

SAASS THESIS

Spare Them the Fate of Warsaw!

The Role of Coercive Airpower in the Capitulation of the
Netherlands, May 1940

BY

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ABSTRACT

This study comprises a historical analysis of the use of coercive airpower by the Luftwaffe during the invasion of the Netherlands in May 1940. A weakness is much of the existing scholarship on the invasion and the bombing of Rotterdam specifically is that authors tend to present binary views on the role of airpower within this operation. On the one hand, there is the common view that the German forces overwhelmed the Dutch defenders and airpower played a supporting role, executing a strategy of denial. On the other hand, some historians view the bombing of Rotterdam as an example of a German strategy of punishment. This debate is indicative of a larger debate in the discourse on airpower theory, which is historically divided in a strategic school and a tactical school. Through his research, the author finds middle ground in both the discussion on the German use of airpower in May 1940, as well as in the theoretical debate.

An overview of relevant airpower theory and airpower development in Germany prior to the war provide the contextual basis of the thesis. Three chapters on the Dutch defenses, the events on the battlefield between 10 and 14 May, and the bombing of Rotterdam on 14 May contain the detail necessary to analyze which airpower strategy was used under which circumstances.

This author concludes that throughout the course of the invasion, the Luftwaffe executed four different airpower strategies: decapitation, denial, punishment, and risk. None of these strategies were independently decisive, but all contributed to the eventual German strategic success. This thesis, therefore, finds middle ground in the historical debate on which type of airpower led to the defeat of the Dutch forces.

The findings of this analysis furthermore provide a perspective on the discourse of airpower theory. The author warns against rigidly categorizing airpower within the confines of predictive theories. Rather, airpower is a context dependent tool which has to be tailored to the circumstances within which it operates. It is up to the strategist to analyze the environment and adjust the use of airpower according to the context at hand.

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Introduction

“Rotterdam, which was bombed by the German air force this afternoon, has suffered the sad fate of total war. The same fate was imminent for Utrecht and other large population centers. [...] These plain facts forced me to come to the hardest decision: we have given up the battle.”¹

On the evening of 14 May 1940 General Henri Winkelman spoke these words on Dutch national radio. As commander-in-chief of the Dutch Land and Naval Forces and the highest government representative since the cabinet and royal family had taken refuge in England in the days prior, he could come to no other conclusion.

Germany invaded the Netherlands early in the morning of 10 May and within four days occupied most of the country, forcing the Dutch armed forces to fall back to defensive positions on the *Afsluitdijk*² in the North and in “Fortress Holland.” This key area, protected by historical defensive lines along the rivers Maas, Rijn, and Waal, *as well as* extensive inundated areas, contained the major Dutch centers of commerce and politics of Utrecht, Rotterdam, Amsterdam, and The Hague.

The Dutch armed forces were no match for the invading German war machine that had been preparing for this operation for years and had gained valuable experience in the Spanish Civil War of 1937 and during its conquest of Poland in the fall of 1939. Despite the overwhelming invasion, Winkelman had executed a successful retreat of his forward deployed troops into the defensive lines of Fortress Holland

¹ Proclamation on Dutch national radio by General Winkelman on 14 May 1940, quoted in: *Militaire Spectator* 159, no. 5 (1990): 210–20.

² The *Afsluitdijk* between the provinces of Friesland and Noord-Holland was completed in 1932 and shut off the *Zuiderzee* from the North Sea, creating a freshwater lake, the *IJsselmeer*. The eastern end of the *Afsluitdijk* was heavily defended by pillboxes and casemats at *Fort Kornwerderzand*. This defensive position was one of the last defensive positions to hold until the Dutch surrender on 14 May.

and now had several military options to postpone the inevitable for a significant amount of time.

The *Luftwaffe* bombings on the city of Rotterdam in the afternoon of 14 May and the threats against Utrecht and other cities that the Germans issued that same day, however, dramatically changed the calculus of the decisions General Winkelman had to make. At 1650, Winkelman sent out an order to his forces to lay down their weapons. Later that night he would address the nation on the radio: the Dutch armed forces had capitulated.

Airpower used against a population center and the threat of more violence against cities to come thus played an important, if not decisive, role in the capitulation of the Netherlands. This observation raises interesting questions when compared to the general historical discourse that covers the German campaign against France in May 1940. Many of the accounts of this German offensive are dominated by the success story of the German operational approach—popularly known as —and focus on the integration of the *Luftwaffe* into the ground scheme of maneuver. These histories categorize the bombing of Rotterdam, as well as that of Warsaw in September 1939, as part of that operational doctrine and describe it as another example of the *Luftwaffe* clearing the way for the German ground offensive.³ While the general conclusion that *Blitzkrieg* was successful in *Fall Gelb* is persuasive and well documented, and it is correct to argue that the *Luftwaffe*'s main task was to support the ground forces, this reasoning does not do justice to the manner in which Germany used coercive airpower to achieve strategic objectives.

This thesis argues that German coercion by airpower, both the actual use of force and the threat of more violence to come, played a critical role in the capitulation of the Netherlands. While the growing

³ Richard Overy, *The Bombing War: Europe 1939-1945* (London, UK: Penguin Books, 2014), 65.

German military pressure on the Dutch defensive positions was instrumental in creating the context for the bombing operation, it was the coercive use of airpower, rather than the defeat of Dutch fielded forces, that caused the capitulation of the Netherlands on 14 May 1940.

At this point, and in light of the discussion on airpower's relative strategic worth that will follow, it is important to point out that this thesis does not claim that German coercive airpower was decisive in and of itself. The air weapon was part of a large-scale joint campaign that overpowered the Dutch defenses and broke the national will. This German campaign demonstrates the versatility of airpower and its ability to adjust to the changing circumstances it faced. In the four days of German combat operations in the Netherlands, elements of four different strategies were discernible: decapitation, denial, punishment, and risk. Each contributed to German strategic success, and none were decisive in isolation.

The initial attempt to decapitate the Dutch government and military leadership by airborne operations, combined with the ground invasion, was more than the Dutch armed forces could handle. Defining this ground campaign and the defeat of the Dutch military resistance as the sole reason for the Dutch capitulation, however, is a misrepresentation. The use of coercive airpower against Rotterdam and the threat of more city bombings played a central role in the process that led to capitulation and therefore deserve a more nuanced analysis.

A closer look at this relatively short period at the start of World War II in Western Europe is relevant for two reasons. First, it adds to the existing literature on the German campaign in the West, which often did not mention the invasion of the Netherlands at all or reduced it to a sideshow to the main thrust against Belgium and

France.⁴ The following chapters will expand this limited historical interpretation of what transpired in the Netherlands and the chain of events that led to the Dutch capitulation. This analysis demonstrates that the German success in the Netherlands was a product of an overwhelming ground invasion supported by a range of different airpower strategies, and specifically that the events on 14 May represent an example of coercion by airpower that had direct strategic effects.

The second reason for this thesis' relevance is more theoretical in nature. The observation that multiple airpower strategies were applied within four days of battle, and that the bombing of the city of Rotterdam combined with the threat to Utrecht had a strategic effect, present an interesting perspective on a debate that has dominated airpower theory since its earliest days. This debate on the relative strategic importance of airpower revolves around the false dichotomy between its strategic and its tactical application. On the one hand, there is the idea that the air weapon is a tool that can independently achieve strategic objectives by striking directly at industrial and economic targets or population centers in the adversary's heartland. On the other hand, the opposing school views airpower as a supporting, rather than singlehandedly decisive, military instrument that derives its merit solely from clearing the path for the ground forces.

The theoretical debate between these two schools is pervasive in the discourse on airpower, even today. A middle ground or an acceptable compromise seems hard to find. This dichotomy is problematic because it creates a binary discussion which does not allow much room for more subtle assessments of specific air operations in specific circumstances.

This thesis does not take sides in the debate. Instead, it discounts

⁴ In his extensive analysis of the German campaign against Western Europe, Karl Heinz Frieser only dedicates a single line to the Netherlands in his preface, discounting the invasion as a mere deception maneuver. Karl-Heinz Frieser, *The Blitzkrieg Legend: The 1940 Campaign in the West* (Annapolis, MD.: Naval Institute Press, 2005), xiii.

the false dichotomy as unhelpful. Categorizing the use of airpower in binary boxes risks overgeneralization and losing sight of more nuanced explanations. This approach is influenced by the work of Colin Gray whose airpower theory provided valuable middle ground in the debate on strategic effectiveness and allowed a more nuanced analysis of the use of airpower in conflict and war. Two key concepts underlie his approach. First, he posed that the ultimate measure of airpower's merit is found in its ability to create strategic effects. Gray argued that is not the air weapon per se that is strategic, but that its value is determined by what it can achieve.⁵ The second important concept from his theory that is significant for our analysis of the *Luftwaffe* city bombings is the idea that context matters. Airpower is not the panacea for every crisis or conflict. Therefore, it is practically irrelevant to attempt to categorize airpower operations into binary groups. "Airpower is not a puppet behaving in an utterly prechoreographed manner....in reality there cannot be doctrine, meaning best practice for particular large-scale operations, let alone for choice of strategy, because each historical circumstance approached at those levels is more or less unique."⁶

Attention to historical circumstances is critical to understanding the role of airpower in a specific operation. Analysis of the circumstances in the Netherlands in 1940 is therefore important to determine the merit of the *Luftwaffe*'s contribution to the invasion. Based on this imperative, and inspired by Colin Gray's theory, this thesis takes a contextual approach to the events in the Netherlands in May 1940. The historical analysis that follows attempts to distill the strategic effects of the air operations from the broader context of the German campaigns. In doing so, the questions surrounding the bombings move

⁵ Colin S Gray, *Airpower for Strategic Effect*, Air University Series on Airpower and National Security (Maxwell Air Force Base, Ala.: Air University Press, Air Force Research Institute, 2011), 287.

⁶ Gray, 308.

away from the binary debate of strategic versus tactical airpower which risks overgeneralization. Instead it focuses on the different strategies used and the reasons why these types of airpower worked or failed under the specific circumstances in May 1940. This approach leaves more room for refined analysis and therefore produces a more complete and accurate representation of the events.

Structure

This thesis covers the developments and events that led up to the bombing of Rotterdam and the subsequent Dutch capitulation in chronological order. After a concise chapter that expands on the theoretical discussion on the strategic value of airpower, Chapter 2 examines the German preparation for the campaign in the West. Chapter 3 describes the Dutch perspective and the strategy that guided the Dutch armed forces in their defensive operations against the German invasion. Chapter 4 is an account of the battle in the Netherlands between 10 and 13 May with a specific focus on the different roles of the Luftwaffe. Chapter 5 presents a timeline of the events on 14 May that preluded the capitulation of the Netherlands. The conclusion summarizes the argument, pulls together the threads on key themes, and provides observations regarding the debate on the strategic merits of airpower.

Chapter 1

Airpower Theory and the Importance of Context

Airpower was born over a century ago, but still provides fertile ground for discussion on its potential value during peace, crisis, and war. General William “Billy” Mitchell may have provided the most straightforward definition in his book *Winged Defense*. Airpower, Mitchell theorized, “may be defined as the ability to do something in the air. It consists of transporting all sorts of things by aircraft from one place to another, and as air covers the whole world there is no place that is immune from influence of aircraft.”⁷ Over the course of 100 years this definition has been altered, added to, subtracted from, or completely ignored. There is often a tendency to capture everything in a definition, thereby diluting its meaning. The definition young airmen learn from current USAF doctrine has become so convoluted that it has almost lost meaning: “Airpower is defined as the ability to project military power or influence through the control and exploitation of air, space, and cyberspace to achieve strategic, operational, or tactical objectives.”⁸

If it is already difficult to agree on what airpower is, the problems loom even larger to solve more complex and essential questions that go to the core of what airpower can achieve for military and political objectives. This quest for airpower’s strategic relevance is the focus of this thesis in the historical study of the invasion of the Netherlands. What was the value of German airpower during this campaign? Did it function purely as a supporting asset to the ground or was there more to it? Which airpower strategies did Germany use and why? The analysis demonstrates that the Luftwaffe was able to adjust its application of airpower to the unique circumstances of the invasion of the Netherlands.

⁷ William Mitchell, *Winged Defense: The Development and Possibilities of Modern Air power--Economic and Military* (Tuscaloosa, AL: University of Alabama Press, 2009), xii.

⁸ USAF Doctrine Volume 1 - Basic Doctrine (Maxwell Air Force Base, AL: LeMay Center for Doctrine, February 2015.).

While the pre-war *Luftwaffe* focused primarily on creating an air force that was capable of providing support to the ground forces, its doctrine and operational experiences left room for other roles. Despite its tactical leaning, German airpower was a versatile tool that could be used in a variety of strategies, depending on the operational or strategic effect that was desired for the operation in which it was involved. This adaptive character of German airpower proved successful in the unique context of the operations in the Netherlands.

The traditional discussion within airpower theory that this thesis attempts to navigate is between airpower as an independent strategic force that can create decisive effects on the one hand, and airpower as a supporting service on the other. Throughout the century that airpower has been used in crisis and conflict, theorists and practitioners of airpower lined up on both sides of the debate and rarely managed to find common ground.

