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# Operativer Luftkrieg

Luftwaffe Doctrine, Bomber Deployment and  
Combined Arms Operations during World War II

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## I. Introduction

### 1. Research problem and hypotheses

When addressing the conduct of war, airpower employment tends to be thought of as a vital element to its success: either as a war decider or an operational enabler. Nevertheless, aerial warfare in general and airpower application in particular are understood in strategic or tactical terms, rather than as a military capability that can also be engaged operationally. While examining the Luftwaffe's intervention in World War II, German historical research has largely focused on its capacity to bombard cities (Guernica, Warsaw, Rotterdam, Coventry, etc.). Notwithstanding the latter, this was not the sort of war for which it was envisioned, designed or equipped. Focusing less on so-called terror bombing, but on the German bomber arm's performance instead, this study strives to understand the military concept of »operational air war«. This is important insofar as it helps contribute to a more accurate historical knowledge of the different possibilities for exercising airpower that existed in the 20<sup>th</sup> century.

During the interwar years, the Luftwaffe developed an airpower theory known as »operativer Luftkrieg,« which attempted to accomplish the difficult task of integrating an independent air force into modern warfare. Because airpower was judged to be an offensive military capability per se, the central weight of the German air force rested on the »Kampfgeschwader« (bomber wing). As can be deduced from »Luftwaffendienstvorschrift №16,« the strategic relevance of airpower was implied as the accumulation of its operative effects, resulting in its ability to influence the surface forces' operations from the air. Following its guidelines, the bomber forces were intended to perform »operational bombing«. For the bomber arm, this meant the indirect support of the army by its deployment against operational long-range objectives. And so, combat aircraft were to attack land and naval targets by dropping air-to-ground weaponry either behind enemy lines – cooperating with the effort on the surface – or deep into the enemy hinterland, acting independently from the army's endeavors. Then again, the all too broad scope of Luftwaffendienstvorschrift (LDv.) 16 that was first published in 1935, the ample number of targets prescribed in it, as well as its lack of practical details on targeting made it impracticable. It was not until the Battle of France (Fall Rot, 1940) and the campaign against the USSR (Fall Barbarossa, 1941) that the Kampfgeschwader (KG) developed a certain methodology that allowed German airpower to exert a decisive role in land operations. Despite this making operativer Luftkrieg viable for the battlefield, it did not mean that it could strategically contribute to war as a whole.

It must be stated here that I predominantly focus on the German experience of the war and exclusively on that of the Luftwaffe. This research is further conducted without indulging in political and/or moral considerations. To be sure, by the nature of its operations, the Luftwaffe was not much involved in the exterminations, forced labor impressments (during the period examined), or other atrocities. Hereafter, the focus is placed expressly on the air force's campaign instead of that of the army. By so doing, it is possible to identify an operational pattern for aerial endeavors that helps to explain the »operativ« concept as it was applied in 1939–41. Likewise, this study aspires to establish a connection between leadership, command, and control, as well as empirical operational practice over the battlefield – hence it is of interest to the historian and military specialist alike.

It may be true that – especially in the English language – too much has already been published about the military operations of the Second World War (WWII). Hitherto, when it comes to the Luftwaffe, accounts have tended to focus on its equipment<sup>1</sup> or the fighter aces.<sup>2</sup> Even though such approaches might help shed light on interesting subjects, they are but vignettes that do not amount to much when intending to present an overall picture of German airpower employment.<sup>3</sup> Additionally, existing literature related to the Luftwaffe's operational performance has been dissociated from operational thinking and its subsequent application to practice. Therefore, it often leaves its readers with a chronologically detailed, but otherwise shallow account of the German air force's method for waging aerial war. By binding these elements together, I here seek to fill this gap, presenting a comprehensive account of the operational air war. So, the prime value of this investigation rests in that the familiar is assembled in a rather original fashion, hoping to pave the way to an »analytical rediscovery« of the Luftwaffe's engagement.

In order to explain the Luftwaffe's operational role, the focus shall not just be on an assessment of its effectiveness, but equally so on the operational culture that allowed doctrine to translate into practice through a certain command and control structure. Besides, by means of clearly differentiating between the differ-

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<sup>1</sup> Although this sort of accounts are so plentiful that it is hard to narrow them to a few, a good example would be the English-language series »Luftwaffe Colors 1935–45« from Aircam Aviation Series; Geoffrey Pentland (1976), *Luftwaffe Camouflage & Markings 1935–45*, Melbourne, Kookaburra Technical Publications, vols. I–II; and also Karl Ries (1965), *Markierungen und Tarnanstriche der Luftwaffe im 2. Weltkrieg*, Finthen bei Mainz, Dieter Hoffmann Verlag, vol. I–II. More analytical examples of this sort of historical literature are David Irving (1970), *Die Tragödie der deutschen Luftwaffe. Aus den Akten und Erinnerungen von Feldmarschall Milch*, Frankfurt a.M., Ullstein; and Edward Homze (1976), *Arming the Luftwaffe. The Reich Air Ministry and the German Aircraft Industry 1919–39*, Lincoln et al., University of Nebraska Press.

<sup>2</sup> Like Dirk Schreiber accurately depicted in (2018): *Die Luftwaffe und ihre Doktrin: Einsatzkonzeptionen bis 1971* (= Schriften zur Geschichte der dt. Luftwaffe, 7), Berlin, Carola Hartmann Miles-Verlag, the historical discussion has, for the most part, revolved around the supposedly »outstanding« achievements of German fighter pilots. In Germany, several of these books appeared in the 1960s and 1970s, when works like *Holt Hartmann vom Himmel!* or autobiographies like Adolf Galland's *Die Ersten und die Letzten* popularized air warfare accounts. See Schreiber, *op. cit.*, p. 30.

<sup>3</sup> See Horst Boog (1982), *Die deutsche Luftwaffenführung 1935–1945. Führungsprobleme – Spitzengliederung – Generalstabsausbildung* (= Beiträge zur Militär- und Kriegsgeschichte, 21), Stuttgart, Deutsche Verlags-Anstalt, p. 11.

ent categories for airpower exercise (tactical, operational, and strategic), it will be possible to better understand how the Luftwaffe assimilated the term »operativ« from army operations, transferring it to warfare in its own realm. This created an indivisible bond between ground and aerial functions, which entailed the reason both for their initial successes and ultimate resounding failure. But the cooperative character of this approach for the German conduct of war has so far been overlooked. This is regrettable, given that it was this contribution which makes the subject still relevant today.

After all, it is not enough to build and fly planes to develop effective air power – one must further know how to use them in concert with the other armed forces. In this framework, it is possible to establish that the German way of using airpower can be identified as a predecessor to later concepts – such as: the Air Land battle, combined arms operations, and »jointness« or cross-service cooperation. Perhaps the reason why this was overlooked is that in the war's aftermath, it was judged that the primary »operational« cause for the Luftwaffe's failure was that it was pushed into the part of army support during its organization in the 1930s. Nevertheless, adhering to such a point of view merely attests to a deficient grasp of the German understanding of aerial support missions, constricted by the label of »tactical air support,« especially close air support (CAS).

What is more, the relevance of the Luftwaffe's intervention in military operations has been underplayed by the fact that another »strategic« explanation for its failure is perceived in the absence of suitable means to wage strategic air war – in other words, the nonexistence of a heavy long-range bomber. Then again, this is applying alien categories to German airpower employment, and likewise neglects that the air force was expected to pursue victory in war as part of the combined team of the armed forces (not autonomously by cross-continent bombardment). In this sense, from a strategic perspective, the ultimate defeat of the Luftwaffe had more to do with the fact that, from the very start of *Polenfeldzug*, it suffered ever increasing losses of well-trained pilots and crew that could not be replaced satisfactorily. It is true, however, that the air force was never supported by infrastructure or an organization that might have been required to wage a war of attrition. Even if it was not planned for that sort of conflict, it operationally lacked the aptitude to »think outside the box,« devising strategies to confront ongoing challenges. Hence, as the war progressed, Luftwaffe leadership did little more than improvise tactical-operational solutions for strategic problems.

