



Thunder Alone Does Not Defeat an Enemy: An Analysis of Airpower in Vietnam

Shum Hou Zit

The University of Hong Kong, HKSAR

Abstract

Operation Rolling Thunder is among the most well-known aerial operations in the Vietnam War, if not all of military history. However, that recognition originates more from infamy than achievement. The massive employment of ordinances, manpower, capital and military logistics did not yield the results desired by the American top brass, instead, the war in Vietnam only intensified with mounting American casualties and growing anti-war sentiments. To be concise, it was a failure. This paper aims to analyze 1) how Operation Rolling Thunder was executed, 2) why it was conducted that way, and 3) what therein should be blamed for the disastrous results mentioned earlier. The objective of the paper is to provide relevant suggestions for the use of airpower based on the experiences of Operation Rolling Thunder. This paper dissects Operation Rolling Thunder by its context, execution, and efficacy to demonstrate the usefulness air power had in the war. The operation was poorly planned and done in almost all major aspects, and the results were similarly poor. Airpower failed to be an effective political tool in this case as it failed to bring the North Vietnamese government to the negotiating table. The research employs a qualitative historical analysis, drawing from established military doctrines, primary sources such as U.S. governmental documents, and secondary scholarly discussions. Findings indicate that the gradual escalation strategy, political mismanagement, and lack of coordination with ground forces were key factors contributing to the operation's failure. The study concludes by offering recommendations for the effective use of airpower in modern military campaigns, demonstrating that airpower must be deployed in concert with other military assets to achieve political objectives.

Keywords: Aerial bombing, air force, guerilla war, military history, Vietnam War

1. Introduction

Operation Rolling Thunder (the Operation) is a prime example of strategic misjudgment that results in a waste of resources and both military and political failures. The operation originated in the offices of the civilian administration, and throughout was continuously constrained and overseen by it. However, the plan was marred by managerial problems and reflected neither the military nor the political realities on the ground. When it became apparent that the massive cost of sustaining the operation yielded no tangible results, it was ended. This essay aims to briefly discuss the context of the operation, how and to what effect it was executed and most

importantly – what role airpower played. This paper aims to address two main research questions: 1) Why did Operation Rolling Thunder fail? 2) What lessons can be learned from its failure regarding the use of airpower in modern warfare? By investigating these questions, the paper seeks to provide insights into the broader role of airpower in contemporary conflicts. This paper chose Operation Rolling Thunder as a case because airpower remains a critical part of modern militaries. Given today's world where states continuously employ airpower in various conflicts across the world, lessons of the role of airpower can be drawn from the disastrous results of the Operation. By briefly discussing the context of the operation, how and to what effect it was executed and most importantly – what role air power played I aim to give relevant suggestions for the use of airpower in today's world.

2. Literature Review and Methodology

This paper uses a qualitative historical analysis, drawing from a combination of military doctrines, primary sources, and secondary scholarly sources. This approach enables a comprehensive understanding of both the strategic and operational factors that led to the failure of Operation Rolling Thunder.

2.1. Military Doctrines

The study incorporates foundational military theories from works such as Clausewitz's *On War* and Sun Tzu's *The Art of War*. These military doctrines serve as the theoretical framework for analyzing the use of airpower. For example, Clausewitz's principles of "surprise" and "flexibility" are crucial for evaluating the failures of gradualism in the bombing strategy (Clausewitz et al., 1989). The doctrines provide a lens through which the study critiques the U.S. military's approach, specifically the deviation from classical military strategies that emphasize overwhelming force and adaptability. By grounding the analysis in these doctrines, the paper examines the extent to which airpower could have been a more effective political tool if deployed according to time-tested principles of warfare.

2.2. Primary Sources

The core of the research is supported by primary sources, notably official U.S. government documents such as *Foreign Relations of the United States 1964-1968, Volume IV: Vietnam 1966* (Humphrey & Patterson, 1998). These documents provide an in-depth look at the internal deliberations, strategies, and constraints faced by civilian and military leaders in executing Operation Rolling Thunder. Specifically, these sources highlight the political and diplomatic concerns that led to restrictive rules of engagement, which in turn severely limited the operation's success. Primary sources like these are vital for understanding the broader political context in which the military strategies were developed and the degree of civilian oversight that prevented the full utilization of airpower.