The first theorist of the strategic school of thought who continues to be influential in modern airpower thought was the Italian artillery officer Giulio Douhet.⁹ In his 1921 *Command of the Air*, Douhet spelled out his theory that airpower would be the decisive factor in the war of the future. Aircraft would make trench warfare a thing of the past because of their ability to fly over the fielded forces and any natural obstacles and strike the adversary in his heartland. Douhet prophesized the psychological effects of bombing civilians (with gas and incendiary bombs) would cause such unrest that the population would break out into massive protests. More specifically, he said, “[a] complete breakdown of the social structure cannot but take place in a country subjected to this kind of merciless pounding from the air. The time would

⁹ For an excellent study on Douhet which not only dissects the Italian’s theory but also places it in the context of a contemporary Italian debate on the potential value of airpower see: Thomas Hippler, *Bombing the People : Giulio Douhet and the Foundations of Air Power Strategy, 1884-1939* (Cambridge: Cambridge University Press, 2013).

soon come when, driven by the instinct of self-preservation, would rise up and demand an end to the war.”¹⁰

These Douhetian notions of strategic airpower were influential around the world in the 1920s and 1930s as nations built up their air forces to make use of this revolution in military technology. Theorists such as Mitchell and Hugh Trenchard wrote theories along Douhetian lines advocating for strategic airpower that would be a decisive factor in the conflict of the future. Mitchell wrote that “the influence of airpower on the ability of one nation to impress its will on another in an armed contest will be decisive.”¹¹ Mitchell’s and Trenchard’s theories, which heavily influenced the developments of the U.S. Army Air Corps (USAAC) and the Royal Air Force (RAF), targeted an adversary’s industrial and economic base rather than the population itself. The mechanism they claimed these bombings would trigger was essentially the same as Douhet’s. Degrading a state’s industrial base would seriously degrade its war waging capability as well as its economy. The population’s standard of living would deteriorate which would lead to social unrest and subsequently a change in the government’s behavior.¹² These strategic airpower concepts would be foundational for the Allied Combined Bomber Offensive in World War II.

A more contemporary theorist of the same school is John Warden.¹³ His theory, captured in the *Airpower Journal* article “The Enemy as a System,” is a modern application of the ideas that originate with Douhet, Mitchell, and Trenchard. Airpower, in Warden’s concept, has the ability to strike directly at the center rings of the adversary’s system, bypassing the fielded forces, and paralyzing a nation by strategically attacking key

¹⁰ Giulio Douhet, *The Command of the Air* (University of Alabama Press, 2009), 58.

¹¹ Mitchell, *Winged Defense*, 124.

¹² Mitchell, 126-127.

¹³ For an extensive overview of theorists of strategic airpower see David R Mets, *The Air Campaign: John Warden and the Classical Airpower Theorists*, Rev. ed. (Maxwell, AL: Air University Press, 1999).

nodes.¹⁴ Overall, theorists that advocate for a strategic role for airpower tend to overemphasize the effects that long-range bombers can have within an operation. The flip side of this advocacy often comprises a lack of attention to the played by ground and naval forces.

The other school of thought promotes the polar opposite idea of the strategic school. The tactical school portrays the value of airpower to be found in the support of the ground scheme of maneuver. One of the best-known interbellum theorists of this school was Sir John Slessor, an RAF officer, who postulated that air interdiction against an adversary's military forces was the most effective way to utilize airpower.¹⁵ In his conclusion, Slessor did not attempt to hide the antagonism between the two theoretical schools. In *Airpower and Armies*, he stated “[n]o attitude could be more vain or irritating in its effects than to claim that the next great war—if and when it comes—will be decided in the air, and in the air alone.”¹⁶

The most recent proponent associated with this school is Robert A. Pape. In his book *Bombing to Win*, Pape argued in favor of using airpower in a denial strategy, aimed at attrition of the adversary's military capabilities in conjunction with a ground offensive. Pape states that other coercive strategies—punishment, risk, and decapitation—rarely if ever work.¹⁷ Punishment strategies, or raising the cost for an adversary by targeting civilian targets and the population, specifically get short shrift from Pape. He offered “those who believe that states can be coerced by encouraging popular unrest that avoids messy battles have it backward; smashing the army, not killing civilians is the key to revolution in serious international disputes.”¹⁸ According to his logic,

¹⁴ John A. Warden, “The Enemy as a System,” *Airpower Journal* 9, no. Spring (1995): 40–55.

¹⁵ John Cotesworth Slessor, *Air Power and Armies* (University of Alabama Press, 2009).

¹⁶ Slessor, 214.

¹⁷ Robert A. Pape, *Bombing to Win: Air Power and Coercion in War*. (Ithaca, N.Y.: Cornell University Press, 1996), 86.

¹⁸ Pape, 27.

punishment strategies are ineffective for six reasons. First, the value of territory for nationalist interests increases resilience of a nation state. Second, Pape argued that “the prospect of the homeland, or part of it, ..., being ruled by alien groups constitutes an intolerable injury to nationalist sentiments.”¹⁹ Pape’s third reason holds that the longer a state is at war, the higher its tolerance for costs will become. The fourth reason was related to the limitations of conventional munitions which, in Pape’s reasoning, are not powerful enough to cause the extensive damage and injury to civilians that will cause a state to change its behavior or the population to put pressure on the government. Active and passive defensive measures, the theory states as the fifth reason, will decrease civilian vulnerability and render punishment strategies unsuccessful. Finally, Pape argued that the causal chain that leads from bombing to economic deprivation, social unrest and eventually changed behavior on the part of the government, as theorized by Douhet, simply does not hold based on historical evidence.

The other strategies Pape discounted as unsuccessful are risk-based. These strategies derive their coercive power from threatening damage to come if the adversary does not comply with the coercer’s demands. On the failure of risk strategies, Pape was rather concise. He considered risk strategies diluted forms of punishment strategies and therefore weaker.²⁰ In his analysis, Pape provided three reasons to support this claim. First, he continued his main argument against punishment. Because conventional airpower is not powerful enough to do substantial damage to an adversary, its coercive leverage is not large enough to change political behavior. Pape’s second reason stated that “damage threatened under a risk-based strategy cannot exceed the actual damage imposed by a punishment strategy.”²¹ The third reason

¹⁹ Pape, 21.

²⁰ Pape, 20.

²¹ Pape, 28.

for the failure of risk strategies, according to Pape, is based on the idea that risk strategies decrease a coercer's credibility rather than increase it. Because the coercer does not employ maximum power from the start, the coerced state may interpret this as a sign of weakness and will likely conclude that the coercer will not escalate the use of force.²²

At the basis of Pape's claim that denial is the only successful airpower strategy lies an equation: $R = B p(B) - C p(C)$.²³ This cost-benefit analysis, which accounts for the probability of costs and benefits occurring, predicts that the adversary will concede to the coercer's demands when the value of $R < 0$. In Pape's logic, only the attrition of fielded forces and the interdiction of an adversary's operations by airpower can make the costs and the probability of costs associated with continued resistance occurring that they will outweigh the actual and probable benefits of resistance.²⁴

The independent variables Pape used in his theory are civilian vulnerability and military vulnerability. Civilian vulnerability is the risk to life of the population. Pape's denial theory expects coercion to fail even if civilian vulnerability is high to very high.²⁵ Military vulnerability, Pape argued, is an expression of the "leaders expectations of being able to take or hold the disputed territory with military force."²⁶ Pape's denial theory expects that coercion will be successful when military vulnerability is high or very high.

In his conclusion, Pape was quite prescriptive in his advocacy of denial and dismissal of any other form of coercive airpower. "If a state

²² Pape, 28.

²³ R = value of resistance, B = potential benefits of resistance, $p(B)$ = probability of attaining benefits by continued resistance, C = potential costs of resistance, and $p(C)$ = probability of suffering costs. Pape, 16.

²⁴ In *Bombing to Win*, Pape considers a total of 33 cases of coercive air campaigns. From these 33, he selected five for more detailed analysis: U.S. coercion of Japan (1944-1945), North Korea (1950-1953), North Vietnam (1965-1972), Iraq (1991), and Allied coercion of Germany (1942-1945).

²⁵ Pape, 50-51.

²⁶ Pape, 51.

faces the grim necessity of using airpower for coercion, its leaders should think carefully about how to maximize the effects on the opponent's military strategy. This approach will not only be more effective but also harm fewer civilians."²⁷

Theoretical Problem

While one purpose of theory is simplification of complex phenomena in order to enable decision making, there lurks a risk in theorizing towards the general and prescriptive, thereby ignoring the specific. As Clausewitz reminded us in his advice on the usefulness of military theory: "Given the nature of the subject, we must remind ourselves that it is simply not possible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at any time...*talent and genius operate outside the rules, and theory conflicts with practice.*"²⁸ Therefore, it is especially exceptions to the accepted rule that theorists, strategists, and practitioners of airpower should be concerned with as they contemplate the most effective manner to connect ends, ways, and means.

The polarized character of the theoretical debate makes a nuanced assessment of the effectiveness of airpower during the invasion of the Netherlands difficult. The argument will quickly deteriorate into a binary discussion of strategic versus tactical airpower, or of strategies of denial versus strategies of risk or punishment. This polarization is visible in a number of works that have been written on German airpower in World War II, and specifically on the bombing of Rotterdam.

Many historians took the side of airpower as a supportive instrument in the German doctrine of *Blitzkrieg*. James Corum characterized the bombing of Rotterdam as being "for tactical military

²⁷ Pape, 331.

²⁸ Carl von Clausewitz et al., *On War*, Indexed Ed (Princeton, N.J.: Princeton University Press, 1984), 140 (Emphasis in original).

reasons in support of military operations.”²⁹ His analysis focused on the intent of the bombing of the city and not so much the effect it had on the city and the state of the Netherlands. He did not link the bombing to the subsequent surrender of the nation. Corum rightfully and thoroughly debunked the myth that the *Luftwaffe* had a doctrine of “terror bombing” that was specifically aimed at setting of the Douhetian mechanisms to change the target state’s behavior. Yet, by framing the Rotterdam bombing within that context and concluding that it was not a strategic mission but a tactical operation for operational effects, he missed the strategic results that this operation had on the Dutch.

Cajus Bekker, a prolific German military historian, came to the same one-sided conclusion. Ignoring the strategic repercussions of the bombing of Rotterdam and focusing on the idea that it was not part of a premeditated strategy of civilian punishment, he argued that its objective was “the tactical one of capturing the key point needed for the country’s occupation and of rescuing German soldiers, some hard pressed, in the north and south of the city.”³⁰

In *Bombing to Win*, Robert Pape also referenced the Dutch capitulation and framed it as a confirmation of his argument for denial. Pape states that “the Dutch government surrendered on 14 May 1940 although it still retained substantial forces in the field because it was persuaded that the fronts could not be held under continued *Luftwaffe* bombing.”³¹ The appendix to his book furthermore contained a short analysis of the German invasion on May 1940, in which Pape repeated the claim that the Dutch surrender was in line with his denial theory. Pape claimed that Dutch civilian vulnerability was high, with a significant uncertainty of survival for a large part of the population.

²⁹ James S Corum, *The Luftwaffe: Creating the Operational Air War, 1918-1940*, Modern War Studies (Lawrence: University Press of Kansas, 1997), 7.

³⁰ Cajus Bekker, *The Luftwaffe War Diaries: The German Air Force in World War II*. (New York: Da Capo Press, 1994), 113.

³¹ Pape, *Bombing to Win*, 70.

Military vulnerability, in Pape's assessment, was very high, meaning that a complete defeat had become inevitable because "neither defense nor heavy attrition of enemy forces was expected to be possible."³² As the following chapters demonstrate, Pape jumped to conclusions in his assessment of the circumstances and operations in the Netherlands in May 1940.³³ The details of the events between 10 and 14 May 1940 provide reason to search for nuance to his blunt assertion.

It is not that Bekker, Corum, and Pape were factually incorrect in their assessment of the intent and execution of the bombing; their conclusions on the tactical intent of the mission are persuasive. The problem, however, lies in their characterization of the event as an example of airpower as a tool within a denial strategy and ignoring the coercive effects the bombing of civilians and subsequent threats to other cities had at the strategic level.

On the opposing side of the spectrum, historians and military professionals wrote similarly binary accounts, often based on moral arguments. These portray the Rotterdam operation as a premeditated attack on the civilian population meant to break the will of the people and force the Dutch to surrender. This viewpoint dominated Dutch historical writing on Rotterdam for several decades after the war and is still an oft-heard explanation of what happened to one of the country's most populous cities on 14 May 1940.³⁴ Dr Loe de Jong, an influential Dutch historian who wrote an extensive history on the Netherlands in World War II, claims that the bombing of Rotterdam had a "terrorist character" and was a result of the German "aggressive, hard-hitting

³² Pape, 342..

³³ Pape, 342-343 Of note: Pape incorrectly states that Rotterdam was bombed on 13 May instead of 14 May.

³⁴ This view is especially prevalent among Dutch military historians who wrote about this history within the first few decades after the war. For a more contemporary account that defines the bombing as a terror raid see: P W M Hasselton, *Het bombardement van Rotterdam 14 mei 1940: incident of berekening?* (Amsterdam: De Bataafsche Leeuw, 1999).

mentality of national-socialism, aimed at breaking any resistance with any (permissible and non-permissible) means.”³⁵ In many of the earlier Dutch works, national biases against the occupying Germans were clearly noticeable. As time created distance from the traumatic events of World War II, however, Dutch academic scholarship has softened this accusatory tone toward the German actions in Rotterdam.³⁶

Middle Ground

The analysis of the opposing airpower theories and the problem that the polarization between them causes leads to the conclusion that these classic schools of airpower thought are insufficient to provide a complete and refined picture of the role that airpower played in the German campaigns between 1939 and 1941. From this conclusion follows the need for a framework that allows us to judge the use of airpower by Germany on its merits without having to place it either within the strategic or the tactical frame.

Colin Gray provided the foundations of that framework with the theory he postulated in *Airpower for Strategic Effect*. The tenor of Gray’s approach to airpower is caught in his definition of the term. Building on Mitchell’s classic definition, Gray posed that “airpower may be defined as the ability to do something [*strategically useful*] in the air.”³⁷ This succinct definition is helpful because it focuses the discussion on the ends to which airpower is used, not the ways (doctrine) or means (aircraft) used to get there. This subtle distinction provides an effective lens through which to assess the effectiveness of airpower in a general sense and tactical missions more specifically. How strategically useful is the application of airpower in a given context?