Another reason for why the merits of the operational exercise of airpower have not received due attention is more obvious: the Luftwaffe was not only an air force that was defeated, but its coming into being as an independent service might as well have been unfeasible without the National Socialist takeover. Nonetheless, its portrayal as a »Nazi weapon« certainly does it a disservice when attempting to present a more objective picture and consider its virtues. This depiction seems to ignore that Adolf Hitler – or even Hermann Göring, for that matter – did not have the faintest notion about the technical requirements and possibilities, organizational forms, or doctrinal considerations that could make this branch an effective airpower. Put differently, the factors that shaped the Luftwaffe were multidimensional and cannot be exclusively attributed to National Socialist politics or a criminal worldview. As renowned Luftwaffe historian Horst Boog assessed: »It is a common experience that someone who has lost a war is very critical of

himself».<sup>4</sup> In this context, the strengths of the air force »should thereby not be particularly emphasized.« But this cannot deny that it featured striking abilities – mainly when it came to applying the *operativ* principles of enhanced mobility, surprise, concentration at the focal point and, most important of all, its relentless efforts to foster and enhance airland cooperation.<sup>5</sup>

These are operational virtues that testify to the fact that the Luftwaffe managed incomparably better in the operational-tactical domain than its contemporaries. This achievement is not to be denied, for otherwise the air force would hardly have been able to operate successfully for so long, or withstand the excessive pressure that came with the war.<sup>6</sup> The contribution of this study should therefore be seen as an addition to this line of reasoning, while taking into account that researchers have devoted far more attention to the matters of aerial superiority and strategic bombing activities – which is why it is also necessary to take into account such tendencies when attempting to contribute to the historical discussion.

Overall, much of the scholarly debate about strategic bombing revolves around the Anglo–American campaign over Germany.<sup>7</sup> Both in Great Britain and the United States, the dominant airpower theories became doctrines for strategic aerial bombing, which underlined their later deployment in 1943–45. In broad terms, the former held that the material and psychological damage inflicted by bombardment would defeat the Third Reich. In other words, the allies believed that Germany's will to fight and its ability to do so would be eroded from the sky.<sup>8</sup> Their effective air campaign steered the application of their airpower concepts to its German exercise. Hereafter, bombing air missions were largely divided into two categories: tactical and strategic. While the first were meant to support a military campaign, being usually directed at the enemy forces or their immediate rear area and reserves, the second were carried out against the enemy sources of power, moral strength, and even population – better known as »indiscriminate bombing«.<sup>9</sup> In turn, these labels roughly corresponded to air bombing raids of legal and illegal objectives.<sup>10</sup>

It is therefore clear that »operational air bombing« did not really fit within this narrative, for it embraced both a support capability and an independent feature. And so it is not surprising that scholars seek to »fit« it into one of the prior

<sup>4</sup> Boog, 1982, *op. cit.*, p. 14.

<sup>5</sup> See *ibid.*, pp. 14–15.

<sup>6</sup> *Ibid.*, p. 15.

<sup>7</sup> As Schreiber further observed, a large part of scientific studies are still devoted to the Allied bombing war against the German armaments and population centers during the second half of World War II (e.g. Richard Overy (2013), *The Bombing War. Europe 1939–1945*, New York, Penguin Books; as well as Jörg Friedrich (2002): *Der Brand. Deutschland im Bombenkrieg 1940–45*, Berlin, Propyläen Verlag). See Schreiber, *op. cit.*, p. 30.

<sup>8</sup> Colin S. Gray (2012), *Airpower for Strategic Effect*, Air Force Research Institute, Maxwell Air Force Base, AL, Air University Press, p. 139.

<sup>9</sup> To that respect, it should also be taken into account that: »Die Definition des Terrorangriffs ist eine Frage des Standpunkts des Betrachters und der subjektiven Betroffenheit.« Hans-Erich Volkmann (2011), »Wolfram von Richthofen, die Zerstörung Wieluń und das Kriegsvölkerrecht,« in: *Militärgeschichtliche Zeitschrift*, vol. 70, No°2, pp. 287–328, p. 289.

<sup>10</sup> Jeffrey Legro (1995), *Cooperation under fire. Anglo-German Restraint during World War II*, Ithaca, Cornell University Press, p. 95.

concepts. When doing so, the tendency is »to pass strategic judgment on organizations,« failing to consider the historical context in its temporal aspect<sup>11</sup> – subsequently overlooking the fact that the participants lacked our current understanding of events. This makes it difficult to avoid projecting backwards on people and institutions, telling historical actors what they »should have done«. Like policy adviser and political theorist Colin S. Gray assertively sums up: »The foresight that comes as a consequence of hindsight is a notable hindrance to historical understanding«. <sup>12</sup> Further, as military historian Robert M. Citino remarks:

»The primary question for historians should never be what someone ought to have done, but why they did what they did«. <sup>13</sup>

Accordingly, the reason why the Luftwaffe did not avoid targeting enemy cities, despite having a doctrine of attacking military targets, was that the Germans indulged in *indiscriminate bombing* practices. This is not to be confused with an aggressive policy of punishment bombing, but was a result of carelessness and treatment of civilian casualties as »collateral damage«. The targeting of enemy populace during 1939–41 was rarely deliberate and, when it did take place, it mostly had to do with the approach of the operational air commanders (who were the ones in charge of carrying out the bombing). From a legal standpoint, the issue was whether such attacks could be deemed as a necessary measure for enforcing decision in a given campaign.

Finally, it is necessary to consider the limits of the present investigation. Firstly, the analysis focuses on the Luftwaffe's experience during the first part of World War II. This is important as the character of the war changed during its second phase<sup>14</sup> and that of the air campaign also transformed accordingly. Secondly, the cooperation with the navy is taken into account in a passing manner,<sup>15</sup> for it was largely neglected in connection to the practice of *operativer Luftkrieg* (intending to attain a decisive effect in the war as a whole). The theoretical aerial-naval developments will, in contrast, receive due consideration, expressly in their doctrinal and planning stages. Thirdly, since the operational air war did not contemplate the conduct of a protracted independent campaign (something for which the air force was neither designed nor intended), the Battle of Britain (10 July–31 October 1940) is excluded from this analysis. The latter is solely considered in its planning stage because it was originally intended to take place as a combined effort. Fourthly, the source material used here is almost entirely in German due to the linguistic limitations of the author. Similarly, the German–English language translations presented here are my own.

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<sup>11</sup> Gray, *op.cit.*, p. 135.

<sup>12</sup> *Ibid.*

<sup>13</sup> Robert Citino (2005), *The German Way of War. From the Thirty Years War to the Third Reich*, Lawrence, Kansas, University Press of Kansas, p. 269.

<sup>14</sup> Markus Pöhlmann (2016), *Der Panzer und die Mechanisierung des Krieges. Eine deutsche Geschichte*, Paderborn, Ferdinand Schöningh, p. 320.

<sup>15</sup> See Sönke Neitzel (1995), *Der Einsatz der deutschen Luftwaffe über dem Atlantik und der Nordsee 1939–45*, Bonn, Bernard & Graefe Vlg.; also: Winston A. Gould (2005), *Luftwaffe Maritime Operations in World War II. Thought, Organization and Technology*, Air Staff College, AL, Maxwell Air Force Base.

## 2. Questions, method, and structure of the investigation

This study was conducted within the discipline of military history, which is not only descriptive but uses historical data to establish a scientifically comprehensive analysis – seeking patterns as well as establishing trends and relationships to provide the basis for hypotheses formulation.<sup>16</sup> The overall methodological approach for this study is the conduct of an analysis along the guidelines of the hermeneutic method.

Such an approach is judged as the best theoretical tool to undertake this examination because it aids the interaction between a singular interpretation and a broader general background. This fosters a comprehensive understanding of the experience analyzed in its respective context. Further, the main purpose of this research is to identify an operational pattern for German aerial activity during the first phase of WWII. Hence, the specific objective of this investigation is to make sense of the *operativ* character of the Luftwaffe through an internal analysis of its command and control structure, as well as through the KGs' operational performance – particularly during the Battle of France and *Operation Barbarossa*. The following exploratory research questions helped guide the analysis:

- What was the existing operational military discourse in the interwar period and how did it impact Luftwaffe doctrine?
- Did a service-specific operational culture exist within the Air General Staff and was it different from that of the Army General Staff?
- How was the operational doctrine for airpower employment understood by the contemporaries?
- What was operational bombing and how did the Kampfgeschwaders execute it? How did the *operativ* deployment of the bombers differ from other forms of aerial bombing?
- Which were the strengths and weaknesses of the operational air war? Did it prove to be successful in battle? And if so, under which circumstances?