2.3. Secondary Sources

In addition to military doctrines and primary governmental documents, the paper relies on secondary scholarly sources, including the works of Clodfelter (1989), Emerson (2018), and Gurantz (2021). These sources offer post-war evaluations and academic critiques of Rolling Thunder's execution. Clodfelter's *The Limits of Air Power* provides detailed accounts of the operation's tactical failures, while Emerson's *Air War over North Vietnam* offers insights into the political-military interplay that contributed to the operation's failure. Gurantz's recent work reassesses airpower's signaling and strategic uses in modern contexts. Secondary sources are essential for situating the historical analysis within broader scholarly debates on airpower

theory and military strategy, thereby allowing the paper to draw connections between Vietnam and contemporary conflicts.

3. Context and Motive of the Operation

By 1964, the United States government committed itself to the idea of the ‘Domino effect’. If South Vietnam is taken over by communists, it could trigger more countries in Southeast Asia to fall to communism (Emerson, 2018). Therefore, US policy requires the South Vietnamese government to be reinforced – on one hand, boosting their military capacity, and on the other hand, to raise their morale. To do so, the Johnson administration believed South Vietnam must be convinced to cleanse its corruption while North Vietnam must be coerced to stop supporting the Vietcong. Airpower (which is to say to bomb North Vietnam) is believed to be the instrument of doing so – a form of ‘stick and carrot’ tactic – on one hand showing South Vietnam America’s commitment to the war effort, and on the other hand, forcing North Vietnam to negotiate and withdraw support for the Vietcong.

4. Operation Rolling Thunder

The Operation was infested with problems from the beginning. Chief of all was the Johnson Administration’s inaccurate perception of the nature of the airpower itself and therefore how to deploy it. Gradualism was the first indication of misconception, the civilians overseeing the campaign, made up of the likes of Johnson himself and Secretary of Defense McNamara subscribed to the idea of coercive diplomacy – that by ‘signaling’ America’s will to support South Vietnam through airpower, they could force North Vietnam to negotiate (Gurantz, 2021). This alone cannot be deemed erroneous as many analysts at the time cited the victories over Germany and Japan as evidence of airpower’s efficacy in breaking the enemy. However, the circumstances in Vietnam were drastically different from that of the Second World War, as was the conduct of using airpower itself. The war waged against the Axis sought their total destruction and unconditional surrender, America had no such will to repeat it in Vietnam, therefore turning the destructive bombing campaigns into gradually intensive but ultimately constrained attacks (Clodfelter, 1989). The nature of the war invalidates the strong faith in airpower.

Gradualism was the crux of the Operation. It was theorized by civilian scholars that wars can be fought by threatening destruction instead of causing destruction itself. By ‘signaling’ your capacity and willingness to destroy the enemy’s assets and producing the fear of more damage in the future, the enemy would be forced to negotiate. They further argued that this is to be done gradually – presenting the image of inevitable defeat while giving the enemy leaders ‘something to protect’ (Gurantz, 2021). This started mildly in March 2nd, 1965 when the very first strike against North Vietnam consisted mostly of jetfighters and light bombers (mostly F-105, F-100, B-57) in Xom Bang and Quang Khe. This first attack served almost like a premonition for the rest of the Operation – despite heavily outgunning the North Vietnamese, results were mixed, some considered it almost ineffective, while the cost of the operation was high with five planes shot down and a pilot captured (Smith, 1994). As the Operation continued and was increased in intensity and coverage, the aforementioned problems also increased. In 1966, for example, roughly 2.6 times the sorties were flown and 2.3 times the total ordnance was dropped on North Vietnamese targets, nevertheless, cost effectiveness diminished (calculated by the increase in operating cost of inflicting a dollar’s worth of damage in North Vietnam), even more worrying for the Operation is the fact that it produced virtually none of the intended effect. Support for the VC continued to flow from North Vietnam, infiltration of personnel increased threefold from 1965 to 1966, stocks of strategic resources like petroleum

were disturbed by the bombing but showed no signs of being inadequate (Patterson & Humphrey, 1998). For the rest of the Operation, America dropped more ordnance in North Vietnam than it had in the entire Second World War, but not only did it fail to bring Hanoi to the negotiating table, it also failed to break enemy morale, in fact, it was American morale, due to high casualty rate, that plummeted (Emerson, 2018).

