

Operation Allied Force

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1. Introduction

“The greatest victory is that which requires no battle,” wrote Sun Tzu, highlighting the power of achieving objectives without conflict. Yet in 1999, when diplomatic means failed to end the violence in Kosovo, the US and its NATO allies turned to military intervention. Operation Allied Force was launched with the primary political aim of stopping the ethnic cleansing of Kosovar Albanians by Serbian forces while avoiding a costly ground war. This operation, relying solely on air power, is a modern example of what classical air power theorists envisioned – a belief that air strikes alone could decisively end conflicts by breaking the enemy’s will.

It’s not difficult to see why this idea can be attractive to politicians, especially from democratic states. As the difficulties in Vietnam showed, the need for public support is of paramount importance for conducting a successful operation. Partly for this reason, theories like Robert’s A. A. Schelling’s Coercive Air Power, which focuses on attacking the opponent’s military strategy rather than the civilian populace as Douhet suggested, became popular with political elites. In part, Operation Allied Force, which aimed at forcing Serbian leader Slobodan Milošević to withdraw his forces from Kosovo, reflects this theoretical approach. NATO tried to achieve its objectives with minimal risk to its personnel while leveraging the psychological and material impacts of sustained air strikes.

However, while Coercive Air Power theory provides a strong framework for understanding the use of air campaigns, it often overlooks the broader challenges associated with coercion. The complexity of conflict, especially in cases involving deep-rooted ethnic tensions and political instability, extends beyond what air power alone can solve. The main thesis of this essay is that, although coercive air power theory offers valuable insights for conducting air campaigns, it falls short of addressing the wider spectrum of political and diplomatic dimensions that influence the success or failure of military interventions, such as Operation Allied Force.

This essay will explore the validity of Pape's theory when applied to Operation Allied Force. Chapter 2 will provide background on the Kosovo conflict, Chapter 3 will delve deeper into Coercive air power theory, Chapter 4 will apply the main ideas of coercive air power to the operation, and Chapter 5 will provide conclusions.

2. Operation Allied Force: Battle Description

At the end of the 20th century, Kosovo drew the world's attention as a potential hotspot for armed conflict due to the disputes that arose from the dismantling of the Republic of Yugoslavia. In 1989, after winning the elections and becoming President of Serbia, Milosevic decreed an end to Kosovo's autonomy and imposed Serb rule. Following these events, former Yugoslavia saw a re-emergence of ethnic violence. After failed peaceful resistance in the 1990s, frustration among ethnic Albanians led to the rise of the Kosovo Liberation Army (KLA). This militant group sought to achieve independence through armed struggle. KLA began launching attacks on Serbian police and military forces in Kosovo in 1996, marking the start of an insurgency [8].

The UN and the United States, led by President Clinton, tried, with minimal success, to end hostilities with diplomatic tools. As the Rambouillet negotiation process – the last of diplomatic efforts, was ongoing, there was little evidence that Milosevic was willing to back down, allowing Kosovo autonomy and NATO peacekeepers

to enter. On the contrary, with the talks still ongoing, Yugoslavian armed forces launched an ethnic cleansing campaign, resulting in massive civilian casualties [5]. Milosevic's actions signalled that diplomatic coercion is futile.

As a response, Operation Allied Force was launched on March 24th, 1999. NATO's objectives were to:

- enable unhindered NATO air operations,
- isolate the Serb military and security forces in Kosovo,
- degrade the combat capability of the Serb military and security forces in Kosovo,
- compel Yugoslav leaders to withdraw their forces from Kosovo and cease hostilities,
- reduce Yugoslav capability to conduct and sustain offensive operations.

The operation consisted of three phases: 1) achieving air superiority by neutralizing Yugoslavian air defences, 2) conducting strikes in Serbia against military targets from the 44th parallel and south to the Kosovo border, and 3) striking infrastructure targets north of the 44th parallel in Serbia [5]. The main idea behind this plan was to inflict Milosevic only such an amount of damage as to force him to capitulate. Phases represented a gradual approach to increasing pressure and focused on precision strikes to allow for detailed control over this process. For this reason, even though NATO had agreed to this three-phase approach in principle by approving ACTORD in October 1998, upon the start of the operation, the green light had been given only for the first phase; the second and third phases would have to be approved by NAC later.

By the end of March, Milosevic showed no sign of capitulating, and given the limited success of NATO's bombing campaign, intensified his ground operation in Kosovo. As a result, NATO expanded its target list, launching interdiction missions against fielded Yugoslavian troops in Kosovo as well as strategic targets in Belgrade. Despite this, a significant increase in effort occurred only in April, after the NATO summit, when Clark sought a nearly

double increase in aircraft involved and strike sorties conducted [3]. Precision strikes were carried out against strategic, military, and political targets in Belgrade and throughout Yugoslavia, all of which put pressure on Milosevic to concede to NATO's demands.