Despite this research being interpretative in nature, multiple levels of analysis are conducted systematically by employing an inductive historical technique. From a purely theoretical point of view: *operativer Lufkrieg*, the Air General Staff, as well as the *Kampfgeschwader* are the main units of analysis for this study. The key concepts that are used in this study are defined as follows:

- *Airpower*: The ability of a given nation or air force to exert military, political or economic pressure on another nation through the control of its airspace.<sup>17</sup>
- *Doctrine*: Fundamental set of military principles that guide a nation's armed forces in their pursuit of certain national security objectives. Its application finds expression in the way that military leadership expects these forces to conduct movements and perform in battle, so as to ensure success in wartime.
- *Discourse*: Written accounts by individuals or entities belonging to a military organization and depicting a way of thinking that is representative of their institution.

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<sup>16</sup> Trevor N. Dupuy (1987), *Understanding War. History and Theory of Combat*, New York, Paragon House Publishers, p. xxiii.

<sup>17</sup> Schreiber, *op. cit.*, p. 29.

- *Military culture*: The distinctive way of thinking, acting and behaving within a military environment that represents an institution, organization, or group.
- *Operational air war*: A manner of applying airpower that emphasized the indirect and cooperative aspects, but also includes tactical assignments and strategic elements.
- *Operational culture*: Pattern of assumptions, ideas and beliefs that comprise how a group adapts to its external environment and manages its internal affairs.<sup>18</sup>

By making use of the military science approach, this study aims to analyze and understand both the contributions and boundaries of *operativer Luftkrieg*. The former is relevant insofar as it will possibly inspire other inquiries pertaining to the forms in which airpower can be exercised – especially so when bearing in mind that an air force's range of abilities should not be determined with reference to its aptitude for engaging in a strategic bombing campaign.

The following study is organized in two main sections, each with a corresponding hypothesis. The first (chapter II) constitutes explanatory research of the *operational culture* within the Luftwaffe as a group-level construct, which is assessed in an inductive-interpretative manner by reference to another individual construct: that of *operativer Luftkrieg*. Both theoretical constructs are multidimensional, as they result from interwoven variables. Here, the »German General Staff« and »operational air war« are recognized as independent variables, with military culture performing as a mediating one, and operational practice being the resulting dependent variable. In this framework, the revealing of an *operativ* discourse (through experience reports, doctrinal documents, and military periodicals) is essential to explore the interrelation between the above-mentioned variables.

In this first section, the underlying hypothesis is that the operational concept for maneuver warfare in land war strategy was assimilated into the German theory for airpower. As a result, their General Staffs shared a common operational culture, which was detrimental for the Air Staff in the sense that it did not allow it to develop its own distinctive tradition. But, at the same time, it was this *common operational ground* which enabled a relatively smooth transition between airpower doctrine and its later application on the battlefield. The fact that the Luftwaffe's leadership understood that the independence of their service required them to serve the interests of their own branch, but also those of the army, eventually led to a concept for aerial warfare that embraced a strategic-operational component as well as a tactical-cooperative element. The fluid nature of this mode of airpower endowed the Luftwaffe with a great degree of flexibility that became both its greatest virtue and the reason for its diminishing effectiveness later in the war.

The second section (chapter III) contains a positivist-interpretative case study, qualitatively conducted both for hypothesis-testing and theory-building purposes. The virtue of this research method lays in its ability to discover the different factors shaping German air power, as well as an assessment of the effectiveness of the »operative form of airpower application« in empirical operational practice. Also, the purpose of this evaluation is to conclusively refute the historiographical thesis that asserts that the Luftwaffe was a tactical air force, employed primarily

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<sup>18</sup> Jeffery W. Lego (1997), »Which Norms Matter? Revisiting the Failure of Internationalism,« in: *International Organization*, vol. 51, No 1, Cambridge, MA, pp. 31–63, p. 35.

in direct support of ground operations.<sup>19</sup> This is an erroneous assumption, which offers an over-simplified explanation of German airpower employment. As previously mentioned, the cause of the Luftwaffe's operational failure does not lie in the abandonment of the strategic bombing preference in favor of other, »less decisive« forms of airpower application. Here, the main research activity that takes place is a primary source and specialized literature crosscheck reference, in order to close some historical gaps through comprehensive analysis. Furthermore, this will help to provide a nomothetic explanation to solve the historiographical problem presented.

In the second section, the primary hypothesis is that, due to the fundamentally offensive orientation of German airpower, the horizontal bomber played the main operational role in aerial endeavors. Moreover, the Luftwaffe did encompass a strategic feature, which was intended to be exercised at an operational scope. Nonetheless, long-range »strategic bombing« was not a part of it and, therefore, air missions acquired an independent character only during crucial periods – that is: when gaining an immediate military advantage could only be decided by those means. Its »strategic contribution« was believed to be in the successful conduct of a coordinated war effort in concert with the surface forces.

For the purpose of theoretical sampling and in order to evaluate the operational success of the *operativ* concept for airpower, the Battle of France (5<sup>th</sup>–25<sup>th</sup> of June 1940) and *Fall Barbarossa*, as well as the follow-up Taifun (22 June–5 December 1941) are selected as main illustrative examples of the former. The conduct of such a case study allows an operational pattern to emerge for these respective periods. In order to help generate insight into operational air war, quantitative data will be included – especially relating to the type and bomb-mixture employed, serving to determine the intent behind Luftwaffe bombardment undertakings. In this manner, the theoretical multidimensional constructs will be tested with available historical data.

### 3. Source situation

The data collection approach for this study is predominantly on-site archival research. Furthermore, the triangulation method for quantitative and qualitative analysis is applied here to facilitate the contextualization of documents by means of a cross-check verification from multiple sources; the material gathered was

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<sup>19</sup> As historian Richard J. Overy explains, much of airpower history has measured the outcome of air operations against some kind of putative ideal of airpower, where aircraft ought to have been an independent war-winning weapon. Hence, the performance of an air force is measured against this ideal, and the resulting gap explained in terms of deficiency and misjudgment. This is particularly evident when it comes to bombing activities, when the success of an air force is measured against how aware and prepared it was for the strategic bombing mission. Richard J. Overy (1993), »Luftmacht im Zweiten Weltkrieg: historische Themen und Theorien,« in: *Luftkriegführung im Zweiten Weltkrieg*, on behalf of the Militärgeschichtliches Forschungsamt edited by Horst Boog, Bonn, Mittler, pp. 23–50, p. 29.



obtained from different archival, online, and library collections. It is well known that the Luftwaffe was possibly the most successful Wehrmacht branch in destroying its documents at the end of WWII. But though presenting a comprehensive depiction of its aerial activities can be a trying task, it is not impossible. This means, however, that the analysis presented here is a result of an interpolation effort from several documentary collections. The absence of primary source material was felt predominantly in the area pertaining the Air General Staff, from which only fragmented remnants have survived. Otherwise, for the purpose of this study, historical gaps are filled by using secondary sources and specialized literature – thus allowing the reconstruction of a coherent Luftwaffe operational history for the period 1926–41.

Concerning archival sources, the most important archive to engage in Luftwaffe research is the Bundesarchiv-Militärarchiv in Freiburg i.Br. Bearing in mind the hypotheses announced here, the record groups that were most useful are: Luftwaffenführungsstab (RL 2–II) and Kriegswissenschaftliche Abteilung (RL 2–IV, RM 8) as well as the personnel collections available in: Nachlässe und Sammlungen (N 141–842) (expressly those of Wolfram von Richthofen (N 671) and Karl Drum (N 176)), and likewise: Sachthematische und biographische Sammlung (MSG 2, MSG 231, ZA/3). The information offered under the category: Übungen, Manöver und Kriegsspiele (RM 48) was equally helpful, and that under: Luftflottenkommando 2–4 (RL 7) was completed by the file: Heeresoberkommando 4, 14–18 (RH 20). The sources obtained from the Greffrath–Hümmelchen documental estate stored in the Philosophische Fakultät at the University of Potsdam contextualize this material.