³⁵ Loe de Jong, *Het Koninkrijk Der Nederlanden in de Tweede Wereldoorlog. Deel 3 Mei '40* (The Hague: SDU, 1970), 516.

³⁶ H. Amersfoort, “De Proef op de Som” in H Amersfoort and P H Kamphuis, *Mei 1940: de Strijd op Nederlands Grondgebied*, (Amsterdam.: Boom, 2012), 144.

³⁷ Gray, *Airpower for Strategic Effect*, 9 (emphasis in original).

Gray captures his theory in 27 dicta which range from philosophical remarks on the place of airpower theory within general theory of strategy to more practical explanations of airpower's strengths and weaknesses. Throughout the book, Gray focused on the problem with the distinction between tactical and strategic airpower. "After all," he stated, "if some or all of my airpower is by definition (of operational mission and performance characteristics, especially range and therefore reach) inherently strategic, there is little necessity to think beyond what it might do to what might be the consequences of what it does. The tactical, operational, and strategic are thus all compounded, fused, at the price of the neglect of strategy."³⁸

Two key insights capture the core of Gray's theory and are most applicable for this study. First, Gray posed that the ultimate measure of airpower's merit is found in its ability to create strategic effects. Gray argued that is not the air weapon per se that is strategic; in Gray's words "all airpower is tactical," thereby discounting Douhetian concepts. Tactical airpower, however, is not just meant to support the objectives of the ground commander; it can achieve strategic effects on its own. This fusion of the tactical use with strategic effects distinguishes Gray's approach from the school of supporting airpower. The concept of strategic effects provides a working measurement to assess the effectiveness of the use of airpower. By looking at the strategic objectives of a given campaign, mapping airpower application to these objectives, and tracing the steps that link the tactical mission to the strategic goals, one can construct a causal chain that provides insights to the strategic effectiveness of airpower.

The second important insight from Gray's theory for our analysis of the *Luftwaffe* city bombings is the idea that context matters in every event. There is no panacea for the use of airpower that works every time.

³⁸ Gray, 288.

Gray reminded us that “[i]t is a mighty truth about airpower that context rules”.³⁹ Gray argued that every historical event is unique and it is up to the strategist to match the airpower available to the context in which it is expected to operate. Therefore, a comprehensive understanding of the political, strategic, and operational environment is of critical importance to the strategist. Theory should not be used as a tool for prediction that produces the best way to employ airpower for a given situation. Rather, theory serves as a lens through which to analyze the situation and the circumstances that create or constrain strategic possibilities. The strategist earns his keep by using these lenses to his benefit, gaining and understanding of the strategic effects that are most likely to be successful within the ruling context and then deploying airpower in the most effective way to achieve those effects.⁴⁰

Gray’s approach, particularly his concept of strategic effects and the importance of context, provides the lens that helps to accurately analyze the *Luftwaffe* operations in the Netherlands in May 1940. The next chapters explore German and Dutch strategy, the course of events during the first days of the invasion, and the bombing of Rotterdam along these lines.

³⁹ Gray, 308.

⁴⁰ Gray, 308.

Chapter 2

German Airpower Strategy and Operations

Historical accounts of the performance of the *Luftwaffe* in World War II often highlight the success of *Blitzkrieg* and the cooperation between the German Army and *Luftwaffe* on the operational level.⁴¹ These histories focus on an air force that had been built from scratch in less than seven years and that was very effective in a supporting role to the ground forces as these executed their mobile campaigns toward Poland in September 1939 and Western Europe in May 1940. This praise for the *Luftwaffe* and the revolution in air-ground integration it embodied is mostly justified, but to conclude that it was solely a supporting service by design and doctrine leaves much ground uncovered.

A closer look at the *Luftwaffe*'s rise since the end of World War I draws a subtler verdict over its theoretical and doctrinal development and German inclinations on the use of airpower at the start of World War II. Far from being a mere extension of the ground forces, the *Luftwaffe* had a wider range of roles that they were prepared to execute and that could be utilized when the circumstances demanded it.

This chapter analyzes the way in which doctrine, and practice determined the state of the *Luftwaffe* in the Spring of 1940 and how these factors played into how the operations that year were executed. To gain more insight on the plans for the invasion of Western Europe, this chapter furthermore examines how the *Fall Gelb* operational plan envisioned utilizing the air weapon for strategic effects. This overview provides a more nuanced lens through which to analyze the invasion of

⁴¹ *Blitzkrieg* was not an established German doctrinal term. While the exact origin of the word is unknown, it gained much popularity in the international press after the German successes in Poland and the West and became the catchphrase for the new German way of war. For an excellent analysis of the word, the concept, and the German main operations toward France see: Frieser, *The Blitzkrieg Legend: The 1940 Campaign in the West*.

the Netherlands in May 1940 and determine the role the bombing of Rotterdam played within that operation.

German Airpower Doctrine

In 1935, *Luftwaffe* Chief of Staff Lieutenant General Walter Wever established the doctrine that would guide the German air force into World War II. *Luftwaffe Dienstvorschrift 16* (L. Dv. 16) would be the standing doctrine for *Luftwaffe* operations throughout the war and offers a useful insight into how *Luftwaffe* leadership envisioned the use of the air weapon. James Corum and Richard Muller, who produced an extensive study on *Luftwaffe* doctrine, call it a “product of the combined effort of the *Luftwaffe* general staff, expressing the war philosophy commonly held by the *Luftwaffe*’s senior leaders in 1935.”⁴²

If one thing becomes clear from *L. Dv. 16* it is the offensive character of the *Luftwaffe*. Of the doctrine’s 280 articles, only 35 deal with the defensive missions the *Luftwaffe* would execute.⁴³ This offensive quality was not meant, however, only to support the ground maneuver of the *Heer*. General Wever assigned five core tasks to the *Luftwaffe* in the doctrine: offensive counter air, interdiction of LOCs, support to ground troops, support to naval operations, and strategic bombing of enemy industrial capacity.⁴⁴ While the focus on the supporting function of the *Luftwaffe* is clear from these tasks, *L. Dv. 16* it is not void of references to a more strategic mission for the *Luftwaffe* as Wever’s fifth task suggests. Wever, himself a proponent of strategic airpower in the years prior to 1935, specifically saw a more versatile mission set for the *Luftwaffe*.

More detailed analysis of the *L. Dv. 16* shows a number of references to the strategic mission. Article 2 of its introduction states

⁴² James S Corum and Richard R Muller, *The Luftwaffe’s Way of War: German Air Force Doctrine, 1911-1945* (Baltimore MD.: Nautical & Aviation Publ. Co., 1998), 119.

⁴³ Matthew Cooper, *The German Air Force, 1933-1945: An Anatomy of Failure* (London: Jane’s, 1981), 39.

⁴⁴ Corum, *The Luftwaffe*, 138.

that “[f]rom the start of the conflict, the air forces bring the war to the enemy. Aerial assault affects the fighting power of the enemy and the foundations of the enemy people’s will to resist.”⁴⁵ Note that the doctrine accounts for two mechanisms that will be brought to bear on the adversary. It is not just the military fighting power that will be targeted, but also the enemy people’s will. From the core tasks it becomes clear that this effect was to be achieved by attacking the enemy’s industrial base, which puts the German thinking on strategic airpower in line with the theories of Mitchell and Trenchard.

L. Dv.16 does not allow, however, for punishment strategies against civilian targets as a primary application of airpower. The text of article 186 only foresaw such missions in retaliation to like enemy missions on the German homeland: “[a]ttacks on cities for the purpose of terrorizing the civilian population should always be declined. However, should the enemy conduct terror raids on unprotected and undefended open cities, retaliatory attacks may be the only means of forcing the enemy to refrain from this brutal form of warfare. The timing will be determined primarily by the preceding enemy terror raid. In all cases the retaliatory nature of the attack must be made perfectly clear.”⁴⁶

This article thus specifically excludes the possibility of preemptive punishment attacks on adversaries’ populations. Yet events in the final years leading up to the German campaign in Western Europe provide some nuance to this claim. Doctrine is not the sole source from which to derive a sense of what the *Luftwaffe* was thinking and doing in those pre-war years. Neither is doctrine helpful to determine definitively the manner in which Nazi political and military leadership intended to utilize the *Luftwaffe* in the years to come. To complete the analysis of the factors that determined the state of German airpower in the early years

⁴⁵ Article 2 *Luftwaffe Dienstvorschrift 16*, 1935 quoted in Corum and Muller, *The Luftwaffe’s Way of War*, .

⁴⁶ Corum and Muller, *The Luftwaffe’s Way of War*, 141.

of World War II, it is essential to examine how Nazi Germany used airpower both as a tool on the battlefield and as a diplomatic stick to wield in their campaign of conquest.

German Airpower Practice

In 1937 and 1939, the *Luftwaffe* executed two operations that would further solidify its reputation and give it substantial coercive power. The *Legion Condor* operations in 1937 and the large-scale bombing operations that the *Luftwaffe* executed against Warsaw in September 1939 both contributed to the capability, credibility and communication that would later be used in the Netherlands.

The Spanish Civil War (1936-1939) was the first opportunity for the *Luftwaffe* to conduct large scale air operations and they exploited that opportunity willingly. Adolf Hitler sent his *Luftwaffe* to support the Nationalists, led by General Francisco Franco, in their battle against the Republicans who were the ruling faction in Spain. The main lessons learned from this campaign, executed by the expeditionary *Legion Condor*, were in the realm of strategic air transport and, more importantly, the integration of airpower with ground forces. The rebuilt *Luftwaffe* gained its first combat experience in the skies of Spain. On the importance of this experience, Corum notes that “[b]ecause of the Spanish War experience, the *Luftwaffe* in 1939 was the best-trained force for close air support operations in the world.”⁴⁷

The experiences in Spain had another unintended consequence, however, that is pertinent to the discussion on the *Luftwaffe* coercive power. The small town of Guernica was bombed on 26 April 1937. The *Luftwaffe* considered Guernica a legitimate military target as it was an important intersection of roads and could be fortified by Republican

⁴⁷ Corum, *The Luftwaffe*, 223.

forces to delay the Nationalist operations.⁴⁸ The intent of this bombing was to block the lines of communication for the Basque army, a mission in which the *Luftwaffe* succeeded.⁴⁹

The international outcry over Guernica, however, painted a very different picture of these events. The pictures of the burning town went across the world and the news reports spoke of over 2,500 casualties.⁵⁰ The overall conclusion was that Germany had executed a targeted terror raid on the innocent town of Guernica; this would become an image that would influence other European countries as they faced off against Germany.

This image of the *Luftwaffe* as a terrorizing force reinforced a socially constructed fear of the deadly potential of the air weapon that had been shaping up since the 1910s. In his 1908 novel *War in the Air*, H.G. Wells envisioned a future war in which violence, and the threat of violence, from the air would be a decisive factor. Wells wrote about a German attack on New York: "A long, vague period intervened, and people looking out of the windows of upper rooms discovered the dark hulls of German airships, gliding slowly and noiselessly, quite close at hand. Then quietly the electric lights came on again, and an uproar of nocturnal newsvendors began in the streets. The units of that vast and varied population bought and learnt what had happened; there had been a fight and New York had hoisted the white flag."⁵¹ The experiences of World War I discounted many of Well's predictions. The few strategic

⁴⁸ Raymond L Proctor, *Hitler's Luftwaffe in the Spanish Civil War* (Westport, Conn.: Greenwood Press, 1983), 128-131.

⁴⁹ Corum, *The Luftwaffe*, 198-199.

⁵⁰ The exact number of casualties in the Guernica bombing is still a subject of discussion. Estimations vary from less than 100 to over 1,500. For an overview of the controversy over casualty numbers, as well as an extensive discussion on the international effects of Guernica see Herbert R. Southworth, *Guernica! Guernica! A Study of Journalism, Diplomacy, Propaganda, and History* (Berkeley, CA: University of California Press, 1977), 353-370.

⁵¹ Herbert George Wells, *The War in the Air*, Penguin Classics (London ; New York: Penguin Books, 2005), 82.

bombing raids that were executed by Germany against London had caused only limited damage and casualties. According to airpower historian Tami Biddle, however, the moral effect of the bombing had been considerable, which would form the basis of and expanding fear of airpower throughout the 1920s and 1930s.⁵²

In Guernica, the *Luftwaffe* had unwittingly strengthened its reputation as a ruthless destructive force. The next opportunity for the *Luftwaffe* to hone its coercive skills presented itself during *Fall Weiss*, the invasion of Poland in September 1939. The invasion on the ground would be accompanied by a concentrated air campaign against Warsaw with objective of breaking the will of the Polish population and forces. Due to weather restrictions this the mission was cancelled, and the *Luftwaffe* fell back into its doctrinal routine of supporting the ground advance with close air support and interdiction missions. A few days later as German forces moved closer to Warsaw from the west, the circumstances changed and the *Luftwaffe* saw opportunities to switch their mode of operations. On 22 September, Wolfram von Richthofen, the commander of Luftflotte 2, sent a message to *Luftwaffe* Headquarters: “Urgently request exploitation of last opportunity for large-scale experiment as devastation and terror raid...every effort will be made to eradicate Warsaw.”⁵³

The attack on Warsaw would eventually claim the lives of 3,000 soldiers and 24,000 civilians.⁵⁴ As it did after Guernica, the Nazi propaganda campaign capitalized on the news coming from Warsaw. As historian Lee Kennet put it “[w]hile the *Luftwaffe* viewed the

⁵² Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas about Strategic Bombing, 1914-1945* (Princeton, N.J.: Princeton University Press, 2002), 57.

⁵³ E R Hooton, *Phoenix Triumphant: The Rise and Rise of the Luftwaffe* (London, UK: Arms and Armour, 1994), 187.