On June 10, 1999, after seventy-eight days of bombing, NATO suspended air strikes. This came only after combined political and military pressure forced Milosevic to accept the peace deal and implement its demands. This day marked the end of an army campaign that succeeded, without losing a single NATO soldier's life in direct combat, in forcing the enemy state to change its behaviour. To evaluate how successful coercion was achieved in Operation Allied Force, the following chapter will delve deeper into the definition of coercion and air power strategies that were used throughout the campaign.

3. Coercive Air Power Theory Understanding Coercion

Coercive Air Power theory, primarily associated with political scientist Robert Anthony Pape, revolves around the idea that the use of airstrikes or the threat of airstrikes, targeted at specific military assets, can create substantial pressure on an adversary, forcing it to change its behavior.

Pape, in his book "Bombing to Win", describes coercion as "efforts to change the behaviour of a state by manipulating costs and benefits" [7]. This is achieved by putting your opponent into a position where the benefits of his current action (i., Milosevic's plan to force Albanians out of Kosovo) become less attractive when compared to the costs that he will potentially bear. In addition to costs and benefits, this calculus also includes the probability of success or failure. In other words, it's not guaranteed that the opponent (in the Kosovo example, Serbia) will succeed in implementing their plans because the coercer (NATO) is taking military measures against them. As the likelihood of the opponent's success (i.e., the probability of gaining the benefits) decreases, the chance of suffering the full cost of resistance increases, and then submission

to the coercer's demands seems like a more attractive option. Pape offers a simple equation that visualizes this mechanism:

$$R = B p(B) - C p(C)$$

R= value of resistance

B= potential benefits of resistance

p(B)= probability of attaining benefits by continued resistance

C= potential costs of resistance

p(C)= probability of suffering costs

Concessions occur when $R < 0$.

Figure 1 [7]

Pape goes on further separating coercion into two main categories: coercion by punishment and coercion by denial. Coercion by punishment aims to raise the cost of resistance by mostly, but not limited to, striking civilian targets, with the intent to exploit the opponent's state's weakness and pressure its government into submission. Coercion by denial, on the other hand, typically focuses on targeting opponents' military capabilities to prohibit their military strategy from being executed. This type of coercion is aimed at the probability side of the equation, because by his own military action, the coercer is robbing his opponent of the opportunity to accomplish military objectives, thus without an effective military, the likelihood of attaining strategic goals decreases and the potential for having to pay the full price of defeat increases. Pape claims that "Coercion can succeed only when the costs of surrender are lower than the costs of resistance" [8]. It is also important to note that the destruction of the opponent's armed forces by the coercer does not constitute successful coercion, since the resisting side did not surrender and suffered a full military defeat. That means the coercer was not successful in his persuasion.

3.1. Strategies of Military Coercion

Having covered the mechanism for coercion, the next step is understanding the ways to apply air power to influence the values in the equation. Like in most air power theories, the first and vital step is gaining air superiority, which allows the coercer to have freedom of action and implement their strategy. Once air superiority is achieved, the question to be answered is who and what to bomb next.

When considering what to strike, Pape derives four main strategies that exist in the air power theory field (Figure 2): Punishment, Risk, Denial, and Decapitation. He offers two main criteria for identifying coercive air strategies. First are specific indicators, such as timing, target sets, munition type, and quantity used. The second is a mechanism that the strategy is trying to activate.

Strategy	Theorist	Target set	Mechanism
Punishment	Douhet	Cities	Popular revolt
	Trenchard	Cities	Popular revolt
	ACTS	Key economic nodes	Social disintegration
Risk	Shelling	Gradual civilian damage	Incentive to avoid future costs
Denial	Luftwaffe	Frontline forces	Battlefield breakthrough
	Committee of Analysts	Weapons plants	Equipment shortages
	Enemy Objectives Unit	POL/ transportation	Operational paralysis
Decapitation	Warden	Leadership	Leadership change or strategic paralysis

Figure 2 [7]

Out of these four, he considers only the denial strategy to be effective and to have a chance at successful coercion. While in the conduct of Operation Allied Force, we can find elements from punishment, risk, and decapitation strategies, denial was used most predominantly, since NATO's campaign strategy revolved around striking Yugoslavia's military to the point where they would agree to withdraw troops from Kosovo.