The evidence obtained from the operational records in Freiburg (RL 7, RH 20) is complemented by the sources available on the digital platform *Deutsch-Russisches Projekt zur Digitalisierung deutscher Dokumente in Archiven der Russischen Föderation* (German-Russian Project for the Digitalisation of German Documents in Archives in the Russian Federation) – especially by the material obtained from the Luftflotten Kommando 1–4 and Luftwaffen Führungsstab Ia–Ic. Under the initiative of the Russian Federal Archival Agency (Rosarchiv), another relevant digital platform with documentation from the time 1938–39 (in Russian, German and French languages) has been made available recently – helping this research greatly in investigating the Luftwaffe aerial campaign during the *Polenfeldzug*. For Luftwaffe bombing activities over Rotterdam, the sources obtained from the Netherlands Archive (KTB Holland: AAAK0093/1, WB 1349/1–4), of which copies are kept at the Militärhistorisches Museum (MHM) Berlin–Gatow, were especially valuable. Particularly noteworthy was the air-targeting map of Moscow stored in their collection. Moreover, important documentation regarding the organization and deployment of the Luftwaffe was found at the Österreichisches Staatsarchiv/Kriegsarchiv Wien, in the documental estate of General Alexander Löhr (KA BA 521/55).

In order to determine the existence of a military discourse, it is further necessary to examine the military periodicals for the period between 1935 and 1941 – which include: *Militär-Wochenblatt*, *Militärwissenschaftliche Rundschau*, and also the *Österreichische Militärische Zeitschrift*. This material was recollected from the MHM Bibliothek in Dresden, the Akademiastab Fachinformationsstelle (FIS) in Hamburg, and the Landesverteidigungsakademie in Vienna. Such an examina-

tion is particularly relevant to establish the presence of a specific service-centered operational culture amongst Luftwaffe staff officers.

Another significant source of information are the United States Air Force (USAF) Historical Studies at the United States Air Force Historical Research Center (USAFHRC), likewise available in digital form. The publication of this series of historical studies is one of the most significant contributions to the knowledge about the Luftwaffe's organization and operations. These military monographs were meant to be an analytic survey and were authored by former Air General Staff officers who were either intimately or personally involved with the events about which they wrote. The nature of these studies is simultaneously their main strength and their limitation, because they are biased from a historical perspective. The men that contributed to their publication between the years 1954–70 included: Paul Deichmann, Karl Drum, Karl Gundelach, Hermann Plocher, Andreas Nielsen, Klaus Uebe, Wilhelm Speidel, and Richard Suchenwirth. Their work is also available in German under the category Studiengruppe Geschichte des Luftkrieges (1-Rara 32) at the Führungsakademie der Bundeswehr in Hamburg. Here, for the purpose of this investigation, Richard Suchenwirth's studies on the Air Command leadership are especially relevant. It must also be mentioned that the German language studies constituted the basis for the USAFHRC English compilation. In most cases the latter are mere translations – but, in others, the German originals are more extensive.

In addition to unpublished sources, published compendiums were also used. The volume of doctrinal documents translated and commented by James S. Corum and Richard Muller (1998): *The Luftwaffe's Way of War. German Air Force Doctrine 1911–1945*, is a substantial contribution to the English language research on the subject. An essential documentary for the development of the air force and its organization in the interwar period is Karl-Heinz Völker's (1967): *Die Deutsche Luftwaffe. Aufbau, Führung und Rüstung der Luftwaffe sowie der Entwicklung der dt. Luftkriegstheorie*, which is followed by a second volume (1968): *Dokumente und Dokumentarfotos zur Geschichte der deutschen Luftwaffe 1919–1939*. Together, these volumes aim to present a complete overview of the development of the military aerial service and make several archival documents available in printed form. A similar effort to publish original Luftwaffe material was undertaken by the UK Air Ministry (1948): *The Rise and Fall of the German Air Force*, for which »captured documents« were translated to English.<sup>20</sup> Yet another relevant publication of plentiful source material on WWII was accomplished by Hans Adolf Jacobsen in his volumes (1960): *Dokumente zum Westfeldzug 1940* and (1961): *Der Zweite Weltkrieg in Chronik und Dokumenten*. Also, Karl Klee's documentary compendium (1959): *Dokumente zum Unternehmen Seelöwe* is vital to understand the planning of that amphibious operation.

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<sup>20</sup> Janusz Piekalkiewicz and Jan Van Heurck (1986), *The Air War. 1939-1945*, London: Historical Times, a compilation of contemporary newspaper and magazine articles, was also used with due restrictions and under rigorous contextualization.

#### 4. State of research and historical discussion

Although several Anglo–American chronicles on the topic of the German air force's performance during WWII have been written and postwar »lessons learned« analyses have been completed by former Luftwaffe officers by request of the USAFHRC, more serious scholarly work pertinent to operations history is scarce.<sup>21</sup> In other words, even though chronological depictions of aerial undertakings abound, there has been almost no comprehensive effort to analyze the former in the context of the whole German air campaign, or to approach them as an expression of a certain preference for war-waging methods. In fact, the monumental contribution of Horst Boog's research (and James Corum's overzealous depiction of the origins of the Luftwaffe) aside, a widespread analysis on this particular subject is missing. The reason for that can surely be found in the destruction of many Luftwaffe sources, which has discouraged historians to a great extent, keeping them from further investigation.<sup>22</sup>

In order to understand German operational thinking in general – from which the Luftwaffe's own *operativ* theory derived –, it is compulsory to refer to Gerhard Groß's book (2016), *The Myth and Reality of German Warfare. Operational Thinking from Moltke the Elder to Heusinger*, which constitutes the definite standard account on this subject. In his work, the author seeks to analyze both the conceptual failures and strengths of the »operational idea« by integrating it into the broader scope of organization for war by society as a whole. Hence, his book »uncover[s] the political, social, strategic, and general economic reasons for the eventual failure of the »operations myth,« and likewise the human and personal reasons for these developments.«<sup>23</sup> From Groß's account, one arrives at the conclusion that German operational tradition arose over time out of a specific set of historical circumstances as well as an evident geographical matrix.<sup>24</sup>

Here, the main argument results from the statement that: »The military leadership repeatedly attempted to address Germany's strategic dilemma with operational solutions, which would compensate for the vulnerability of the country's central geographic position and its relative inferiority both in manpower and *resources*.«<sup>25</sup> Having acknowledged this, Gerhard Groß recognizes the need to explain the transition from doctrinal theory to operational practice. And so, the question:

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<sup>21</sup> An excellent example of a thorough operations history account is the work of Richard Muller (1992), *The German Air War in Russia*, Baltimore, MD, The Nautical & Aviation Publishing Company of America.

<sup>22</sup> Nonetheless, important contributions to Luftwaffe research, such as the works of Ulf Balke, Werner Gerbig, Karl Gundelach, Sönke Neitzel, and Hans Ring, help to prove that the sources still available can be enough to conduct serious comprehensive research.

<sup>23</sup> See Gerhard P. Groß (2016), *The Myth and Reality of German Warfare*, Lexington, KY: University Press of Kentucky, p. xiv.

<sup>24</sup> As the author explains, the General Staff held the opinion that owing to Germany's central geographic position, a two-front war could only be won through mobile operational warfare. In this case scenario, officers studied the possibility of increasing operational tempo (through the »force multiplier factors«: speed, aggression and surprise). Groß, *op. cit.*, pp. 20–21.

<sup>25</sup> Groß, 2016, *op. cit.*, p. viii.

»How can a process like operational thinking be operationalized and applied to the battlefield?« runs through his work as a common thread. The author answers it by arguing for continuity between German military operations and *operativ* thinking. His assessment is supported by the disclosure of an everpresent pattern for operations, dating from the mid-nineteenth century until the early NATO years. This makes for a rather significant finding, as it shows that the German concept for war has not been transformed, but rather adapted over the centuries.