⁵⁴ Lee B Kennett, *A History of Strategic Bombing* (New York: Charles Scribner's Sons, 1983), 108.

bombardment of Warsaw as a legitimate military operation, the Ministry of Propaganda turned it into an apocalypse of Wagnerian grandeur.”⁵⁵

Coercive Diplomacy

Guernica, Warsaw, and the Nazi propaganda spin on these events solidified the reputation of the *Luftwaffe* as a ruthless and destructive machine. Adolf Hitler took full advantage of this reputation in his diplomatic efforts in 1938 and 1939. Rotterdam in 1940 would not be first time that Nazi Germany threatened its adversaries with destruction of their cities by the *Luftwaffe*.

In the aftermath of Guernica and as a part of his initial moves of conquest, Adolf Hitler capitalized on the reputation and coercive credibility that his *Luftwaffe* had gained in the Spanish Civil War. The image of the cruelty of Guernica that had been picked up by the international press was an unexpected gift to the Nazi propaganda campaign. Both in the annexation of Austria in March 1938, as well as the events leading up the occupation of Czechoslovakia in 1939, Hitler threatened to bomb Vienna and Prague respectively if the states would not cede to his demands.

Another telling example of how much fear the *Luftwaffe* and Hitler’s propaganda instilled in the countries surrounding Germany comes from the Munich Conference. At the Conference, which was meant to normalize relations between Germany, Italy, Great Britain, and France in order to avert a major war, the threat of the *Luftwaffe*’s terror loomed large over European societies. According to George Quester, one-third of the population of Paris evacuated the city during the course of the conference out of fear that the *Luftwaffe* would bomb the city.⁵⁶

A Royal Air Force operational history of the *Luftwaffe* echoes the

⁵⁵ Kennett, 109.

⁵⁶ George H Quester, *Deterrence before Hiroshima: The Airpower Background of Modern Strategy* (New Brunswick, NJ: Transaction Books, 1986), 98.

reputation of the Luftwaffe in 1938. The authors state that “by 1938, [t]he German Propaganda Ministry had been busily and successfully sowing a belief in the world that the German Air Force was so mighty as to be capable of crushing any country it pleased by massed bombing...The fear of the *Luftwaffe* began to grow throughout Europe.”⁵⁷

These examples of German coercive airpower practice in Guernica and Warsaw, its diplomatic use in Prague and Vienna, as well as the scare it produced in Paris and throughout Europe, support the conclusion that the *Luftwaffe* in 1940 was more than a mere supporting service to the ground scheme of maneuver. Airpower, in the minds of Nazi German political and military leadership, had its own strategic merit. The threat of force or the actual use of force could compel an adversary to change its behavior, on the battlefield or in the political realm. Theory, doctrine, and practice thus all contributed to the state of the *Luftwaffe* in May 1940, when it was deployed in the invasion of the Netherlands.

German Strategy and *Fall Gelb*

The German campaign in Western Europe is commonly known as the Battle for France. As the main continental adversary, a defeat of the French was critical to German aims of domination over Europe. Accounts of this battle for France often portray the invasions of Belgium and the Netherlands as mere stepping stones to Paris, or a diversionary move to draw away attention from the main thrust.⁵⁸ This perspective does not do the events in the Low Countries justice, however. The operations that commenced on 10 May 1940 were critical elements to the

⁵⁷ W.H. IV Tatum and E.J. Hoffschmidt, eds., *The Rise and Fall of the German Air Force, 1933-1945* (Old Greenwich, CN: WE Inc., 1969), 19.

⁵⁸ For the latter assessment of the purpose of the invasion of the Low Countries see Robert Michael Citino, *Quest for Decisive Victory. : From Stalemate to Blitzkrieg in Europe, 1899-1940*, Modern War Studies (Lawrence, KS: University Press of Kansas, 2002), 163; and Sir Basil Henry Liddell Hart, *The German Generals Talk* (New York: William Morrow and Co., 1948), 117.

German course of action, not just on the way to Paris but also to counter any potential British intervention. Yet, the desire to march German troops under the *Arc de Triomphe* does not sufficiently explain the decision to bomb Rotterdam. It is therefore important to clarify the strategic objectives for *Fall Gelb* to understand the situation in which the bombing of Rotterdam took place.

After the successful campaign in Poland, Hitler was determined to pivot to the West immediately and maintain strategic momentum. In his estimation, time was on the side of the Allies. If the Germans were to be victorious on the continent, they would have to move before the Allies outnumbered and outproduced them, and especially before the Americans intervened economically and militarily.⁵⁹ This sense of strategic urgency reverberates in Hitler's 9 October 1939 *Weisung 6*, the first directive for the invasion of the Netherlands, Belgium, and France. The directive stated, "[a]ny further delay will not only entail the end of Belgian and perhaps of Dutch neutrality, to the advantage of the allies; it will also increasingly strengthen the military power of the enemy, reduce the confidence of neutral nation's in Germany's final victory, and make it more difficult to bring Italy into the war on our side as a full ally."⁶⁰ In a memorandum to his chief of the Armed Forces High Command (*Ober Kommando der Wehrmacht*, OKW) Field Marshal Wilhelm Keitel and the commanders-in-chief of the army, navy, and air force, issued that same day, Hitler made it even more clear: "Time is more likely to be an ally of the Western powers than of us...therefore attack, which can decide the war, is preferable under all circumstances to defense. This attack cannot begin soon enough."⁶¹

The winter of 1939-1940 was therefore a crucial period for Nazi

⁵⁹ Adam Tooze, *The Wages of Destruction: The Making and Breaking of the Nazi Economy* (New York: Viking, 2007), 333-335.

⁶⁰ Adolf Hitler's *Weisung 6* quoted in H.R. Trevor-Roper, *Blitzkrieg to Defeat: Hitler's War Directives, 1939-1945*. (New York: Holt, Rinehart and Winston, 1965), 13.

⁶¹ Memorandum from Adolf Hitler to OKW, 9 October, 1939 quoted in Trevor-Roper, 13.

Germany. Nazi leadership felt a great sense of urgency to act before the window of opportunity Germany had created for itself in the years between 1933 and 1939 would close. In an address to the Army generals on 23 November 1939, Hitler expressed this sentiment once again when he “described the offensive as a gamble, and a choice between victory and destruction.”⁶² The offensive could not be postponed for too long as this would dramatically decrease the chances of success. The strategic objectives were to be achieved at the shortest notice possible, or they would not be achievable at all.

The decisive offensive into Western Europe that Hitler so desired would not take place for more than six months. In the final months of 1939 and into 1940 Hitler kept the pressure on his generals to initiate operations to the West as soon as possible. From November through January, Hitler announced *Angriff Tag* (Attack Day) for the operation at least ten times, only to see it postponed every time due to weather or other unfavorable circumstances.⁶³ These delays were welcomed by most German generals, who were not so confident that a western campaign would be as successful as the battle in Poland. Their forces needed time to regroup and work out a more detailed plan of operations against the western allies who were numerically stronger and, as was widely believed by German leadership, more capable than their Polish counterparts.⁶⁴

In January 1940, the generals inadvertently got the delay they wanted when *Luftwaffe* majors Helmuth Reinberger and Erich Hoenmanns crash landed their Messerschmitt 108 in Belgium while carrying Hitler’s plans for the invasion of Western Europe.⁶⁵ As crucial information about the German intent was now compromised, new

⁶² Liddell Hart, *The German Generals Talk*, 109.

⁶³ File of orders concerning *Fall Gelb* in: Nederlands Instituut voor Militaire Historie, The Hague, Toegang 448, Duitse organisatie en planning mei 1940, inventarisnummer 22

⁶⁴ Erich von Manstein, *Lost Victories* (Novato, CA: Presidio Press, 1994), 83.

⁶⁵ Ronald E. Powaski, *Lightning War: Blitzkrieg in the West, 1940* (Hoboken, N.J.: J. Wiley & Sons, 2003), 3.

designs were needed and the campaign was postponed. This delay was the opportunity for General Erich von Manstein, chief of staff of Army Group A, to promote his ideas for a campaign that would create strategic surprise in the western theater. Manstein's concepts stood in stark contrast the plans that General Franz Halder, chief of staff of the Army High Command (*Oberkommando des Heeres*, OKH), had drawn up in October 1939. In these plans, created hastily after Hitler had demanded a quick pivot to the West, German strategy basically repeated the Schlieffen plan of the previous war in 1914-1918. Manstein vehemently opposed this idea that would put the German forces at a disadvantage in a frontal assault on the extensive system of fortifications and defense in depth in Belgium and Northern France. In his memoirs, Manstein ridiculed the plan by mocking it as one that "our opponents had already rehearsed with us once before."⁶⁶ Manstein's version of *Fall Gelb* pleased Hitler much more than the previous version as it exuded speed and surprise and fulfilled the Führer's desire to deal a decisive blow to Western Europe. In the aftermath of the war Manstein's planning was well respected. Telford Taylor, renowned World War II historian, called it "one of the most shrewdly and skillfully contrived plans in the annals of modern warfare."⁶⁷

Manstein's plan had two major objectives for Army Group B that would be responsible for the invasion of the Netherlands. The first strategic objective was an unconditional Dutch surrender and a subsequent German occupation. A quick German take-over would ensure that the Netherlands would not ally with Great Britain and serve as a foothold for allied forces. On the contrary, the Low Countries were to be used as a staging area for a later operation against Britain.⁶⁸ The

⁶⁶ Manstein, *Lost Victories*, 98.

⁶⁷ Telford Taylor, *The March of Conquest: The German Victories of Western Europe, 1940*, 1991, 179.

⁶⁸ Study on the Luftwaffe's preparation for the attack on the west 1939-1940 by Studiengruppe Geschichte des Luftkrieges, Karlsruhe, 1958. In: Nederlands Instituut

second strategic objective was to create a diversion for the main German thrust by General Gerd von Rundstedt's Army Group A through the Ardennes into Belgium and France. General Fedor Bock's Army Group north would execute a northerly flanking maneuver to draw the French, Belgians, and the British Expeditionary Force (BEF) north so that the panzer forces, spearheaded by Heinz Guderian, would face less resistance.⁶⁹

The German planning assumption behind this part of the operation was that both the Netherlands and Belgium would offer only slight resistance and would break easily when confronted with quick defeats.⁷⁰ German victory in the Low Countries, these plans predicted, would be swift and relatively easy. Quick successes would free up the forces to concentrate against the main adversary: France.

Throughout the following months, *Fall Gelb* was further developed into a detailed operations plan that leaned heavily on maneuver operations by mechanized infantry supported from the air by the *Luftwaffe*. A novel concept that Manstein integrated into his plan was the use of airborne troops to be dropped around The Hague and Rotterdam to capture Dutch airfields and attempt to capture senior Dutch military leaders and members of the royal family. This operation, which was to be led by the *Luftwaffe*, was an attempt by *Luftwaffe* leadership to achieve strategic objectives independently with what Pape would qualify as a strategy of leadership decapitation.⁷¹ Chapter 4 provides more detail on this strategy and its outcome.

Hitler's *Weisung* 7 (18 October 1939) and 8 (20 November 1939)

voor Militaire Historie, The Hague, Toegang 448, Duitse organisatie en planning mei 1940, inventarisnummer 114

⁶⁹ Franz Halder, *The Halder War Diary 1939-1942* (Novato, CA: Presidio Press, 1988), 142.

⁷⁰ German intelligence report belonging to *Fall Gelb* plan, Nederlands Instituut voor Militaire Historie, The Hague, Toegang 448, Duitse organisatie en planning mei 1940, inventarisnummer 34.

⁷¹ Pape, *Bombing to Win*, 80.

provided further guidance on how the campaign in the West was to be executed. Within these directives, a few lines stand out, especially considering the emphasis on the punishing power of the Luftwaffe that Nazi leadership had so willingly used in their coercive diplomacy in 1938 and 1939. In *Weisung 7*, Hitler specifically forbade “attacks on industrial targets, or such as might highly endanger the civilian population.”⁷² *Weisung 8* specified this once more: “Neither in Holland nor in Belgium-Luxembourg are centers of population, and in particular large open cities and industrial installations, to be attacked without compelling military necessity.”⁷³ These instructions are quite clear on the protected status of civilian targets.

Rotterdam, a large population center, was subject to an intense air raid. The following chapter explores the course of the invasion of the Netherlands and shows how the unique local circumstances culminated in the bombing of a city and the threat of more violence to follow.

Conclusion

The history of the development of German airpower in the late 1930s demonstrates that the *Luftwaffe* was not just designed to support the ground campaign with close air support and interdiction. Theory, doctrine, practice, and the coercive use of airpower in diplomacy created an air arm that had flexibility in its modes of operation and was poised to conduct operations for strategic effect.

The character of the *Fall Gelb* operations order, and especially the strategic objectives that this operation was supposed to achieve, constituted the context within which airpower was to operate. More specifically, the analysis of this plan demonstrates the circumstances that would push German military leaders to a more strategic use of the

⁷² Hitler’s *Weisung 7* quoted in: Trevor-Roper, *Blitzkrieg to Defeat*, 15.

⁷³ Hitler’s *Weisung 8* quoted in Trevor-Roper, 17.

Luftwaffe. Speed was the key factor in this calculus. German strategy was built around a quick war with decisive battles as early as possible. German leadership wanted to avoid a rerun of the trench warfare stalemate in World War I which had cost them dearly.



Chapter 3

The Dutch Prepare for War

The previous chapter examined theoretical, doctrinal and practical factors on the German side that influenced the German invasion in May 1940. To grasp the full picture, however, it is essential to understand what resistance they were up against and how the Dutch organized their defenses. For the Dutch armed forces, the battle that started on 10 May was all about buying time, which made it diametrically opposed to the German objective of finishing the operations in the Netherlands as soon as possible and move on to France.