The essence of using air power for denial entails attacking enemies' armed forces and weakening them to the point where friendly ground forces can seize disputed territories without suffering unacceptable losses. Denial aims to prohibit the enemy's military strategy to take and hold territory from succeeding, hoping that, without the capability to achieve its objectives, the enemy will be compelled to make concessions. For that reason, the denial campaign will generally focus on destroying arms manufacturing, interdicting supply lines from depots to the front, disrupting movement and communication in the theatre, and attrition of fielded forces. Although Pape considers denial to be the only strategy that has merit for success in coercion, he also concludes that air power alone cannot conduct a successful denial campaign, and additional entities, mainly involving the ground force, political, and diplomatic pressure, should also be applied for coercion to succeed.

Therefore, the underlying question is whether NATO's success in thwarting Yugoslavia's military strategy lies in using air power in a denial role, as prescribed by Pape's coercive airpower theory. In the next chapter, I will look for an answer to this question by evaluating Operation Allied Force by using the following model, derived from Pape's coercive air power theory:

Question	Metric
Was air superiority achieved?	Freedom of action to conduct air operations over Yugoslav airspace
Was the denial strategy effective?	Answers to questions 1–3 are “Yes”
1. Did most of the strike sorties aim at the theatre supply network, command and control facilities, and fielded forces?	A portion of strike sorties corresponds to this target set.
2. Was operational paralysis achieved?	Serbia’s ability to conduct military action in Kosovo
3. Was operational paralysis exploited?	The combined pressure of the air force and land forces led to the defeat of Serbia’s military strategy.
Did other air power strategies fail?	Target sets or timing corresponds to Punishment, Risk, or Decapitation, but the objective is (not) reached

Figure 3

4. Coercing Milosevic

This chapter will cover phases 1 through 3 of the Operation Allied Force. I will proceed in chronological order, evaluating NATO’s performance on and outside the battlefield, focusing on how the campaign steps correspond to Pape’s Coercive Air Power theory. Initially, I will analyse the first step in the theory — attaining air superiority. Afterwards, I will move to analyse actions conducted through Phases 2–3 with the intent to evaluate the focal point of Papes’ theory- the application of the Denial strategy. Throughout the chapter, I will highlight events that relate to the application of other strategies.

4.1. Air Superiority and Punishment

Corresponding to Coercive Air Power theory, the initial phase of the campaign aimed to achieve Air superiority. The challenge presented to NATO’s forces by Yugoslavia’s Integrated Air Defence System (IADS) was substantial, as it was dominated by surface-to-

air missile (SAM) batteries with thousands of Soviet-made SAMs. The Yugoslav air defence order of battle is depicted in Figure 4.

System	Number
SA-2	3 x battalions
SA-3	16 x battalions
SA-6	5 x regiments / 25 x batteries
SA-9/SA-13	~100
Anti-aircraft artillery	1 850 pieces

Figure 4 [5]

Backing these SAMs, Yugoslavia had a fleet of 238 combat aircraft, out of which fourteen were MIG-29 and sixty-four were MIG-21 interceptors. The effective range and altitude of these SAMs, supported by the number of systems available, created effective, multi-layer coverage (Figure 4), enabling commanders to employ fundamental guidelines of air defence like mutual support and overlapping fires between different SAMs. It was also expected that Serbia's air defence specialists had received extensive training on US tactics, including the latest knowledge gathered and shared by Iraq.

SYSTEM	EFFECTIVE RANGE (NM/KM)		ALTITUDE (FEET)		GUIDANCE
	MIN	MAX	MIN	MAX	
SA-2	5.4/10	18.4/34	1.6K	98K	RADAR, LOW BLOW
SA-3	2/3.5	13/24	100	46K	
SA-6	2/4	13.4/25	100	46K	RADAR, STRAIGHT FLUSH
SA-9 (MOBILE)	0.4/0.8	2.3/4.2	98	11.5K	IR
SA-13 (MOBILE)	0.3/0.6	2.7/5	32	11.5K	IR
SA-7 (MANPAD)	0.2/1.2	2.3/4.2	82	7.5K	IR

Figure 5 [4]

NATO's initial plan for the first days of the air campaign was to launch cruise missile attacks from standoff positions against Yugoslavian Integrated Air Defence System (IADS) sites and other installations to create a gap in their radar coverage. This would then be followed by fixed-wing airstrikes against further IADS sites and additional military targets. The entire target set was carefully reviewed and approved in the White House; it included surface-to-air missile (SAM) batteries, radar, and military communication sites, airfields, electrical power generation facilities, weapons production factories, military and police barracks, and command and control nodes [5].