This line of continuity is given by the persistent military objective of exploiting the strategic benefit of interior lines by means of »the cornerstones of German operational thinking«<sup>26</sup>. As Groß finally concludes: »The history of operational thinking is the great narrative of the German Army during the era of the world wars and beyond [...] The influence of that thinking, both in its components and its entirety, is still felt today – especially in the English-speaking world. Because of differing military cultural concepts, the boundaries between tactics, operations, and strategy are sometimes blurred.«<sup>27</sup> In this way, Groß's work not only helps establish patterns of continuity over historical time, but also testifies to that military theory, as »the cradle of operational doctrine« is a constantly evolving process. The former indirectly acknowledges the contemporary relevance of *operativ* thinking as a subject of study for military history.

When looking at the general literature written about Germany's involvement in the war, accounts emphasize either the military leaders or their weapons. This tendency seems natural, even obvious, when deliberating that »warfare is the clash of armed men and of leadership.« In this framework, Trevor Dupuy (2011): *Der Genius des Krieges. Das deutsche Heer und der Generalstab*, also makes a weighty contribution to English literature, much along the same lines as Gerhard Groß. Focusing less on doctrine and conduct of *operativ* war, but on the Prussian–German military as an institution, Dupuy sets out to prove that: »The Germans discovered a way of institutionalizing military excellence [expressly] in the area of management, training and decision making.«<sup>28</sup> To this end, he explores several myths about the »supremacy« of the Prussian and later German soldiers' performance, arriving at the conclusion: »If there is an explanation for the historical fact of modern German military pre-eminence, it surely does not lie in the men, but in the structure of the German military establishment.«<sup>29</sup> Both accounts bear witness to the reciprocity existing between theoretical ideas, military leadership, and operational practice.

When exploring the Luftwaffe doctrine for *operativ* deployment, Dirk Schreiber's volume (2018): *Die Luftwaffe und ihre Doktrin. Einsatzkonzeptionen bis 1971* from the series: *Schriften zur Geschichte der Deutschen Luftwaffe* is noteworthy. Although this book concentrates on the post-war Luftwaffe and its subsequent involvement with the NATO air forces, it also sheds light on the matter of the formulation of doctrine for German airpower. In Schreiber's publication, the Luftwaffe's struggle to find its own direction, ascertaining priorities for its employment within the NATO alliance, is studied over a period of two decades.

<sup>26</sup> See *ibid.*, pp. ix; 305.

<sup>27</sup> *Ibid.*, p. 295.

<sup>28</sup> Trevor N. Dupuy (2011), *Der Genius des Krieges. Das deutsche Heer und der Generalstab*, Graz: Ares Verlag, p. 13.

<sup>29</sup> *Ibid.*, p. 21.

In order to understand the process of the air force's search for a distinct identity, both in the alliance and in the German armed forces, it is worth taking a look at his research. For the purpose of this investigation, the first chapter of his book: »Der Luftkrieg – Entwicklung bis 1955« provides valuable insight, since the author accurately weighs the dilemma of operational air war being »in between« the strategic – and tactical – forms of airpower.<sup>30</sup>

Furthermore, to grasp the functioning of the Luftwaffe's general staff, Horst Boog's account (1982): *Die Deutsche Luftwaffenführung. Führungsprobleme, Spitzengliederung, Generalstabsausbildung*, is of paramount importance. This book is structured in four chapters – which is relevant, as each focuses on the leadership problems that the historian identified within the institution. These are: underestimation of the quartermaster service, neglect of air transport service, insufficient pilot training, and lack of understanding of the impact of air technology and enemy counterintelligence. Difficulties like these resulted from a leadership-oriented way of thinking that permeated the air force's ranks and especially its command.<sup>31</sup> The establishment and organization of the latter is investigated with special emphasis on the years 1940–43. In addition to that, Boog explores the relationship between Hitler and the higher echelons of the Air Command in general, and Hermann Göring in particular.

The main value of Boog's analysis derives from his approach to these leadership areas being undertaken in relation to one another, thereby offering an integrative depiction of »leadership as a whole« (rather than clarifying a very definite idea of it). At the same time, it serves to determine the effects of the decision-making process on the Luftwaffe's organization.<sup>32</sup> He judges that these difficulties »did not arise with war, but were already at play in peacetime.« Thereafter, the mistake did not just lay with Adolf Hitler, who started the war, »but also with the military, who did not recognize the actual military-political situation with all its possibilities, and the necessity of a modern leadership thinking adequate to the circumstances.«<sup>33</sup> It is clear, then, that the way and manner in which leadership was exercised had a negative impact on the course of the aerial campaign, precipitating the Luftwaffe's demise.<sup>34</sup>

Perhaps the most relevant book on the Luftwaffe's creation in English language, based on original German source documents, is James Corum's (1997): *The Luftwaffe. Creating the Operational Air War*. Here, the author attempts to »place the air operations of the Luftwaffe into a clearer context and make the employment of German airpower more understandable«<sup>35</sup>. With this goal in mind,

<sup>30</sup> See *ibid.*, pp. 25–26.

<sup>31</sup> Boog, 1982, *op. cit.*, p. 12.

<sup>32</sup> *Ibid.*, p. 15.

<sup>33</sup> *Ibid.*, p. 16.

<sup>34</sup> It is established that the command fragmentation within the Luftwaffe's leadership was even more dangerous than the atrophied technical capacity that resulted from the cancellation of the four-engine bomber project. See *ibid.*, pp. 196–203.

<sup>35</sup> As the author further explains: »To the German airmen, airpower meant a doctrine of strategic bombing, but it also meant a concept for conducting joint operations with the ground forces, a theory of homeland civil defense and passive defense against a bombing campaign.« James S. Corum (1997), *The Luftwaffe. Creating the Operational Air War*, Kansas City, Kansas University Press, p. 195.

Corum defines how the study of airpower was approached in the interwar years – allowing aerial war theory to translate into doctrine. He also analyses how the Air Staff assimilated the experience of the Great War and later interpreted the lessons of the Spanish Civil War. He seeks to illustrate how the Germans developed a wide range of ideas for waging an air campaign in wartime, leading to a broad approach to airpower theory.<sup>36</sup> Whether theory and doctrine were »translated into operational practice,« remains an unresolved problem. The former cannot be determined satisfactorily, for Corum does not cover the Luftwaffe's performance during the Second World War. Besides, his claims seem overenthusiastic when it comes to appraising the merits of its *operativ* nature.

If one should attempt to contextualize German operational thought at the time of World War II, the compilation *Das Deutsche Reich und der Zweite Weltkrieg*, issued by the Militärgeschichtliches Forschungsamt (MGFA), is obligatory literature. Following the new military history trend,<sup>37</sup> its historiographical research is delivered in ten volumes in total. Of these, vol. II (1979): *Die Errichtung der Hegemonie auf dem europäischen Kontinent* by Klaus Maier, Horst Rohde, Bernd Stegemann, and Hans Umbreit; vol. IV (1983): *Der Angriff auf die Sowjetunion* by Horst Boog, Jürgen Förster, Joachim Hoffmann, Ernst Klink, Rolf-Dieter Müller, and Gerd Ueberschär, as well as vol. VII (2001): *Das Deutsche Reich in der Defensive. Strategischer Lufkrieg in Europa, Krieg im Westen und Ostasien* by Horst Boog, Gerhard Krebs, and Detlef Vogel are of relevance for this investigation; however, due to its invaluable contribution to historical issues regarding Germany's involvement in wartime, the whole compendium must be acknowledged.