This chapter will provide a succinct overview of the Dutch strategy leading up to World War II and the implications this had for the national defense forces and the execution of defensive operations. This outline sets the scene for the following chapters that discuss the invasion and the role of the Rotterdam bombing.

Armed Neutrality

The Dutch had not been involved in a war on the European continent for over a century in 1940. Since the Belgian secession in 1831 and having gone through a period of relative decline since its Golden Age in the 17th century, the Netherlands had resigned itself to the role of a small nation within the power balance of Europe. During the Great War, the Netherlands remained neutral. For a small nation, with an economy highly dependent on foreign trade, peace and stability were a vital national interest and the Netherlands positioned itself accordingly.

Dutch foreign policy in the late 19th century and through the interbellum was based on the idea that the Netherlands would benefit most from a stable balance of power on the European continent and it actively strived for attempted to help create this by advocating for international laws and institutions. International law especially would

truly develop into a cornerstone for Dutch foreign policy during the late 19th and early 20th century. Because of its neutralist position in Europe, the Netherlands was a perfect location to hold the international peace conventions of 1899 and 1907.⁷⁴ The Netherlands gladly rose to the occasion and from that period took on the role of champion for international law. Its leaders even went so far as to advocate for a supranational police force that would maintain peace among nations, an unheard-of proposal for that time. In the words of Cornelis van Vollenhoven, an influential Dutch jurist of the time: "Should now, in our time, the circle of influential and powerful foreign countries – including all its diplomats, its lawyers, its admirals and generals – smile indifferently and incredulously upon this pure and noble aim of global justice supported by a global army, then let the Netherlands dare to be the Joan of Arc."⁷⁵

The progressive attitude of the Dutch on these subjects led to The Hague growing into the capital of international law. It became the home of the intergovernmental Permanent Court of Justice in 1899 and the League of Nations Permanent Court of Justice was established in the city in 1922. The Netherlands was also one of the nations to deploy its forces to what some consider the first international peacekeeping force. In 1935, the Netherlands sent 250 marines and soldiers to the Saar territory to oversee the plebiscite provided for by the Versailles Treaty of 1919.⁷⁶

For its national defense, the Netherlands worked on the idea that the larger powers in Europe would not allow any other state to conquer

⁷⁴ The First (1899) and Second (1907) Hague Conferences focused on the pacific resolution of international conflict, disarmament, laws of war, and warcrimes.

⁷⁵ Quoted in Nico Schrijver, "A Missionary Burden or Enlightened Self-Interest? International Law in Dutch Foreign Policy," *Netherlands International Law Review* 57, no. 2 (2010).

⁷⁶ Schrijver, 217

the country.⁷⁷ In the case of a violation of its neutrality, the Dutch would automatically join the alliance opposing the aggressor. The strategic assumption was that this policy would sufficiently deter any potential aggressor from attacking the Netherlands.⁷⁸ The challenge was to devise a strategy and corresponding military force that would be effective in deterring an adversary from attacking the country, while not becoming so offensive that it may affect the regional power balance.

Dutch Military Strategy

Dutch military strategy was a logical product of this policy of armed neutrality. Being a small state caught between the large European powers of Germany, Britain, and France, it was evident that the Netherlands would not be able to defend itself against an attack by any of those three. The only two military strategic objectives that seemed achievable given the power balance were to deter a potential aggressor and, if deterrence failed and the Netherlands was forced to fight, to buy time for support from other powers to arrive.

The disposition of the Dutch armed forces during this time reflected this policy of neutralism. Shying away from any capability that could suggest offensive intentions, and making sure that Dutch military endeavors would not create the impression that the Netherlands was siding with one of the powers, the Dutch army, navy, and air force were feeble defensive forces and underequipped and undertrained ones at that.

If it would come to war within the Dutch borders, the Netherlands counted on its geographical features to provide the backbone of its defenses. An extensive system of historic fortified positions along natural

⁷⁷ Joris J. C. Voorhoeve, *Peace, Profits and Principles: A Study of Dutch Foreign Policy* (The Hague; Boston: M. Nijhoff, 1979).

⁷⁸ H.W. van den Doel, "Het Ontstaan van de Duitse Dreiging" in: Amersfoort and Kamphuis, *Mei 1940: de Strijd op Nederlands Grondgebied*, 29.

waterways and large inundated areas would slow down an adversary's advance. If need be, the Dutch forces would fight a static defensive battle from prepared positions along the defensive lines and fall back upon Fortress Holland for a final stand. In addition to the static defense lines, the Dutch Army had a mobile component that would be tasked to delay an invasion at the more easterly *IJssellinie*, *Grebbeinie*, and *Peel-Raamstelling*.⁷⁹

After Hitler came to power in Germany in 1933, the Dutch military leaders were not so naïve as to fully ignore the buildup that was occurring to their east. In 1935, Major General Izaäk Reijnders, chief of the General Staff, noted that, with the rising military power of Germany, a European war was becoming very likely.⁸⁰ On the basis of this warning, the government approved major investments in the equipment and personnel of the armed forces. Key items to be improved were aircraft, anti-aircraft artillery, and infantry weapons.⁸¹ With these investments, Reijnders hoped to increase the deterrent posture of his forces as well as give them a fighting chance to resist an invasion long enough for help to arrive. If it would come to a war on Dutch territory, the strategy was to fight as long as possible in order to give Allied forces time to come to the aid of the Netherlands. Unfortunately, the increase in defense expenditure occurred too late. As the German tanks rolled across the border in May 1940, the trenches, firing positions, and pillboxes that were meant to strengthen the first line of defense at the *Grebbeinie* and *Peel-Raamstelling* were still under construction

⁷⁹ The system of defensive lines is depicted in Figure 1. Fortress Holland is the area indicated as *Vesting Holland*.

⁸⁰ Van den Doel, "Het Ontstaan van de Duitse Dreiging" in Amersfoort and Kamphuis, *Mei 1940*, 35.

⁸¹ Van den Doel in Amersfoort and Kamphuis, 36.

General Winkelman's Preparations

General Henri Winkelman was installed as commander of the Dutch army and navy on 6 February 1940 after his predecessor had resigned because of increasing conflict between him, his generals and the minister of defense. His job was to prepare the Dutch defenses for a German invasion that seemed more likely by the day, especially since in January the Halder plans had been found after the *Luftwaffe* plane crash landed in Belgium. Winkelman knew his forces would be unable to effectively conduct an active mobile defense against a *Blitzkrieg* invasion by the Germans. Therefore, he opted for the most pragmatic solution consisting of an organized fighting retreat from the more easterly defensive lines towards the area around The Hague and Rotterdam. The initial lines of defense were set up along the *Grebbelinie*, north of the main rivers, and the *Peel-Raam Stelling* to the south. Along the *Grebbelinie*, Dutch forces were to hold their positions as long as feasible. The forces on the *Peel-Raam Stelling* were meant as a deterrent and they were ordered to retreat at the start of hostilities and strengthen the defense of Fortress Holland. This area, surrounded by elaborate defensive positions and inundated areas, would allow the Dutch to fight a prolonged war. They would hold out in Fortress Holland and keep the lines of communication to the south open until Allied support, from Belgium, France, and Britain, arrived.⁸²

Fortress Holland therefore was the center of gravity for Winkelman's plans. It was strongly defended by natural water barriers to the South and large inundated areas and prepared defensive positions to the East and North. It also had its weaknesses, however. The bridges at Moerdijk connected the province of North Brabant with Fortress Holland, and these bridges would either be blown up at the first signs of

⁸² H. Amersfoort and J.W.M. Schulten, "Duel der Generaals" in Amersfoort and Kamphuis, 63.

an invasion or defended heavily. Winkelman had also learned of the German new mode of operations with airborne troops from the German invasions in Denmark and Norway in April 1940. During Operation *Weserübung*, surprise landings by airborne troops had taken key airfields and had given Germany the great advantage of strategic surprise.⁸³ In order to counter such attacks, General Winkelman had the airfields within Fortress Holland reinforced with air defense artillery and ordered possible landing sites and roads in the area to be blocked.⁸⁴

Understanding his forces' weaknesses in case of a German invasion, Winkelman chose the most pragmatic and feasible operational approach that was available to him. Based on the idea of buying time for potential help by the French and the British, he had strengthened the defenses as much as he could

By 9 May 1940, with the German threat imminent, Winkelman had done what he could to prepare his forces for an invasion. The army was in the highest state of readiness and deployed to the most easterly defensive lines, the air force stood on alert at the airfields around The Hague and Rotterdam, and Fortress Holland was locked down and ready to hold out as long as possible.

⁸³ For more details on Operation *Weserübung* see: Klaus A. Maier et al., *Germany and the Second World War. Volume II: Germany's Initial Conquests in Europe* (Oxford, NY: Clarendon Press, 1991).

⁸⁴ Van den Doel in Amersfoort and Kamphuis, 43.



Figure 1: Dutch Defensive Lines 1940

Source: Niels Bosboom (<https://commons.wikimedia.org>)

Chapter 4:

10 – 14 May 1940

Early in the morning of 10 May 1940, the German and Dutch forces met on the battlefield. Airpower played a key role in how the events would unfold. This chapter provides an overview of the different ways in which Germany used airpower to achieve their operational, as well as strategic, objectives.

Within the short timeframe of three days, not including the events around Rotterdam on 14 May, the *Luftwaffe* employed two different airpower strategies in their efforts to break Dutch resistance. On 10 May, the invasion kicked off with an example of a decapitation strategy, as a large-scale *Luftwaffe*-led airborne operation attempted to capture Dutch political and military leadership. In parallel, the *Luftwaffe* executed a denial strategy consistent with the main concepts of *L.Dv.16* by supporting the advance of the *Wehrmacht* through close air support and interdiction missions.

Neither of the strategies employed brought the battle to a decisive end. *Fall Festung*, the airborne operation, failed to achieve its primary objectives, and the German advance reached its culmination point at Rotterdam, where the forward momentum was stopped by Dutch defenders. Both strategies did, however, contribute significantly to the overall success of *Fall Gelb*. This observation is relevant to the theme of this thesis as it supports the assertion that it is not helpful to think about airpower in binary terms of successful or failing strategies. Strategic success of airpower is dependent upon using the right type of airpower at the right time, and is a product of a comprehensive assessment of the circumstances at hand.

The following vignettes analyze the details of the operations that the *Luftwaffe* conducted in the context of these two strategies, and show where these were successful and where they fell short. The vignettes

also highlight the unique circumstances in the Netherlands which impacted the effectiveness of the German operations.

Surprise for Strategic Effect

The German invasion of the Netherlands commenced with a *Luftwaffe* operation directly aimed at achieving strategic effect by a strategy of decapitation. At 0400 on 10 May, German airborne troops landed around The Hague and Rotterdam. The air transport fleet of Ju 52s that carried them had entered Dutch airspace at 0130, but continued to the North Sea, giving the impression to the Dutch forces that the *Luftwaffe* was headed for Britain and respecting Dutch neutrality. Over the water, however, the transport aircraft turned around and dropped their loads of paratroopers on airfields, and key bridges close to the cities of The Hague and Rotterdam. Paratroopers from the 22nd Airborne Infantry Division, led by General Hans Graf von Sponeck, and transport aircraft with troops from the 7th Airborne Division under General Kurt Student, would execute the first large-scale airborne attack in history.⁸⁵

This operation, code named *Fall Festung*, is an interesting case in the discussion on the use of airpower for strategic effects. As the German key to victory in the West was speed, *Fall Gelb* contained a branch plan aimed at capturing the Dutch government, its military leadership, and Queen Wilhelmina in an attempt to decapitate the state and force a quick surrender. The origins of this plan must be quickly highlighted to grasp the relevance of this operation.

The original plans for the offensive toward France, drawn up in the fall of 1939 and compromised in January 1940, had not included an occupation of the Netherlands. In these plans, General Halder's concept

⁸⁵ Telford Taylor, *The March of Conquest; the German Victories in Western Europe, 1940*. (New York: Simon and Schuster, 1958), 190. The invasions of Denmark and Norway in April 1940 had also seen the use of airborne troops, but on a much smaller scale.

was to transit his forces through the most southern part of the country in order to get to the battlefields in Belgium and face the French, while striking a deal with the Dutch that would guarantee their neutrality. When this plan was compromised in January, and General von Manstein presented his new operational concept, the *Luftwaffe* weighed in by advocating for a total occupation of the Netherlands. From their perspective this occupation was necessary to safeguard the Dutch airfields from being used by the Royal Air Force in case of a British intervention. Manstein agreed and put *Luftwaffe* General Kurt Student, the “father” of the German paratroopers, in charge of the operation. The *Luftwaffe*, therefore, was not just committed to this operation because its result would be beneficial to their future operations. This landing would also be an opportunity for the *Luftwaffe* to prove its capability to independently run such an endeavor and achieve strategic effects. Such a success would strengthen the *Luftwaffe*’s position in the German military hierarchy which was dominated by the *Heer*.

Fall Festung had both strategic and operational objectives. The operational objectives were twofold. The first was to capture three Dutch airfields, Ockenburg, Ypenburg, and Valkenburg, in the vicinity of The Hague. The second was to capture key bridges over the Maas river near Rotterdam. By launching attacks deep into the heart of Fortress Holland, Student would create airheads for the ground forces to connect to as they advanced west. Essentially, the concept was to create a two front war with which the Dutch army would not be able to cope.

The strategic decapitation objective of *Fall Festung* is of particular interest within the scope of this thesis. Upon capturing the airfields around The Hague, Graf von Sponeck’s forces were to advance into the city and capture Queen Wilhelmina, the Dutch cabinet, and the military high command. According to Dutch historian C.M. Schulten, the

objectives of this operation were therefore more political than military.⁸⁶ The German strategy aimed at forcing a quick Dutch surrender, perhaps even within a day, by applying airpower in a new way.

