these operations, the Republic of Singapore Air Force (RSAF) has demonstrated our capability and operational readiness to rapidly respond and project air power where required. Thus, there is also a hard power aspect that further contributes towards the deterrence factor.

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CONCLUSION

Small states such as Singapore face unique challenges and obstacles in ensuring sovereignty and survival. The solutions to surmount these impediments are often complex to derive and arduous to execute. This essay has provided a mere snapshot of how air power should be judiciously applied by the SAF in our current strategic context and geopolitical climate.
With the new emerging threats and uncertainties of the future battlespace, the SAF will need to constantly adapt our force structure and paradigms of air power application in order to ensure that our ability to maintain peace, and a rapid return to normalcy, should hostilities ensue, are not compromised.

**BIBLIOGRAPHY**


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**ENDNOTES**


4. Examples of technological advances include Precision Guided Munitions, Network Centric systems and the proliferation of stealth capabilities.


8. SAF definition of “deterrence”: The preventing from action, such as preventing the initiation of armed action or inhibiting escalation if combat occurs, by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction. This involves taking steps to convince the target being deterred that the costs involved in taking certain actions is higher than its expected benefits or the chance of success of his intended military actions is zero or negligible.

9. The SAF defines the strategic-level as follows: The level of war at which a state, often as a member of a group of states, determines national or multinational (alliance or coalition) strategic security objectives and guidance, then develops and uses national resources to achieve those objectives. Activities at this level establish national and multinational military objectives; sequence initiatives; define limits and assess risks for the use of military and other instruments of national power; develop global plans or theatre war plans to achieve those objectives; and provide military forces and other capabilities in accordance with strategic plans.


11. GEN Eade, George J., op.cit.


18. Egypt had by far the largest and the most modern of all the Arab air forces, consisting of about 420 combat aircraft, all of them Soviet-built and including top-of-the line MiG-21 capable of attaining Mach 2 speed. After the attack, a total of 338 Egyptian aircraft were destroyed and 100 pilots were killed. Among the Egyptian planes lost were all 30 Tu-16 bombers, as well as 27 out of 40 Il-28 bombers, 12 Su-7 fighter-bombers, over 90 MiG-21s, 20 MiG-19s, 25 MiG-17 fighters, and around 32 assorted transport planes and helicopters. The Israelis lost 19 planes, including two destroyed in air-to-air combat and 13 downed by anti-aircraft artillery.


20. LTC Tan, Yu Cheng; LTC Ng, Roland; and MAJ Foo, Chun Fai, op.cit.


22. During the 2006 Lebanon War, Hezbollah militants launched over 4000 rockets into Israel, targeting and hitting dozens of cities. These were rockets were not advanced rockets, but crude Katyusha artillery rockets, each carrying warheads of about 30kg, with a range of 30km. Singapore, with a similar lack of strategic depth, shares the same vulnerability against such Rocket, Artillery and Mortar (RAM) threats.
23. Definition extracted from SAF dictionary: Early warning indicators are defined as items of information on military or other activities received by the intelligence agencies that is seen as a “telling sign” of military preparation by the target or his intention to go to war.

24. Of which, a military blockade coupled with diplomatic pressure was the course of action taken to eventually diffuse the stand-off. Ref: Weldes, Jutta, Constructing National Interests – The United States and the Cuban Missile Crisis, Barrows Lectures, 1999.


SAF Dictionary: PsyOps involves planned psychological activities directed at the enemy, friendly and neutral audiences in peace and war to influence their attitude and behaviour favourably to the achievement of political and military objectives. This may be:

a. Battlefield psychological activities – Conducted as an integral part of combat operations against the enemy and civilians under enemy control in the battle area, to assist in achieving tactical objectives.

b. Consolidation psychological activities – Conducted towards the civilian population located in areas under friendly control, to achieve a desired behaviour that supports the military objectives and operational freedom of supported commanders.

c. Strategic psychological activities – Conducted to gain the support and cooperation of friendly and neutral countries, and to reduce the will and capacity of hostile or potentially hostile countries to wage war.


29. In foreign policy terms, hard power, mainly focusing on a state’s military and economic power, emphasises the coercive aspect, where through coercion others are compelled to behave in a manner demanded by the coercer. On the other hand, soft power is the attempt to shape the behaviour of other states through attractions. While hard power focuses on the power to coerce, soft power emphasises on the power of persuasion.

30. MG Ng, Chee Khern, op.cit.


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