In vol. II, the authors trace events back to the beginning of the war in autumn of 1940, explaining the set of circumstances that led to »a military promenade unique in history,« granted by the Wehrmacht's »Blitz success« and the resulting conquests of Poland, Denmark, Norway, Holland, Belgium, and France. The account of these military engagements is complemented by a depiction of air operations, as they »were not directly subordinated to the actions of the land forces.« Regarding the part played by German airpower in this chain of victories, it is asserted that:

»The Germans developed a new method of mobile warfare and, to a large extent, transformed it into practice [...] For this purpose they had the Luftwaffe cooperating closely with the army and the efficiently organized armored formations. Therefore, in the western campaign they were able to out-manoeuvre the enemy whose ideas of warfare were still largely rooted in the past.«<sup>38</sup>

The implications of this are not to be minimized, as it is all too apparent that the successes on ground were enabled by airpower. Still, this was not the outcome of a revolution in military affairs (RMA). This triumph came about due to the adversary's inadequate concepts of warfare.

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<sup>36</sup> *Ibid.*, p. 197.

<sup>37</sup> Put differently, dealing with military accounts by assessing them with a view to their respective economic, social, cultural and political backgrounds, without conducting an analysis of »the red and blue arrows on operational plans«.

<sup>38</sup> Klaus Maier, Horst Rohde, Bernd Stegemann, Hans Umbreit (1991), *Germany and the Second World War*, vol. II, Oxford, Oxford University Press, p. 417.

The topics presented in the later vol. VII (dealing with the 1943 turnaround of events) complement the former, allowing a more complete view of operational aerial war in WWII. Even though the authors provide a multilayered historiographical explanation to show the hopelessness of the situation that the German forces had gotten themselves into, this volume is important insofar as it covers: the strategic air campaign over Europe, the allied airpower concepts for air war against the Reich, the controversy about the fighter vs. bomber, and other topics – helping to put the *operativ* use of airpower into perspective.

In vol. IV, the authors rewrite the traditional narrative around *Fall Barbarossa*. Customarily, the offensive has been explained by historians either in a pragmatic way, pointing out that the political-military reasons for it were grounded in Hitler's ideological objectives (conquest of *Lebensraum* and annihilation of »Jewish Bolshevism«) or, assigning a major role to Stalin, they attempted to explain it as a result of his aggressive foreign policy in Eastern Europe and of the massive scale of the USSR's rearmament. Nonetheless, in the volume, its origins are traced back to the strategic situation after the failed Battle of Britain. The campaign against Russia was initially conceived as a temporary abandonment of the air war on England. Because this offensive was foreseen to last just about four months, a thorough preparation of armament industrial production and other economic concerns seemed superfluous. Given such a favorable prognosis, its military objectives were presumed feasible to secure with the means and forces already at the Wehrmacht's disposal.

Regarding the *Barbarossa* operation itself, historical accounts have described the successful early stages of the offensive, whereas others have dealt with the disastrous consequences of the war of attrition that resulted from the extension of the campaign. Those writings, which deal with the »Wendepunkte« of the German war effort in the East like the Battle of Stalingrad or of Kursk, are particularly abundant. So, the fact that merely a limited number of first-rate Wehrmacht divisions existed to start with; and that sometimes the only equipment available was captured enemy weapons and vehicles, has been ignored. In *Das Deutsche Reich und der Zweite Weltkrieg*, vol. IV, the former is »coherently documented from the sources«. Moreover, its authors sustain that:

»The main reason for the failure of the Barbarossa plan was undoubtedly the material and structural inferiority of the aggressor in virtually all the essential fields from the very outset; after a few months [the Germans were] no longer able, even in terms of personnel, to fill in the gaps that had been inflicted. This may seem paradoxical in view of the Wehrmacht's initial military superiority in the areas of its main thrusts, but it becomes logical when comparing the economy of war on the two sides.«<sup>39</sup>

In this context, any historical evaluation of the Luftwaffe's situation in the eastern theater would be incomplete without Richard Muller's account (1992), *The German Air War in Russia*. The purpose of his book is to apply elements of the schools of internal *and* external analysis to provide a new portrayal of this air campaign, while using German source material. In his words:

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<sup>39</sup> Horst Boog, Jürgen Förster, Joachim Hoffmann, Ernst Klinik, Rolf-Dieter Müller, Gerd R. Ueberschär (1983), *Das Deutsche Reich und der Zweite Weltkrieg*, vol. IV, Stuttgart: Deutsche Verlags-Anstalt, p. 6.

»The campaign in the East turned out to be the most revealing campaign that the Luftwaffe ever fought [...] German airpower doctrine was laid bare, in a manner not duplicated in any of the other theaters, with all of its strengths and weaknesses being exposed in the Soviet Union between 1941–44.«<sup>40</sup>

With the purpose of illustrating this process, his publication intends to delineate the shifts in German aerial operations; thereby placing the analytical focus on the Air Command and its efforts to deploy available air units to reach decision in Russia. As Muller observes, the unfolding of the campaign led to the surfacing of »an intellectual dichotomy within air leadership« that divided General Staff officers from the operational commanders.<sup>41</sup>

Pertaining to the Luftwaffe's WWII campaign, Edward Hooton's operational history of the air force – delivered in two volumes (1994): *Phoenix Triumphant. The Rise and Rise of the Luftwaffe* and (1997): *Eagle in Flames. The Fall of the Luftwaffe*, is useful to acquire a wide-ranging picture of its engagements.<sup>42</sup> Being highly descriptive, its merit is that it is written after a careful research of primary sources (including German documents from the Freiburg archive, as well as from the Vincennes-based Service Historique de l'Armée de l'Air, Service Historique de l'Armée de Terre, and the US National Archives in Washington). The author clarifies the value of his work making the argument that Luftwaffe's successes and/or failures should not be pondered in isolation. Further, in order to provide an inclusive evaluation of its aerial activities, Hooton addresses episodes that, up to that point, had been neglected: the Phoney War (»Sitzkrieg«) and the Battle of France. His research during the 1990s was followed later by yet another publication, where its results are summarized in a single book (2010): *The Luftwaffe. A Study in Airpower*.

Most importantly for this account, Edward Hooton's attempt at »a re-evaluation of the Luftwaffe's development and effectiveness« is completed taking its *operativ* character into consideration. This is of significance when bearing in mind that just a few Anglo-American historians have tried to understand the nature of operational airpower. As the author assertively explains:

»Traditionally, they [historians] have categorized air forces as either »tactical« or »strategic,« with the Luftwaffe classified as the former, but any examination of the Luftwaffe's role shows such a division to be over-simplistic. Not only did the Luftwaffe always have a strategic role (even when it did not possess the means for effective strategic bombing), but also factories were featured as objectives in most of its campaigns. Unfortunately, historians have neglected to explain the obvious anomaly of a tactical air force attacking industrial tar-

<sup>40</sup> Muller, 1992, *op. cit.*, p. xvi.

<sup>41</sup> »The same leadership that was capable of realistically assessing the operational situation in and furthering the development of useful innovations [...] pursued a policy of strategic bombardment of Soviet war potential that was ineffective« (*Ibid.*, p. 232).

<sup>42</sup> While the first volume's main objective is »to explain how the Germans reestablished their air force from 1930 onwards and show how the Luftwaffe was used in both peace and war,« the second aims »to describe the events which shaped the tremendous swing in fortune« from 1940–45, when the air force was unable to protect Germany from allied bombers. Edward R. Hooton (1994), *Phoenix Triumphant. The Rise and Rise of the Luftwaffe*, London, Brockhampton Press, p. 7; (1997), *Eagle in Flames. The Fall of the Luftwaffe*, London, Arms & Armour Press, p. 7.



gets. However, it is true that tactical and operational level support of the army, which had once been part of the Luftwaffe's role, became its primary one, especially on the Eastern front and in the Mediterranean». <sup>43</sup>

The findings of this investigation back these claims, which are equally validated through Luftwaffe doctrine.

For the purpose of the case-study undertaken here, due mention has to be made of military historian Robert Forczyk's work (2017): *Case Red. The Collapse of France* and (2019): *Case White. The Invasion of Poland*. The main value of these publications is that the author is able to significantly contribute to the field of study because he is able to read the French and Polish sources in the original. In both books, Forczyk undertakes to disprove some historiographical myths. In the first book he observes that the French defeat has been often regarded as the outcome of an incompetent military leadership and cowardice by unmotivated troops on the battlefield. <sup>44</sup> To say it in his own words: »Many have judged the French's defeat to be virtually inevitable by focusing on internal political divisions within the Third Republic and the allegedly faulty state of military plans and preparations, though this was hardly apparent to contemporary senior leadership«. <sup>45</sup> Besides, literature on the Battle of France is ground-centric, ignoring aerial and naval actions.