The Dutch defenders were not as surprised as the German plans had hoped for, however. Based on the reports from Norway and Denmark in the previous weeks, Winkelman had the most likely landing zones in open areas and on the main roads blocked by obstacles to impede offensive airborne operations. Furthermore, on the evening of 9 May, General Winkelman had received a message from a Dutch officer working at the Dutch embassy in Berlin who had excellent connections in the German military staff: "Tomorrow at dawn, hold tight."⁸⁷

The Dutch forces were ready and the German paratroopers ran into significant resistance as they made their way from their drop zones to their objectives on 10 May. While they initially captured the airfields Ypenburg, Ockenburg, and Valkenburg, Dutch counterattacks managed to drive them off on the same day. The operation to capture the royal family and military leaders also failed. Many German transport aircraft were destroyed, either in flight or after landing on the Dutch beaches and in fields. Casualties among the German airborne troops were high and General Hans Graf von Sponeck never gained the strong foothold in Fortress Holland that was supposed to link up with the advancing forces from the east. To the contrary, von Sponeck's 7th Airborne Division found itself pocketed by Dutch troops and unable to connect with Eighteenth Army that was moving west.⁸⁸

The first attempt by the *Luftwaffe* to achieve independently a strategic objective by applying airpower in a decapitation strategy had

⁸⁶ C.M. Schulten, 'Fall Festung': de aanval op het regeringscentrum' in Amersfoort and Kamphuis, *Mei 1940*, 76

⁸⁷ H.W. van den Doel in Amersfoort and Kamphuis, 44.

⁸⁸ Report HQ Fortress Holland on course of the war, Nederlands Instituut voor Militaire Historie, The Hague. Toegang 409 Gevechtsverslagen en -rapporten mei 1940, inventarisnummer 479004

failed. The outcome of the operations, however, would heavily influence the decision-making process that would precede the bombing of Rotterdam. As von Sponeck's forces were surrounded by the Dutch, a quick breakthrough in Rotterdam would become a critical objective to the German military leadership.

***Luftwaffe* Airpower in Support of Sixth and Eighteenth Armies**

Around the same time General Student's paratroopers dropped into the Netherlands, the German Sixth and Eighteenth Armies, under Army Group B, crossed the Dutch border in the east and pressed on toward the Dutch defensive lines. The Sixth Army, consisting of 11 infantry divisions, two panzer divisions, and airborne troops, invaded the southern provinces on their way to Belgium. The Eighteenth Army, consisting of X and XXVI Army Corps and the 1st Cavalry Division, was tasked with the occupation of the Netherlands in the shortest possible time in order to move on to France after having defeated the Dutch. The center of gravity for this plan was XXVII Corps, whose objective was to break through the *Peel-Raam Stelling* and move west to make contact with the airborne troops that had captured the bridges on the southeastern frontline of Fortress Holland.

Assessments by the Eighteenth Army regarding Dutch defensive actions defined two possible Dutch courses of action. On the one hand, Dutch troops could execute an immediate fallback to the *Nieuwe Hollandse Waterlinie*, a historic defensive line characterized by its use of existing waterways and inundations, to concentrate its defenses on Fortress Holland. On the other hand, there was a possibility that the Dutch would heavily defend the more easterly *Grebbelinie*, keep the German forces at bay, and only fall back when forced. In both courses of action, German planners anticipated a strong defense of Rotterdam as a gateway to Fortress Holland as well as a possible touchpoint for

intervention from the south by French or British forces.⁸⁹

German advances from the east progressed according to plan for the first few days. The 1st Cavalry Division occupied the northern provinces without much resistance but were halted in their advance at the *Wonsstelling* and the eastern end of the *Afsluitdijk*. At this position, Dutch forces kept up their defenses until the capitulation message arrived in the evening of 14 May. Dutch resistance in the east of the country concentrated around the *Grebbelinie*, where outnumbered forces of the Dutch Field Army kept up the defensive line until 13 May, after which they fell back to the eastern front of Fortress Holland to continue defensive operations in the vicinity of Utrecht. The fight over the *Grebbelinie* between 11 and 13 May 1940 illustrates the story of the *Luftwaffe* support to the ground maneuver.

General Winkelman had instructed his forces on the *Grebbelinie* to fight a tenacious defensive fight in order to stall the German advance for as long as possible. Despite the late start on preparing positions, the Dutch Field Army had done a reasonable job of putting up defensive measures with trenches, firing positions, and barb wire obstacles. Furthermore, much of the surrounding area had been inundated. The defensive lines consisted of a forward line of outposts, backed up by two lines of trenches and firing positions: the frontline and the stopline. Within three days, the German Eighteenth Army would break through all these lines, supported in their operations by strong *Luftwaffe* close air support. On 11 and 12 May, the German forces, supported by Ju 87 Stuka dive bombers, managed to roll up the Dutch defenses in the outpost- and frontline without many problems. The overwhelming German ground force and the relentless bombing by the Stukas created chaos among the Dutch troops who fought valiantly but had no other

⁸⁹ H. Amersfoort and J.W.M. Schulten, "Duel der Generaals" Amersfoort and Kamphuis, 71.

option but to retreat. Besides having a physical impact on the battlefield, the Stukas also had a significant psychological effect on the troops. Dutch historian H.W. van den Doel mentions this as one of the most important effects the *Luftwaffe* had on the Dutch army: “the impression that especially the Stukas left on the Dutch troops was enormous. Because they lacked anti-aircraft guns, the Dutch soldiers felt powerless against the German air attacks. This strongly influenced morale.”⁹⁰

Overwhelmed and in a state of chaos, Dutch troops started to retreat on 12 May. The situation seemed hopeless and Winkelman ordered his troops to fall back to Fortress Holland to continue the defense from there. On 13 May, however, some pockets of Dutch resistance remained, much to the frustration of the local German infantry commander who called in air support. Around 1330, 27 Stukas bombed the last Dutch stands on the *Grebbeleinie* with decisive effect. This attack was the push that started a massive chaotic retreat of Dutch troops to the West. The war diary of the German 207 Infantry Division captured the moment after the Stukas had bombed the Dutch positions: “The effect was successful. They [the Stukas] brought significant relief to the infantry. The enemy abandoned his post in panic.”⁹¹

Conclusion

The German invasion had made significant progress in the first three days of the operation. Even though the initial attempt to decapitate Dutch political and military leadership had failed, German ground forces had beaten back Dutch forces from the eastern defensive lines. The *Luftwaffe* applied two separate airpower strategies in its execution of this first phase of the invasion. The airborne operations of

⁹⁰ H.W. van den Doel. “Geen Brug te Ver” in Amersfoort and Kamphuis, 141.

⁹¹ War diary of the 207th Infantry Division. Quoted in H.W. van den Doel. “Het veldleger bezwijkt” in Amersfoort and Kamphuis, 114.

Fall Festung were based on a strategic application of airpower to coerce the Netherlands into capitulation by capturing its leadership. The operations in support of the advancing ground campaign, aimed at close air support and interdiction, were an example of a denial strategy. Neither strategy had proven decisive in the course of the battle. Both, however, contributed significantly to the advance of the German invasion and set the stage for the final events. After the fall of the *Grebbeleinie* on 13 May, the road toward Fortress Holland lay open for the German forces and all movement converged on 14 May around Rotterdam. At this city, the gateway to the heart of the nation, the scene of a decisive battle shaped up. In these circumstances, the Luftwaffe would again apply a different airpower approach, including elements of punishment and risk strategies to force the Dutch to surrender.



Chapter 5

Rotterdam

The previous chapters provided an account of the first three days of the invasion and how the German offensive, supported by airpower used for decapitation and denial, fared against the Dutch defensive strategy of an organized retreat towards Fortress Holland with the objective of holding out as long as possible for potential allied help to arrive.

The patterns of German ground maneuver with support of the *Luftwaffe* were very similar those of the *Fall Weiss* campaign into Poland in September 1939. The operational approach that had brought Germany strategic success to the East was now unleashed on the Netherlands, Belgium, and France. As the previous chapter demonstrated, from 10-13 May *Fall Gelb*, the epitome of *Blitzkrieg*, was very successful in rolling up the first lines of the Dutch defensive.

There was, however, another parallel to the operation in Poland. As it did when German forces approached Warsaw in September 1939, on 14 May German momentum stagnated around Rotterdam. The Dutch had successfully set up their defensive lines north of the Maas river and, even though German pressure was building, were in a position to prolong the battle for a considerable amount of time. The Germans, on the other hand, had problems breaking the Dutch defenses with the troops they had available. The denial strategy that the *Luftwaffe* had employed in the first three days seemed to be insufficient to create the breakthrough that the military leaders needed. They were determined, however, to bring the occupation of the Netherlands to a quick end so they could focus on the offensive towards Paris and prevent the Low Countries from becoming a beachhead for an Allied intervention.

Given these considerations, the *Luftwaffe* executed a bombing mission against Rotterdam which devastated the city center, forced the

local commander to surrender the city, and later that night led to General Winkelman's capitulation. This bombing and its aftermath presents a clear break in the pattern of the use of airpower during the invasion, and therefore deserves a separate consideration. The bombing of Rotterdam is an example of using a punishment and risk airpower strategy to achieve a strategic effect. The unique circumstances of the invasion of the Netherlands had changed from a campaign of speed and maneuver into a potential protracted battle in an urban environment. This change of the operational environment forced the *Luftwaffe* to change its application of airpower. This chapter examines the events on 14 May 1940 as it analyzes the situation which led to the German decision to bomb Rotterdam, the effects of the threat issued to Utrecht, and the dynamics of coercion that resulted in the capitulation.

14 May 1940

Overall, the Dutch operational situation on the morning of 14 May was critical but not hopeless. In a report drawn up in June 1940, the chief of staff of the General Headquarters describes the priorities that his staff focused on. The retreat from the Grebbelinie the day before was executed successfully and these forces were setting up defensive positions on the eastern sector of Fortress Holland. To the north, German attacks against the harbor city of Den Helder had been repelled and the Stelling van Amsterdam seemed strong enough to resist any potential German advances over the IJsselmeer. The situation around Rotterdam, the report states, was quite stable. Dutch forces controlled the bridges over the Maas river and there were no signs of an imminent German offensive. To the west of the city, the German airborne troops had been expelled from most of their initial objectives and an

envelopment of von Sponeck's forces was shaping up.⁹²

Cajus Bekker also noted the strong position of the Rotterdam garrison: "From a strictly military point of view there was no reason why it should yield."⁹³ Telford Taylor wrote "[at] Rotterdam, however, the Germans did not find the going so easy. The Dutch had ample time to seal off the bridgehead into the city and were in strong defensive positions. There was little opportunity for the Germans to deploy their tanks, and the deadlock at the bridges remained unbroken throughout May 12 and 13...and so the morning of May 14 found the Dutch still defending Rotterdam and maintaining an as yet unbroken line along the east front of Fortress Holland. Had the issue been drawn exclusively on the ground, the might well have held out a least several days longer."⁹⁴

These historians' assessments confirm General Winkelman's own. In a telephone call with Colonel Scharroo who asked for guidance in case German forces around the city would be reinforced further by tanks and artillery units and a forceful attack seemed imminent, Winkelman told Scharroo to "persevere in his defense of the city and hold positions until the last man."⁹⁵

Continuing Dutch resistance and its tenacity was something the Germans had not particularly anticipated. During the preparation phase for Fall Gelb, one of their key assumptions was that the Dutch would be overrun in one to two days⁹⁶ Such assumptions were based on the intelligence on the state of the Dutch armed forces before the war and the overwhelming strength Germany could bring to bear. The substantial trouble encountered in the airborne operations, the heavy

⁹² Report by Chief of Staff, Maj Gen Baron van Voorst tot Voorst, Nederlands Instituut voor Militaire Historie, The Hague. Toegang 409 Gevechtsverslagen en -rapporten mei 1940, inventarisnummer 442024

⁹³ Bekker, *The Luftwaffe War Diaries*, 107.

⁹⁴ Taylor, *The March of Conquest*, 199

⁹⁵ H. Amersfoort and J.W.M. Schulten, "Duel der Generaals" in Amersfoort and Kamphuis, *Mei 1940*, 72

⁹⁶ Amersfoort and Schulten in Amersfoort and Kamphuis, 73.

resistance in the North at the Afsluitdijk, and the dug-in defensive positions in an urban environment were taking additional time. Time was exactly what German High Command could not afford to lose.

In order to concentrate forces for a follow-on attack towards France, the ultimate goal of *Fall Gelb*, it was vital for the German forces not to get bogged down in the Dutch polders. Furthermore, West of Rotterdam Graf von Sponeck's 22nd Airborne Infantry Division had been hit significantly during their operations within Fortress Holland. They were enveloped by Dutch forces, and in need of support from the regular infantry and cavalry forces moving in from the East. A German breakthrough in Rotterdam was of the utmost importance.

Hitler's *Weisung 11*, dated 14 May 1940, reflects this need for a quick decision in the Netherlands as part of *Fall Gelb*: "On the northern flank the Dutch Army has shown itself capable of a stronger resistance than had been supposed. For political and military reasons, this resistance must be broken *quickly*. It is the task of the Army, by moving strong forces from the south in conjunction with the attack against the Eastern front, to bring about the speedy fall of Fortress Holland."⁹⁷ This political intervention by Hitler in the day-to-day operations of his forces is indicative of the high level pressure that military leadership felt in their decision-making process around Rotterdam.