This result can be blamed on Gradualism since it can only be described as counterproductive. It violates some of the key principles of war. Acclaimed theorists on military affairs such as Sun Tzu or Clausewitz would advocate for surprise and flexibility in fighting the enemy (Clausewitz et al., 1989). Airpower could potentially fulfill these two elements well as unlike its counterparts on the ground, aerial forces possess speed and range that are almost unpredictable, defense would thus be nigh-impossible. Yet, gradualism deprives the Operation of both surprise and flexibility as the list of targets (where they are and exactly what they are) is tightly controlled and escalated, and the enemy, therefore, can adapt to American bombings through strengthening their defenses or relocating valuable assets. Consequently, effectiveness of the Operation is greatly limited (Gurantz, 2021). Furthermore, since it is a favorable, negotiated peace that America desires, then according to Clausewitz, America “must put him (the enemy) in a situation that is even more unpleasant than the sacrifice you call on him to make.” Overwhelming the enemy with firepower so that he seeks peace over the hardship he is enduring now is the key to coercion – the exact opposite of Gradualism. Therefore, it is no surprise that Hanoi has no inclination to negotiate (Clausewitz et al., 1989).

This is further demonstrated by the expansion of the Operation including the use of heavier bombers such as the B-52s and sorties from aircraft carriers. In order to increase the pressure placed upon Hanoi, the tonnage of ordnances as well as the number of targets gradually increased. But a crippling problem haunted the Operation throughout its implementation – that airpower was consistently held back by the civilian administration. Fear of Soviet and/or Chinese intervention forced the Johnson administration to set up negative goals (i.e. targets that cannot be hit) to avoid escalating the situation internationally. Many targets of great importance to the North Vietnamese war effort, such as the border with China, Hanoi or the port city Haiphong were off-limits. Most of North Vietnam’s industrial capacity was placed within these sanctuary zones, and aid from communist powers such as the USSR and China entered North Vietnam mostly through Haiphong, nevertheless, the Operation almost never attacked them (excluding rare relaxation of rules sanctioned by Johnson). Even the deployment of high capacity bombers like the B-52 was often restricted to avoid being seen as too provocative. Airpower, however powerful it could be, was never allowed to be used to its full potential, and for an operation that relied on the destruction of enemy asset to coerce them into negotiating, the micro-managed list of target is self-defeating (Clodfelter, 1989, Gurantz, 2021). Coercive diplomacy as stated earlier attempted to ‘signal’ America’s willingness and capacity to destroy an enemy, yet, the preservation of many of North Vietnam’s most important assets served only to signal America’s reluctance and inability to destroy – that which encouraged Hanoi to keep fighting on.

Another stark fault found in the Operation is that it is a purely aerial operation. Rolling Thunder did not include any significant plan to cooperate with ground forces, relying upon airpower alone to ‘signal’ enough threat to persuade Hanoi to negotiation. Without troops on the ground, the rule of the Hanoi government was never seriously challenged. In fact, American bombing only caused more of the populace to support the government, seeing that their country is under attack, which further encouraged Hanoi to continue the war. North Vietnam was not invaded mostly out of concern that China might intervene directly. Without occupational forces, damages done by airpower can be prevented or repaired, supply and infiltration routes like the Ho Chi Minh trail can seldom ever be properly located and

destroyed, fresh manpower can be continuously levied (Gurantz, 2021). The faith the Johnson administration placed upon airpower mutated into over-reliance, yet, as it refused to accept defeat, the Operation was fed more and more resources, manifesting in the increase tonnage of ordnance dropped, albeit also ineffective.

5. Discussion

The failure of Operation Rolling Thunder provides several key lessons for contemporary military strategy, particularly in the application of airpower.