The campaign on the West has clearly been intensely studied and analyzed – relevant English-language literature including: Alistair Horne (1969): *To Lose a Battle*, Robert Doughty (2000): *The Breaking Point. Sedan and the Fall of France* and (2010): »The French Armed Forces, 1918–40,« to name three of the most relevant. In his work, Doughty maintains that the French military's »methodical battle« emphasized firepower over maneuver and consequently proved unable to stop the German *Bewegungskrieg* methods. <sup>46</sup> On the other hand, Karl-Heinz Frieser's book (2005): *Blitzkrieg Legend. The 1940 Campaign in the West* (original from 1996), one of the best available from the German point of view, posed the controversial question whether German military leadership was actually pursuing »a Blitzkrieg strategy.« Here, he arrived at the conclusion that this was not the case, and that the so-called *Blitzkrieg* was nothing more than: »an operational act of desperation [...] to get out of a desperate strategic situation«. <sup>47</sup> Robert Forczyk picks up on that argument, sustaining that nothing has done more to distort the nature of German operations »than the use of the artificial term *Blitzkrieg* by historians, which has emphasized technology at the expense of doctrine, tactics, organization and actual battlefield leadership«. <sup>48</sup>

When it comes to the French campaign, Forczyk justifies the need to undertake his study given that almost all available literature on the subject concentrates on

<sup>43</sup> Hooton, 1994, *op. cit.*, p. 8.

<sup>44</sup> Robert A. Forczyk (2017), *Case Red. The Collapse of France*, Oxford, Osprey Publishing, p. 6.

<sup>45</sup> *Ibid.*, p. 7.

<sup>46</sup> Robert A. Doughty (2010), *The French Armed Forces*, in: Allan R. Millett, Williamson Murray (eds.), *Military Effectiveness*, vol. 2, Cambridge: Cambridge University Press, pp. 39–69, p. 60.

<sup>47</sup> Karl-Heinz Frieser with John Greenwood (2005): *The Blitzkrieg Legend. The 1940 Campaign in the West*, Annapolis, MD, Naval Institute Press, p. 435.

<sup>48</sup> Robert Forczyk (2019): *Case White. The Invasion of Poland 1939*, Oxford: Osprey Publishing, p. 13.

*Fall Gelb* and either dismisses *Fall Rot*, or mostly treat it as a short-lived epilogue. Many books end their narrative after the evacuation of the British Expeditionary Force from Dunkirk at the beginning of June 1940, acting as though that were the end of the campaign.<sup>49</sup> While Horne spends just 25 pages on it (out of more than 650 in his book), Doughty's work stops on the 16<sup>th</sup> of May 1940, whereas Frieser does so in Dunkirk, spending a few pages on *Rot*. Therefore, the focus of Robert Forczyk's contribution is to deliver an account of *Fall Rot* that includes air-land-sea operations in June 1940 (being the first English-language effort to cover the last three weeks of the French campaign in detail).<sup>50</sup> But despite his intent to the contrary, Forczyk's book weighs heavily on army operations.

Regarding *Fall Weiß*, the author observes that historiography has adhered to the view that Adolf Hitler ordered the invasion of Poland in September 1939, but hoped to fight a localized conflict, as well as to avoid a European war at that point in time. He labels this as »convenient,« because it personalizes the blame and exonerates the allies, who »did their best to impede the tide of Fascist aggression,«<sup>51</sup> also considering Poland »an unfortunate martyr.«<sup>52</sup> Following such inclinations, the English-language general histories of World War II (e.g. Basil Liddell Hart, John Keegan, Max Hastings) typically dedicate some pages to *Weiß*, which are rich in generalizations about the rapid collapse of the Polish military. The reasons for this are normally found in that Polish doctrine was outdated, while its forces were armed with obsolete equipment and its army too reliant upon horse cavalry.

Contrarily, when it comes to Wehrmacht operations, these are largely depicted as the exemplars of a revolution in military tactics and technology: »ignoring the fact that the bulk of the German army's artillery was pulled by horses and the heavy dependence upon captured Czech equipment.«<sup>53</sup> Actually, the German invasion has gone down in history books as a slick operation, pre-destined to succeed, with panzer divisions advancing with great speed in converging pincer movements. Yet, »the great double pincer meeting at Warsaw never actually occurred in this manner.«<sup>54</sup> Robert Forczyk believes that the reason for this portrayal is found in that modern narrations have relied heavily on German sources, without employing Polish-language ones. This undoubtedly limited the accuracy of most historical depictions, something that the author is able to make right by using source material from the Polish Central Military Archives.<sup>55</sup> Therefore, his intent is to examine *Fall Weiß* in the context of sources from both the German and Polish side, thereby enriching and updating previous depictions.<sup>56</sup> In this framework, the *Polenfeldzug* was, according to Forczyk:

<sup>49</sup> Forczyk, 2017, *op. cit.*, p. 10.

<sup>50</sup> *Ibid.*, p. 11.

<sup>51</sup> Forczyk, 2019, *op. cit.*, pp. 6–7.

<sup>52</sup> »The truth is that after joint consultation, both Germany and the Soviet Union invaded Poland, but the Western Allies only chose to acknowledge Hitler's transgression. Further, Allied promises of military support to Poland were never sincere and their leaders aggravated this dereliction by consistently failing to protect Poland's sovereignty or territorial integrity« (*Ibid.*, p. 7).

<sup>53</sup> *Ibid.*, p. 12.

<sup>54</sup> *Ibid.*

<sup>55</sup> *Ibid.*, pp. 8–9.

<sup>56</sup> *Ibid.*, p. 15.

»A grand experiment for the German army and the Luftwaffe, with many details of organization and methods still in flux. The question of whether tanks were best used as an independent mobile strike force or in close support of infantry formations, for example, had not been resolved at the start of the campaign«.<sup>57</sup>

Pertaining to the Luftwaffe's employment during WWII, it cannot be left unsaid that the historiographical narrative, which has attempted to label it as »a strategic terror weapon« finds ample acceptance. Following this line of reasoning, it has been exposed as a terror-oriented air force and thereby associated with names like Guernica, Warsaw, Rotterdam, Coventry, and Belgrade. This orientation »found its genesis« in 1937 at the bombing of Guernica (during the Spanish Civil War) and then was confirmed by the Rotterdam bombardment in 1940. Hereafter, it was accepted implicitly that so-called terror bombing was part of German air doctrine.<sup>58</sup> Given the direct link between the Luftwaffe and Nazi leadership, as well as the propaganda dividend collected from such bombardments, it seemed natural to assume that this was the case. But a closer look at German airpower doctrine reveals something else: It was planned that the Luftwaffe should intervene in the near and rear-area of the army's operations, as well as above the navy's departure sector; and not against targets in the enemy's hinterland, like densely-populated cities.<sup>59</sup> As Manfred Messerschmidt elucidates:

»The Luftwaffe leadership intended to use the air force and its medium range bombers not only to provide tactical support for the army and the navy, but also to engage in »operational« air war against the enemy's sources of strength and break down his resistance«.<sup>60</sup>

Nevertheless, the question whether this doctrinal restraint also mirrored the common preference of the German High Command to engage in punishment bombing cannot be answered clearly. This ignited a historiographical debate with some contributions on the subject of Luftwaffe bombing activities, most significantly those of Horst Boog – including (1990): »Baedeker-Angriffe und Fernflugzeugprojekte 1942. Die strategische Ohnmacht der Luftwaffe,« also (1992): »Der strategische Bombenkrieg: Luftwaffe, Royal Air Force und US Army Air Forces im Vergleich bis 1945;« as well as (1993): »Luftwaffe und unterschied-

<sup>57</sup> *Ibid.*, p. 13.

<sup>58</sup> Authors Horst Boog and Richard Overy have already established that attacks on Warsaw, Rotterdam, London and even Coventry were conducted against legitimate military targets. Both Warsaw and Rotterdam were »defended cities,« whereas London and Coventry were military-economic targets. London was the center of the aerial war industry, while Coventry was likewise an industrial center. The later bombardments at: Leningrad, Moscow, Sebastopol and Stalingrad (independent from their intensity or success) were all directed towards military targets.