Along with the IADS takedown, there were hopes for a quick victory. Initially, NATO had planned a standoff cruise missile attack as a stand-alone operation, aimed at coercing Milosevic to abandon his plan by conducting what Pape would call a punishment campaign. Later, it was decided to integrate it into Phase 1 of the operation.

The first attacks started on the night of the 24th and marked the opening of the first phase. It involved 250 US Aircraft, including bombers (B-52s and B-2s), fighters, reconnaissance aircraft, and other supporting platforms. Cruise missile strikes against IADS static installations were conducted by B-52s, loitering outside Yugoslav airspace, as well as US and UK warships operating in the Adriatic Sea. In total, 55 US cruise missiles were launched on the first night. The second day saw the first air-to-air kills when US Air Force F-15s shot down two out of fourteen Serbian MiG-29s.

Despite phase 1 strikes against Serbian air defence, NATO realized that surface-to-air threats would persist and be more significant than anticipated, so the decision was made to force all aircraft to stay above 15,000 feet [3]. Fights against Yugoslav air defences would continue, and air superiority would be achieved only by mid-May.

In terms of a quick victory, not only did Milosevic not withdraw his troops from Kosovo, but he also moved more VJ troops in and launched Operation "Horseshoe," aimed at forcing ethnic

Albanians over the southern and western borders [2]. By the fourth day, it was clear that the offensive was not having the desired effect on Milosevic, and Clark received authorization from the NAC to proceed with the second phase.

4.2. Conducting a Denial Campaign

After realizing that there would be no quick victory and that a demonstration of force would not coerce Milosevic, NATO began to shift its strategy from SEAD missions towards interdiction. This signals a change in strategy from punishment to denial. According to Pape, a successful denial campaign is most effective when conducting operational interdiction missions. The main role of an air force is to achieve operational paralysis by targeting theatre supply networks, command and control facilities, and field forces [7].

NATO's conduct during Phase II, starting from March 27, began to resemble operational interdiction, as most strikes were carried out against lines of communication connecting Serbian Interior Ministry Police (MUP) and Yugoslav Army (VJ) forces, as well as attacking their storage and marshalling yards and troop concentrations. Although a shift in target priorities occurred, it did not result in an increase in the daily strike sortie rate. NATO was still striking roughly the same 50 ground attack sorties per day. During Operation Desert Storm, known for its well-executed interdiction campaign, the daily strike sortie rate was close to 1000.

NATO's strikes did little to hamper the VJ's operations in Kosovo. VJ and MUP employed dispersal tactics, making it even harder for NATO pilots to find, identify, and hit fielded forces. Meanwhile, they were carrying on forcing Kosovar Albanian emigration by burning villages and conducting executions. Milosevic was not coerced at this point and continued with his strategy for Kosovo.

Phase III of the operation started on day 9 of the campaign, with the expansion of strikes against infrastructure in Serbia, but did not increase the sortie rate. NATO was still generating 50 strike

sorties per day. Feeling that the campaign had bogged down, SACEUR requested that the force at his disposal be increased by an additional 450 aircraft, which would almost double his force. The request also included 24 AH-64 Apache helicopters, which would be deployed to Albania. Deployment of army aviation assets might have signalled that NATO was preparing for ground combat, contrary to what President Clinton had announced before the operation. Clinton's open refusal to send ground troops directly handicapped air-to-ground strikes against fielded forces, since VJ commanders, having no reason to worry about ground invasion, can disperse and hide their troops, rather than preparing for ground attack, concentrating and occupying defensive positions on open ground. Looking through the lens of the denial strategy, ground force is also a vital part of thwarting enemies' military strategy, because they should be the ones to exploit operational paralysis achieved by an air interdiction campaign.

The actual escalation of NATO's effort happened only after the summit in Washington on April 23-25. Alliance, mainly because of the atrocities conducted by Milosevic, the refugee crisis, and the effort to save NATO's credibility, was able to come to a consensus that they could not lose this campaign under any circumstances. NATO's Master Target File grew from 169 targets to 976; allies became more willing to strike primary infrastructure targets. The new goal was to punish Belgrade's political and military elite. NATO's planners, to achieve this goal, grouped additional targets as four pillars of Milosevic's power- the political machine, the media, the security forces, and the economic system. These targets included national oil refineries, petroleum depots, arms and spare parts factories. Right before the summit, on April 21, NATO conducted cruise missile strikes targeting state radio and television. On the same day, cruise missiles struck the offices of the political party of Milosevic and his wife. Figure 5 represents the dynamics and intensity of the strike campaign throughout the operation.