Compared with modern air campaigns, Operation Rolling Thunder's gradualist approach contrasts sharply with more recent air campaigns, such as those in Iraq, where concentrated airstrikes and coordination with ground forces have been more effective. In these conflicts, airpower has been utilized in ways that embody the principles of mass, unity of effort, and surprise, with precision strikes targeting high-value assets while minimizing civilian casualties. In Operation Desert Storm, for example, the Coalition forces aimed to "overwhelm the enemy defense with massive attacks over a short period" (Cohen, 1993). Similarly, today's military planners can avoid the mistakes of Rolling Thunder by recognizing the need for coordination between air and ground forces. The over-reliance on airpower without sufficient ground support in Vietnam allowed the North Vietnamese to recover and adapt. In contrast, modern strategies that integrate ground operations with airpower demonstrate that coordinated efforts are crucial for sustained effectiveness. In Cohen's survey, it was stated that "Aviation had to be responsive to the priorities of the ground commanders. It had to make a direct contribution to the overall ground plan of attack (scheme of maneuver)." In other words, an overall coordination between different branches of the military has been recognized as the "proper" way of utilizing airpower.

Technological advancements, such as precision-guided munitions, real-time intelligence and drones have transformed airpower since the Vietnam War. These technologies allow for targeted strikes that minimize collateral damage and maximize impact. Where Rolling Thunder suffered from rigid target lists and ineffective gradualism, modern technology allows for agile adjustments in real time. These advancements support Sun Tzu's emphasis on adaptability and Clausewitz's call for "surprise," key principles overlooked in the Vietnam campaign that are now integral to successful air operations. The ability to apply lessons from Rolling Thunder using modern technology has improved the strategic value of airpower in recent conflicts. This brings us to the next point – relevance to current military conflicts. The strategic errors of Rolling Thunder carry valuable lessons for current military planners involved in conflicts where airpower plays a central role, such as those in the Middle East. Understanding airpower's limitations as a standalone strategy underscores the importance of avoiding over-reliance on aerial bombardment without considering broader strategic integration. In conflicts involving asymmetric warfare, Rolling Thunder's mistakes remind us that airpower alone cannot secure political objectives without coordinated support from ground forces and regional allies. Additionally, modern campaigns should heed the lesson that restrictive engagement rules, like those in Rolling Thunder, can severely undercut operational effectiveness if not aligned with clear strategic objectives.

6. Conclusion

This paper has addressed why Operation Rolling Thunder failed and what lessons can be drawn for the use of airpower in modern warfare. The findings demonstrate that the gradualism employed during Rolling Thunder, combined with political mismanagement and a lack of

ground force coordination, led to the operation's ultimate failure. These lessons underline the importance of using airpower strategically and in concert with other military forces to avoid repeating the mistakes of the Vietnam War (Clodfelter, 1989).

Airpower destroys, its destructive potential is vast. Properly used, airpower can serve as a very compelling political instrument. However, airpower is also like any other piece of military technology, it must be utilized with determination and intelligence. Using it against the rules of war will only be counterproductive. A gradual approach is not unlike trying to thrust a sword in slow motion, predictable and avoidable, wasting one's energy without striking the enemy. Airpower can also be cumbersome and unwieldy. In the case of Rolling Thunder, America is like a man who brings an axe to a steak dinner – an overpowered tool that once used will only cause troubles, but leaving the restaurant without eating will bring him humiliation. This, in fact, applies to the entire Vietnam War in general. Ultimately, the failure of Rolling Thunder does not undermine airpower, but the rationale behind both its tactics and strategy. It is unwise to consider airpower a political panacea, whereby control of the skies equates control of the world. Airpower is part of a political instrument set called war, to achieve any political purpose, the individual tools like ground troops or airpower must not be neglected. He who puts his faith solely in airpower will likely repeat the failures of Rolling Thunder.

Acknowledgment

This paper is an output of the History course HIST2186 Death and Destruction from Above. The author, Mr. Shum Hou Zit, would like to express his most sincere gratitude to Professor Charles Schencking for supervising his work.

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