<sup>59</sup> By 1939–41 the Luftwaffe was still not emphasizing terror bombing attacks, but rather seeking to destroy targets of military importance. So-called »terror« or »retaliatory attacks« were permitted as a targeting method as of the spring of 1942, and then on a full scale from late summer 1944. Hence, at least for about half of the war, the German air force exercised *indiscriminate* rather than *terror bombing*. As will be explored, the difference between them is that whereas the first one seeks to affect morale indirectly, the second one does so directly by targeting civilians. Manfred Messerschmidt (1969): *Die Wehrmacht im NS-Staat. Zeit der Indoktrination*, Berlin: Deckers Verlag, p. 302.

<sup>60</sup> *Ibid.*

sloser Bombenkrieg bis 1942,« and (1995): »Bombenkriegslegenden.«<sup>61</sup> Likewise, Olaf Groehler in (1988): *Kampf um die Luftherrschaft*, (1990): *Geschichte des Luftkriegs 1910–1980*, and in (1991): *Bombenkrieg gegen Deutschland*<sup>62</sup> focused on the question of the bombing war's moral and legal status.<sup>63</sup> Both authors recognized different phases of the air war, as well as a range of strategic concepts and aims, attached to different levels of military effectiveness and legitimacy.

Since the publication of Jörg Friedrich's book (2002): *Der Brand. Deutschland im Bombenkrieg 1940–1945* and the volume edited by Lothar Kettenacker (2003): *Ein Volk von Opfern? Die neue Debatte um den Bombenkrieg*, a new academic interest in the aerial campaign (and particularly in the role of the bombing experience in German memory culture) awoke. Other historical accounts that followed and picked up from where Boog had left off included Rolf Dieter Müller's (2004): *Der Bombenkrieg* and Lothar Fritze's (2007): *Die Moral des Bombenterrors*. These works departed from the 1990s narrative in that they undertake a more pluralistic analysis of the subject,<sup>64</sup> widening the scope of the historical discourse and evaluating problematic terminologies in the context in which they originated. In this manner, more recent publications include Dietmar Süß's (2007): *Deutschland im Luftkrieg. Geschichte und Erinnerung* and (2011): *Tod aus der Luft. Kriegsgesellschaft und Luftkrieg in Deutschland und England*. Independent of that, such accounts do not contribute much when it comes to clarify the military nature of German airpower application during wartime.

Furthermore, a second historiographical narrative, possibly the most damaging, is represented by the opinion that the Luftwaffe had a fundamentally tactical

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<sup>61</sup> In his publications, Boog argues that the strategic concepts behind the RAF and Luftwaffe's bombing war were fundamentally different. While the first had been oriented towards the strategic bombing offensive from before the war, the second followed an airpower concept based on the military tradition of continental warfare, with emphasis on the cooperative support of the other services. Even if, under battle conditions, its bombings might »have looked like terror attacks,« independent bombing missions served an overall military purpose. It was first after the retaliation efforts of 1942 (*Baedeker-Angriffe*) that »a perversion of the offensive notion« (*Angriffsgedanke*) was recognizable in the conduct of the German aerial campaign. See Horst Boog (1990a), »Baedeker-Angriffe und Fernflugzeugsprojekte 1942. Die strategische Ohnmacht der Luftwaffe,« in: *Wehrwissenschaftliche Rundschau*, vol. 5, Bonn, pp. 93–101.

<sup>62</sup> Olaf Groehler saw the role of the Luftwaffe in a slightly different light than Horst Boog. According to him, the Luftwaffe followed a Douhetian method, using »terror« to put pressure on the enemy civilian population. Therefore, he saw »terror bombing« as an important strategic concept of the Luftwaffe that evidently played a part in the attacks on Poland and Rotterdam, as well as in the Battle of Britain. Because Nazi Germany staged these deliberate bombing raids on civilians, crossing the boundaries of air warfare, it provoked the Allies to use the same means in return.

<sup>63</sup> This debate was politically tainted, for the ideological competition between GDR and the Federal Republic played an important role. Hence, whereas Boog represents a view of German military history that »identified with the tradition of the German armed forces,« the second intended to counter this »distortions« by historical and academic arguments based on the Marxist-Leninist historical perspective.

<sup>64</sup> See Bernd Heidenreich, Sönke Neitzel (eds.) (2004), *Der Bombenkrieg und seine Opfer* (= Polis 39. Analysen – Meinungen – Debatten), Wiesbaden, Hessische Landeszentrale für politische Bildung.

character – being geared to army support operations. A series of variations on this argument can be found mostly in Anglo–American historiographical literature.

Some examples of this view are presented even in some of the best WWII books, and also in those dealing with airpower history. For instance, John Keegan in (1971): *Barbarossa. Invasion of Russia 1941*, maintains that: »The Luftwaffe of 1939–40 did not espouse any strategic bombing theory at all« and that its leaders, »mostly ex-army officers, devoted themselves to building the Luftwaffe into a ground support air force«.<sup>65</sup> Similarly, Telford Taylor argues in his introduction to Harold Faber (ed.) (1977): *Luftwaffe. A History*, that:

»The Luftwaffe's fundamental limitations were not the consequence of its immaturity but of a deliberated decision, taken in 1937, to design it for short-range operations in support of the army, rather than for long-range strategic undertakings of its own«.

This led to a situation where the air force was: »shaped by aviators who were amateur soldiers and by soldiers who were amateur aviators«.<sup>66</sup> Further, Trevor N. Dupuy (1982): *Great Battles on the Eastern Front. The Soviet-German War*, assumes that: »Germany used its airpower almost exclusively as an adjunct of land or naval power«.<sup>67</sup> The main fault with these arguments is that they look at the nature of German airpower from the vantage of its performance during the last phase of the war.

Taking into account that, as the war progressed, German operations increasingly became »an army's show« (in which the Luftwaffe ended up playing a supporting, if not subordinate role), the conclusion was that it was »a tactically orientated air force.« After all, as the war ran its course, German airpower was arrayed in multiple theaters, its intervention having been reduced to satisfying the needs of the ground forces. Thus, it is not surprising that in its aftermath, historians from the victorious allied countries (with their respectively strategically-oriented air forces) popularized the view that the Luftwaffe had been devised as a »*Hilfswaffe*,« tactically linked to land operations. The fact that this deduction seems logical does not make it right – predominantly because it ignores the nature of German aerial doctrine altogether and discards the Air Staff's influence in its theoretical discourse and operational planning, as well. Subsequently, the character of the Luftwaffe's involvement in war is one of the most complex and misunderstood problems in the history of airpower.

By attempting to fill this gap, this study will provide an analytical and theoretical context from which to better understand past and future operation histories dealing with German airpower exercise during WWII. Its characterization as *operativ* will have Gerhard Groß's book as a starting point, and play a complementary role to Dirk Schreiber's account. It will also establish a connection between Boog's observations on the Luftwaffe General Staff (conversely focusing on its development during peacetime), and those of James Corum regarding the establishment of the air force (but scrutinizing his views on its »effectiveness«).

<sup>65</sup> John Keegan (1971), *Barbarossa. Invasion of Russia 1941*, New York, Ballantine Books, p. 91.

<sup>66</sup> Harold Faber (ed.) (1977), *Luftwaffe. A History*, introduction by Telford Taylor, New York, Times Books, p. 35.

<sup>67</sup> Trevor N. Dupuy (1982), *Great Battles on the Eastern Front. The Soviet-German War*, Indianapolis, Bobbs-Merrill, p. 243.

It is intended to establish a middle ground between the historical discussion of the bombing war and the one that believes the Luftwaffe to have been a tactical air force. Furthermore, it attempts to contribute to the findings of the MGFA's historians by using an operations history method. To that end, it will evaluate the Luftwaffe's battle performance in a way that integrates modern criteria, but equally respects the terms and notions of that time. *This is relevant, as there is no universal »right way« in which airpower ought to be employed.*