Field Marshal Göring was personally engaged with the rapid progress of operations around Rotterdam. In an order to his air fleets and airborne division in the late afternoon of 14 May, after the bombing but supposedly before word of Dutch capitulation had reached him, he ordered "a breakthrough to Sponeck today, without consideration of a capitulation. Bomber units will attack with three groups between 1900 and 2000 when I do not immediately receive confirmation that the

⁹⁷ Hitler's *Weisung 11*, quoted in Trevor-Roper, 25 (emphasis in original).

breakthrough has begun.”⁹⁸

Hitler’s and Göring’s urgency also resonates on the tactical level in an order by General Georg von Küchler to General Rudolf Schmidt, sent on the evening of 13 May: “Resistance in Rotterdam is to be broken by all means, if need be destruction of the city may be threatened or executed.”⁹⁹ The urgency of a breakthrough in Rotterdam was therefore apparent at all levels of German command.

The Dutch resistance and the risk of losing much time and forces in a prolonged offensive to conquer Fortress Holland called for decisive measures and a quick resolution of the operational problem. Judging by the language of these messages at the different levels of German command on 13 and 14 May, military leadership throughout the chain of command agreed that the situation around Rotterdam constituted a “compelling military necessity” as was mentioned in Hitler’s *Weisung* 8.¹⁰⁰ Rotterdam and the Dutch defenses concentrated there were the obstacle between the German forces and their strategic objectives. The city had become a valid target from the German perspective and airpower was the most suitable weapon to remove that obstacle. What followed presents an interesting case of coercion by airpower within the campaign.

The Fall of Rotterdam

Around 1030 in the morning a German messenger called on Colonel Pieter Scharroo, the commander of the Rotterdam cantonment, with a notice. It demanded that the city should surrender in two hours

⁹⁸ Message from Commander Luftflotte 2 to Airborne Division battle staff in Nederlands Instituut voor Militaire Historie, The Hague, Toegang 448, Duitse organisatie en planning mei 1940, inventarisnummer 86.

⁹⁹ Order from Commander Eighteenth Army to Commander XXXIX Army Corps in Nederlands Instituut voor Militaire Historie, The Hague. Toegang 448, Duitse organisatie en planning mei 1940, inventarisnummer 83.

¹⁰⁰ Trevor-Roper, 17.

or the city would have to face “the sharpest measures of destruction.”¹⁰¹ Coercive bargaining had begun.

During parliamentary hearings after the war, Scharroo reflected on receiving this ultimatum. It did not make much of an impression on him. He remarked that had no intention of giving in “because there was not a single reason to do so. There were no Germans in Rotterdam; I did not have to capitulate.”¹⁰² Furthermore, the ultimatum had not been signed. Scharroo suspected a ruse by the Germans and conferred with General Winkelman over the telephone. Winkelman concurred with Scharroo’s assessment and told the colonel to establish contact with the German forces and ask for a more specific, and signed, ultimatum.

In the meantime, around 1145, 93 Heinkel He-111 medium bombers took off from German bases at Quackenbrück, Delmenhorst, and Münster on their mission to Rotterdam. Their target was a triangle of city blocks north of the Maas river which contained the Dutch defensive positions. They were to execute a two-pronged attack with 54 Heinkels led by Oberst Wilhelm Lackner coming in from the East, and 39 more Heinkels led by Oberstleutnant Otto Höhne approaching the city from the South. The crews had been briefed about the ongoing negotiations in the city. In case the city surrendered before the bombers arrived, they were to go to alternate targets around Antwerp. They would be informed by radio in case their mission would change and were told to look out for red *Very* lights as they approached the target as a signal to call off the attack.¹⁰³

Around the same time that the Heinkels took off from German, the messenger that had delivered the ultimatum to Scharroo returned to

¹⁰¹ German ultimatum to Rotterdam on 14 May 1940, Instituut voor Militaire Historie, The Hague. Toegang 409, Gevechtsverslagen en -rapporten mei 1940, inventarisnummer 481005.

¹⁰² *Enquetecommissie Regeringsbeleid 1940-1945: Verslag Houdende de Uitkomsten van Het Onderzoek Deel 1C Algemene Inleiding / Militair Beleid 1939-1940* (’s-Gravenhage: Staatsdrukkerij- en Uitgeverijbedrijf, 1949), 643.

¹⁰³ Bekker, *The Luftwaffe War Diaries*, 109.

General Schmidt's command post. He noted that even though Colonel Scharroo had not accepted the ultimatum, his impression was that the Dutch commander was willing to negotiate the surrender of the city. At 1200, based on this message, General Schmidt sent out a radio message to the incoming bombers: "Bombing attack on Rotterdam postponed due to negotiations. Report new readiness time." This message, however, never reached the formations of Heinkels.¹⁰⁴

At 1215, Colonel Scharroo dispatched a messenger across the bridge to the German command post. Dutch Captain J.D. Backer met with General Schmidt who provided a new, handwritten and signed, ultimatum on the back of the original one. This time, the Dutch forces had until 1620 to surrender. With this new ultimatum in his pocket, Captain Backer made his way back to the north side of the river around 1320. At the same time a drone of aircraft engines filled the sky as two formations of He-111's approach the city. "For God's sake, this will be a catastrophe," General Schmidt called out as he ordered his troops to shoot up their red *Very* lights.¹⁰⁵

These lights were not observed by the first squadron of Heinkels led by Oberst Lackner. During his flight in, he had not received any word from higher echelon that the mission had changed. At this time, he was out of long-range communication means. Coming in at an altitude of around 2,000 feet to be clear of the haze and smoke that was degrading visibility over the city, Lackner did not observe any *Very* lights and gave the order for weapon release. Ninety-seven tons of high explosive bombs rained down on the city center of Rotterdam.

The other squadron had just initiated the bomb release sequence, when Oberstleutnant Höhne observed two faint *Very* lights. He called off the attack and redirected his squadron to alternate targets around

¹⁰⁴ Bekker, 110; Van den Doel in Amersfoort and Kamphuis, *Mei 1940*, 134

¹⁰⁵ H.W. van den Doel. "Geen Brug te Ver" in H Amersfoort and P H Kamphuis, *Mei 1940*, 139.

Antwerp. Before he did so, however, the first three of his aircraft had already dropped their load, adding their bombs to those dropped by Lackner's formation. In total, the Heinkels dropped 158 500-pound and 1,150 100-pound bombs, for a total of 97 tons of high explosives.¹⁰⁶

The bombs devastated a large part of the city center of Rotterdam. Even though no incendiary bombs were used, fires spread quickly due to the building materials used in the warehouses as well as the large amount of oil and grease that stored in the area. The Rotterdam fire brigade was not equipped to quell this scale of fire and the city burned for days.¹⁰⁷

As previous chapters eluded to, there is substantial discussion about the intent of the Rotterdam bombing. The target selection by the Heinkels and the dynamics at the tactical levels of command suggest that this operation was part of the ongoing denial campaign to break Dutch defensive lines. The content and tone of the interactions at the higher levels of command, however, point to the possibility that this operation had a more strategic intent. Another indication for this type of reasoning can be found in the choice of aircraft to execute this mission. Given the location and composition of the Dutch defensive positions north of the river, the mission seemed a good fit for precision dive bombing. The Ju-87 *Stuka* had been used successfully in the days prior to support the ground advance and would have been ideally suited to launch an attack on pinpoint locations around the bridges. Instead, the mission was carried out by the less accurate He-111 squadrons.

In the end, the intent of the operation is less important than the effect that it had on Dutch decision-making. Colonel Scharroo and his staff assessed this bombing as a punishment attack on the population of

¹⁰⁶ Bekker, *The Luftwaffe War Diaries*, 112.

¹⁰⁷ After the war, Göring would point to the inability of the Rotterdam fire brigades to counter the narrative that the Luftwaffe had executed a terror raid on the city. David J.C. Irving, *Göring: A Biography* (London: Grafton, 1991), 288.

Rotterdam, and this assessment steered his decision-making in the hours to come.

In the ensuing chaos of falling bombs, burning buildings, and dying people, Captain Backer returned to Colonel Scharroo's command post at 1415 and delivered Schmidt's new ultimatum. At that time, the mayor of Rotterdam and one of his aldermen were also at the command post to plea with Colonel Scharroo to surrender the city. In the discussion that followed between Colonel Scharroo, his staff officers, the general headquarters liaison, and the mayor and alderman of Rotterdam, the dynamics of German coercion through punishment and risk were visible again. In his recounting of the events before the Parliamentary Commission in 1948, Colonel Scharroo recalled his reasoning to surrender. He referred to two threats by the Germans that had been delivered by the messenger who brought the first ultimatum and again by Captain Backer who had been told the same in his meeting with General Schmidt. "[I] had a very difficult decision to make. The foundation of my reasoning was the threat against Amsterdam, The Hague, Utrecht, and Haarlem. These cities would suffer the same fate as Rotterdam if I would not surrender."¹⁰⁸ Therefore, at 1550, Colonel Scharroo walked across the bridge to surrender the city to General Schmidt. Rotterdam had fallen.

Around 1745, Colonel Scharroo returned to his command post to issue the orders to his troops to lay down their weapons and follow the German instructions for surrender. When he arrived, he found a message from General Winkelman stating that he concurred with Colonel Scharroo's decision to surrender the city.¹⁰⁹ Rotterdam had been lost, but

¹⁰⁸ *Enquetecommissie Regeringsbeleid 1940-1945: Verslag Houdende de Uitkomsten van Het Onderzoek Deel 1C Algemene Inleiding / Militair Beleid 1939-1940* ('s-Gravenhage: Staatsdrukkerij- en Uitgeverijbedrijf, 1949), 644.

¹⁰⁹ Report by Chief of Staff Ltcol J.J.C.W. Wilson, Nederlands Instituut voor Militaire Historie, The Hague, Toegang 409 Gevechtsverslagen en -rapporten mei 1940, inventarisnummer 481003

the Dutch armed forces were not yet defeated. General Winkelman still had options to defend Fortress Holland for a longer time, and the onus was now on him to continue the fight or capitulate.

Capitulation

General Winkelman had been given full military as well as civil authority for the Netherlands on 13 May, when the royal family and cabinet fled to England to continue a government in London. The situation surrounding this transfer of authority was chaotic with deliberations between different gatherings of ministers and other authorities. Winkelman received no written instructions on how to proceed. In the parliamentary hearings after the war he described the guidance he received was to “continue the defense, but without suffering unnecessary losses.”¹¹⁰

Throughout the German invasion, Winkelman was determined to continue the fight and repeatedly communicated this to his commanders as well as the population. In a 14 May press release written before the bombing of Rotterdam, Winkelman acknowledged that mindset: “The battle is heavy. However, it is worth fighting because it is a battle for our sovereign nationhood, which we conquered centuries ago under leadership of [William of] Orange.”¹¹¹

The bombing of Rotterdam, and the subsequent surrender by Colonel Scharroo, was a severe blow to the country. It was not, however, the final push that led to the Dutch capitulation. Even with Rotterdam lost to the German advance, Winkelman had ample options to fall back to defensive positions around The Hague and continue the fight. Doing so would be following the guidance he had received from the Cabinet, and consistent with his own attitude toward defending the nation until

¹¹⁰ Middelkoop, *Generaal H.G. Winkelman: standvastig strijder (1876-1952)*, 257.

¹¹¹ Middelkoop, 276.

the last stand. Therefore, the German strategies of decapitation, denial, and punishment by airpower had put significant pressure on the Dutch defensive system, but none had been able to decisively end the battle.

A message from the eastern front of Fortress Holland, however, made Winkelman reconsider his decision to fight on. It was this message, an artifact of a German risk strategy, which would eventually push General Winkelman to the point of capitulation. Around the same time that Rotterdam was being attacked, a German messenger approached Utrecht with an ultimatum from the German commander, not unlike the one that had been issued to Colonel Scharroo that morning. The city had to surrender within two hours or face complete destruction. Simultaneously, the *Luftwaffe* dropped 4,000 leaflets with the same message: "I hereby order the Commander of Utrecht to give up the useless battle and surrender the city in order to spare the city and its people the fate of Warsaw. I order you to signal your unconditional surrender. Otherwise, I will regrettably be forced to consider Utrecht a fortress and commence the attack with all military means."¹¹²

When this message reached Winkelman's headquarters, the general consulted his commanders of the Field Army and Fortress Holland and together they reached the conclusion that Rotterdam, and the threat of a similar fate for Utrecht and perhaps Amsterdam or The Hague clearly passed the threshold of unnecessary losses that Winkelman had been given.¹¹³ Further resistance would be too costly and therefore, Winkelman surrendered. German coercion by airpower, through the use of force and the threat of more violence, had achieved its objective.

¹¹² German pamphlet distributed in Utrecht, Nederlands Instituut voor Militaire Historie, The Hague, Toegang 445 Meidagen, capitulatie en demobilisatie Nederlands Leger 1940, inventarisnummer 29

¹¹³ Report by Chief of Staff, Maj Gen Baron van Voorst tot Voorst, Nederlands Instituut voor Militaire Historie, The Hague, Toegang 409 Gevechtsverslagen en -rapporten mei 1940, inventarisnummer 442024

Conclusion

The sequence of events on 14 May represent a break with the course of events in the preceding days since the first German troops crossed the Dutch border in the early morning of 10 May. Until the morning of the 14th, the *Luftwaffe* had provided support to the ground offensive by flying air interdiction and close air support missions, as well as dropping the airborne troops around The Hague and Rotterdam, and flying in the 7th Airborne Division. During these days there was no sign of the *Luftwaffe* being used as a coercive instrument used to force Dutch units or cities to surrender. This pattern changed in the morning of 14 May when the German messenger delivered the ultimatum in Rotterdam.