PHASE	TARGETS		Ground attack sorties per day
	Military (and dual purpose)	Civilian	
PH 1 (24–27 MAR 99)	<ul style="list-style-type: none"> - RADAR installations, - SAM sites, - Airfields 		50
PH 2 (28 MAR – APR 99)	<ul style="list-style-type: none"> - C2 infrastructure - Tanks, - APCs, - Artillery, mortars - Supply depots 		
PH 3 (APR–JUN 99)	<ul style="list-style-type: none"> - Same as PH2 + expanded geographically throughout Yugoslavia - Army barracks - Arms factories - Railway, highway bridges - Command centres 	<ul style="list-style-type: none"> - Power plants - Water stations - TV centre - Oil refineries 	50 (initially) –800
	60–70 %	30–40 %	
	PERCENTAGE OF ALL SORTIES PER TARGET SET		

Figure 6 [1]

After the summit, the possibility of a NATO ground invasion has recurred. In late May, concerned that winter weather would hinder effective ground operations as early as October, Clark emphasized that this was the critical time to plan. By the end of May, it was generally acknowledged that NATO was seriously considering a ground invasion, and British planning had progressed to the point of mobilizing the reserves. In addition to a possible NATO ground invasion, VJ began to face mounting pressure from KLA, which used intensified NATO bombing as an opportunity to strike weakened Serb forces in Kosovo, taking advantage of intensified NATO bombing. However, this action resulted in a Serb counterattack,

demonstrating that despite increased NATO bombing, Serb troops were still in decent fighting shape.

During the last two weeks, NATO's determination reached its peak. In addition to Serb troops, strikes were carried out against electrical power-generating infrastructure, shutting down power to 80 percent of Serbia, and leaving millions of Serbs without electricity and water services. These strikes also affected the banking systems, which only compounded massive economic difficulties that Serbia was already sustaining.

On June 2, with the bombing at its peak intensity, envoys from the EU, Finland, and Russia flew to Belgrade to deliver to Milosevic a plan to bring the conflict to an end. The offer, which was previously worked out with the US included requirements to: accede to NATO's demands for withdrawal of all VJ, MUP, and Serb paramilitary troops from Kosovo; allow a NATO-led security force in Kosovo; ensure the safe return of refugees to their homes; create self- rule regime for ethnic Albanian majority that acknowledged Yugoslavia's sovereignty over Kosovo. NATO promised to continue bombing until, as per the agreement, Yugoslav forces would be withdrawn from Kosovo. The same day, Milosevic accepted the deal, and on June 3rd, the Serb parliament ratified it.

5. Conclusions

To reach conclusions, we must revisit our understanding of coercion and the Coercive Air Power model (Figures 1 and 3) and address the outstanding questions.

Was air superiority achieved? **Yes**, although the fight against Yugoslav IADS continued throughout the operation and the declaration of air superiority was not made until mid-May, it is hard to deny that NATO had freedom of action to conduct its bombing campaign.

Was the denial strategy effective? **Partially**. As prescribed by Pape, most sorties were aimed at Serbian military capacity, primarily fielded forces in Kosovo and supporting elements throughout the

theatre. Despite this, even in the later stages of the campaign, the VJ managed to conduct counter-offensive operations against the KLA. Therefore, it's difficult to say that operational paralysis was achieved. This leads to an issue of exploiting operational paralysis; you simply cannot exploit something you failed to attain. In my opinion, failure to reach and exploit operational paralysis has the exact underlying cause: lack of ground forces. Later stages of the operation could suggest that even without launching an actual invasion, having that option and troops available in the theatre would provide substantial pressure on Milosevic and possibly force Serbian troops to respond by preparing defences, thus concentrating and becoming a better target for the air force.

Did other air power strategies fail? **No.** Multiple pieces of evidence suggest that different approaches were used throughout the campaign. From hoping that the initial strikes of Phase 1 would coerce Milosevic, the gradual increase of the strike sortie rate, the targeting of civilian infrastructure, and focusing on targets related to the political elite in Phase 3, all contain elements of punishment, risk, and decapitation strategies. All of them contributed to compounding pressure on Milosevic.

In my opinion, the compounding pressure created by the military campaign, supported by political and diplomatic actions, led Milosevic to continue the bombardment indefinitely, albeit at an increasing rate and with renewed talks of a possible ground invasion. This coercion coerced Milosevic to give up. In terms of Pape's formula for explaining coercion (Figure 1), in Operation Allied Force, different strategies were applied to almost all parts of the equation, resulting in $R < 0$.

Therefore, I conclude that, as per the thesis of this essay, although Robert A. Pape's Coercive Air Power theory offers valuable insights for conducting air campaigns, it falls short of addressing the wider spectrum of issues and tools available for coercion.

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