It is unfortunate that many potential sources that could shed light on German decision making at the higher levels of military command up to Field Marshall Göring and even Adolf Hitler were destroyed during and after the war. It will therefore be impossible to establish the exact reason why Rotterdam was bombed the way it was. From the historical accounts and the primary sources that are still available it is possible to infer some general remarks, however. Based on the two ultimatums that were issued to Rotterdam and Utrecht, it is plausible that it was a conscious decision at the level of the OKH to execute a coercive strategy against the Netherlands, aimed at forcing a capitulation under threat of aerial bombings of cities. The strategic urgency to quickly end the offensive in the Netherlands and continue the advance toward France called for different measures. German *Blitzkrieg* doctrine of speed and maneuver had been successful at rolling up the majority of Dutch defensive positions in a few days' time. Around Rotterdam, and potentially Utrecht, the context of the offensive changed. Lessons the Germans had learned in Warsaw predicted that it would be difficult to capture large defended cities with their mechanized forces. Besides the cost in manpower and materiel, this would also cost time and would

mean that forces could not be redirected to France. The Germans needed a crowbar to keep the operational momentum going and coercion by airpower provided that tool.

The story of the Dutch invasion, culminating in the bombing of Rotterdam and the subsequent Dutch capitulation highlights the varied ways in which airpower can be used. Within a very short period of time, German actions on the battlefield show elements of four different airpower strategies: decapitation, denial, punishment and risk. None of these were decisive by themselves, but all contributed to German strategic success in the Netherlands.

In conclusion, the Dutch capitulation was not purely based on the incapacitation of its armed forces by the German advance. The situation of the Dutch defenses was critical but not hopeless on the morning of 14 May. Military options, however desperate, to continue defensive operations remained available to General Winkelman. These options were even still available after Rotterdam had fallen. Robert Pape's assessment that the Dutch defenses were defeated by the bombing, and that this success of denial was the sole reason for the Dutch capitulation, was incorrect.¹¹⁴ Instead of a pure denial strategy, it was a combination of strategies that forced the Dutch to surrender. The decapitation and denial strategies that dominated Luftwaffe operations in the first three days set the stage for the final act at Rotterdam and Utrecht. In the end, the use of force against civilian targets and the threat of more such attacks pushed General Winkelman to the point of surrender. When Winkelman retired in 1946 he reiterated this main reason for his decision to a local newspaper: "The day of the capitulation

¹¹⁴ Pape, *Bombing to Win*, 70

was the darkest day of my life. Capitulation was inevitable, especially because of the grave threat to the defenseless population”¹¹⁵



¹¹⁵ “Winkelman, Oud-Opperbevelhebber gaat van natuur genieten”. Nieuw Utrechts Dagblad, 19 August 1946



Figure 2: Oude Binnenweg, Rotterdam, May 1940
 Source: Collection Jasper Verolme



Figure 3: Leuvenhaven, Rotterdam, May 1940
 Source: Collection Jasper Verolme



Figure 4: View from Erasmushuis toward Grote Kerk, Rotterdam, May 1940.
 Source: Collection Jasper Verolme



Figure 5: Goudsesingel, Rotterdam, May 1940.
 Source: Collection Jasper Verolme



Figure 6: Junkers 52 over Rotterdam, May 1940.
Source: Collection Jasper Verolme



Figure 7: Rotterdam, May 1940
Source: Collection Jasper Verolme

Conclusion

The bombing of Rotterdam and the threat against Utrecht were the final push that led to the capitulation of the Dutch armed forces. It was therefore an application of coercive German airpower through a range of strategies of decapitation, denial, punishment, and risk that collectively achieved the strategic effect that the Germans needed in the invasion of the Netherlands and on their way to Paris.

The intent of the Rotterdam bombing may well have been tactical or operational, or part of a denial strategy, at the lower levels of German command, as could be concluded by the situation around the bridges in the city center and General Schmidt's desire to press on through the city and into Fortress Holland. When we widen the scope of the analysis, however, to include the dynamics at the higher command level this perspective becomes more nuanced. Field Marshal Göring was adamant to save von Sponeck's airborne forces that were enveloped to the West of the city, and the urgency to finish the operation quickly and move on to France was voiced even by Adolf Hitler which exerted a significant political pressure on the operation. A breakthrough on the ground did not seem likely, considering the strong defensive position the Dutch forces had created for themselves. A prolonged fight in urban terrain, disadvantageous to the *Blitzkrieg* concepts of maneuver and speed, would set the German timetable back significantly. Executing a large-scale bombing operation to break Dutch resistance was therefore a sound military decision on the part of the Germans, as it would achieve an operational as well as strategic effect.

The threat against Utrecht that was issued at the same time as Rotterdam was bombed also suggests a strategic intent to use the *Luftwaffe* as a strategic tool of coercion. This deliberate use of airpower in a coercive risk strategy was in line with the pre-war developments that this thesis pointed out.

Between 1933 and 1940, Nazi Germany turned the *Luftwaffe* into a credible coercive air weapon, even though its doctrine, equipment, and training were not specifically poised for strategic operations. The bombing of Rotterdam and the threat to Utrecht displayed the coercive power of the *Luftwaffe* within the events of a single day. The *Luftwaffe*'s credibility did not originate from an impressive arsenal of strategic bombers with a long reach. Rather, it was based on a mix of a Nazi narrative and two prior events that solidified this. First, in the pre-war years, Adolf Hitler, Joseph Goebbels, and the Nazi propaganda machine had created an image of the *Luftwaffe* as a radically destructive power built to lay cities to waste. Hitler had used it in his interactions with Czechoslovakia and Austria as a tool of coercive diplomacy and did not shy away from communicating this narrative to deter or impress other European nations. Second, two events had reinforced that image in the years before 1940. The bombing of Guernica in 1937, even though it was not intended as a terror bombing, was the first glimpse the world got of the prowess of the new *Luftwaffe*. German propaganda as well as the international press, were eager to dramatize the events in Spain to create a horrific reputation for Hitler's new air weapon. In Warsaw, on 25 September 1939, this reputation was further solidified. The intent of this bombing was not as clearly operational as Guernica had been. There were definite operational reasons for the generals to want to capture Warsaw at the earliest opportunity, but the indiscriminate execution of the operation does raise the question if Hitler also intended to achieve a direct strategic effect with this display of airpower. Whatever the underlying intent may have been, the bombing of Warsaw further solidified the image of the *Luftwaffe* as a tool of terror, designed to attack population centers.

Thus, whether by chance or by design, the *Luftwaffe* in 1940 was a credible coercive threat. Germany used this tool to its advantage in a

move to coerce the Dutch into capitulation. The course of the battle in the Netherlands between 10 and 14 May demonstrated two different airpower strategies. The initial attempt to quickly defeat the Dutch resistance by capturing its political and military leadership shows elements of a decapitation strategy. The ground invasion by the Sixth and Eighteenth Armies was supported by the *Luftwaffe* in a denial role. The decapitation strategy failed in its primary objective but was successful in capturing some of the key bridges. The denial strategy significantly contributed to the quick advance of the German forces. At Rotterdam, however, the denial strategy was insufficient to create the effects that German leadership needed at that time: a quick breakthrough and end to the military operations so the focus could be fully shifted toward France. To achieve these desired effects, German strategy shifted to using airpower as a coercive tool through punishment and risk. This shift of strategy brought Dutch leadership to the conclusion that capitulation was in its best interest.

Had the bombing of Rotterdam not taken place and had the subsequent threat against Utrecht not been issued, it seems unlikely that General Winkelman would have surrendered his forces on 14 May. As the analysis of the battle showed, Winkelman still had options to continue the defensive operations in Fortress Holland even if Rotterdam had fallen to a German ground operation. It was not the defeat of the forces that determined the decision that Winkelman made in the afternoon of 14 May; it was the loss of civilian life in Rotterdam and the threat of more violence to follow.

The interplay of different airpower strategies within the short duration of the German invasion of the Netherlands, as well as the significant strategic effect of the punishment and risk strategies, leads to some observations on the broader discussion on airpower's merits.

Colin Gray's theory, specifically his concepts of airpower for strategic effect and the importance of context, provide a lens to draw

some conclusions within this debate. First, the importance of context comes out clearly in the historical analysis of the events in the Netherlands between 10 and 14 May. Every situation is unique and especially in war and conflict the context in which airpower is supposed to operate can change often and quickly. The invasion of the Netherlands was no exception to that rule. The ways in which the *Luftwaffe* switched modes of operation between the airborne landings, ground support, and coercive bombing threat demonstrate that Germany in 1940 understood this important factor and managed to adapt its operations to it.

The circumstances in the Netherlands changed in two important ways. First, there was the problem of speed and how the Dutch defenses frustrated German intentions. The German plans were based on a short operation in the Netherlands with a maximum duration of 1-2 days. If the Dutch would not surrender by the attempted capture of their political and military leadership through the use of airborne forces, the overwhelming ground forces the German Army rolled into the country would surely defeat the poorly prepared Dutch forces quickly. German doctrine based on speed, maneuver, and surprise would quickly outmaneuver the static Dutch defenses and make them useless which would force a Dutch capitulation. This assumption did not hold. Against all expectations, the Dutch defensive lines of Fortress Holland proved quite capable and breaking through into the heart of the country was looking to turn into a longer campaign of attrition warfare in an urban environment. Even though a Dutch capitulation was inevitable eventually due to the number and quality of German troops that were coming into the country, the Dutch defensive strategy and the successful defense at Rotterdam had changed the context in which Germany had to execute its operations. General Schmidt's forces were in no position to force a breakthrough without the help of substantially more ground forces. Combined with the pressure from Adolf Hitler on May 14 to finish

the Dutch invasion quickly and move to France, this change inspired the German decision to change the mission of the *Luftwaffe* from a strategy of denial into a strategy of punishment and risk.

The second change in the operational circumstances was the position of von Sponeck's airborne forces who were enveloped by Dutch troops and cut off from reinforcements that were supposed to come from the Eighteenth Army which was stuck on the opposite side of Rotterdam. The Dutch had pulled back their mobile and forward lines of defense and now strongly outnumbered the German airborne troops between Rotterdam and The Hague. The success of the airborne concept was of vital interest for the *Luftwaffe* and Field Marshal Göring in particular; the idea of von Sponeck's forces being forced to surrender to the Dutch was intolerable. This idea is supported by the tone of Göring's last-minute note to his Luftflotten on May 14.¹¹⁶

The German use of airpower in the invasion of the Netherlands, specifically the bombing of Rotterdam, illustrates Gray's concept of airpower used for strategic effect. Instead of getting caught in the false dichotomy between strategic and tactical airpower, viewing the events in May 1940 from this perspective offers a more nuanced analysis. This historical case study of a short military campaign showed the wide range of applications of airpower that Nazi Germany brought to bear in the early days of World War II. From the botched attempt at capturing the Dutch government, high command, and Queen Wilhelmina on 10 May by airborne operations through the devastating bombing of Rotterdam on 14 May, the invasion of the Netherlands provides a microcosm of airpower application that reinforces the importance of looking at airpower through a lens of strategic effects.

¹¹⁶ Radiomessage Field Marshal Göring to Luftflotten, 14 May 1940. Nederlands Instituut voor Militaire Historie, The Hague. Toegang 448 Duitse Planning en Organisatie, inventarisnummer 86

To illustrate this point we return to Pape's theory on coercion by airpower that states that a strategy of denial is the most effective way for airpower to be employed, while punishment, risk and decapitation strategies are less likely to work. Pape portrays the Dutch capitulation as an example of a successful denial strategy by Germany.¹¹⁷ Holding this claim against the light of the analysis of this study, however, proves this to be a debatable conclusion. While denial played an important part in the initial German advance towards Rotterdam, it was the failure of that same denial strategy to break through the defensive lines of Fortress Holland that forced Germany to consider other airpower options. The application of punishment and risk strategies contributed significantly to the Dutch decision to surrender. Pape's conclusion that denial by airpower was the reason for the Dutch capitulation therefore does not hold in the specific circumstances of May 1940 in and around Rotterdam.

The main problem in Pape's theory concerning punishment strategies is the mechanism he describes to be at play in the interaction between the bombings and a change in behavior from the government. Pape sticks to a Douhetian explanation of this mechanism as he states that punishment strategies cause economic deprivation which leads to social unrest which subsequently causes a government to end the war.¹¹⁸ Douhet's causal chain that leads from bombing to government concessions is not the mechanism that is visible in the case of Rotterdam, however. In Rotterdam, and in the subsequent decision-making process, the combination of coercion through punishment and risk strategies was the decisive factor that pushed General Winkelman to capitulate.

While recognizing that the circumstances in the Netherlands in

¹¹⁷ Pape, *Bombing to Win*, 342-343.

¹¹⁸ Pape, 60.

May 1940 were unique, the conclusion that it was not a single airpower strategy that led to the Dutch capitulation has some implications for the theoretical discussion on the merits of airpower. It is impossible to capture the operations of the Luftwaffe during the invasion within the confines of a clearly delineated theory. Rather, the German use of airpower to achieve its desired strategic effects varied as the circumstances of the operational environment changed. The operations by the airborne divisions of 10 May (decapitation) and the close air support and interdiction missions flown in support of the ground forces (denial) were necessary but insufficient to cause a Dutch capitulation. The bombing of Rotterdam (punishment, whether intended or not), and the threat to Utrecht (risk) eventually brought about the final decision by the Dutch leaders. In the end, therefore, it was the interplay of four different airpower strategies in a timespan of four days that collectively produced German strategic success.

This broad-spectrum application of airpower provides a case study that goes against the common tendency to categorize airpower operations as mutually exclusive choices of a single airpower strategy. This case study also reemphasizes the importance of context and circumstances and functions as a warning to the strategist not to get trapped in binary models or solutions. Theories are not predictive; they merely provide a lens through which the strategist can assess the complexity of the environment in which he operates. Sometimes, reality will fit the model that theory provides; more often the strategist will need to apply multiple models or look beyond what is prescribed. Clausewitz captured the nature of this quest in his advice that "...we must remind ourselves that it is simply not possible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at

any time...*talent and genius operate outside the rules, and theory conflicts with practice.*"¹¹⁹



¹¹⁹ Carl von Clausewitz et al., *On War*, 140 (Emphasis in original).

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