LEABHARLANN CHOLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH | TRINITY COLLEGE LIBRARY DUBLIN
Ollscoil Átha Cliath | The University of Dublin

Terms and Conditions of Use of Digitised Theses from Trinity College Library Dublin

Copyright statement

All material supplied by Trinity College Library is protected by copyright (under the Copyright and Related Rights Act, 2000 as amended) and other relevant Intellectual Property Rights. By accessing and using a Digitised Thesis from Trinity College Library you acknowledge that all Intellectual Property Rights in any Works supplied are the sole and exclusive property of the copyright and/or other IPR holder. Specific copyright holders may not be explicitly identified. Use of materials from other sources within a thesis should not be construed as a claim over them.

A non-exclusive, non-transferable licence is hereby granted to those using or reproducing, in whole or in part, the material for valid purposes, providing the copyright owners are acknowledged using the normal conventions. Where specific permission to use material is required, this is identified and such permission must be sought from the copyright holder or agency cited.

Liability statement

By using a Digitised Thesis, I accept that Trinity College Dublin bears no legal responsibility for the accuracy, legality or comprehensiveness of materials contained within the thesis, and that Trinity College Dublin accepts no liability for indirect, consequential, or incidental, damages or losses arising from use of the thesis for whatever reason. Information located in a thesis may be subject to specific use constraints, details of which may not be explicitly described. It is the responsibility of potential and actual users to be aware of such constraints and to abide by them. By making use of material from a digitised thesis, you accept these copyright and disclaimer provisions. Where it is brought to the attention of Trinity College Library that there may be a breach of copyright or other restraint, it is the policy to withdraw or take down access to a thesis while the issue is being resolved.

Access Agreement

By using a Digitised Thesis from Trinity College Library you are bound by the following Terms & Conditions. Please read them carefully.

I have read and I understand the following statement: All material supplied via a Digitised Thesis from Trinity College Library is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of a thesis is not permitted, except that material may be duplicated by you for your research use or for educational purposes in electronic or print form providing the copyright owners are acknowledged using the normal conventions. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone. This copy has been supplied on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

Hitler as Military Commander:
From *Blau* to *Edelweiß*, January-November 1942

Alan Donohue

Doctor of Philosophy in History

University of Dublin, Trinity College

Supervisor: Prof. Alan Kramer

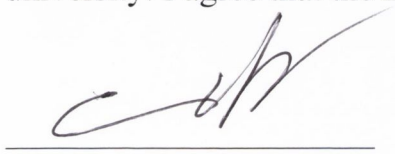
Submitted to the University of Dublin, Trinity College, April 2015

TRINITY COLLEGE
2 9 JUL 2015
LIBRARY DUBLIN

Thesis 10674

Declaration

I hereby declare that this is entirely my own work and that it has not been submitted as an exercise for the award of a degree at this or any other university. I agree that the Library may lend or copy this dissertation on request.



Alan Donohue

April 2015

Summary

The following thesis addresses the role of Adolf Hitler as a military commander from a subjective point of view. It deals with his strategy in relation to the war against the Soviet Union in 1942 as well as his operational command of Army Group A towards the end of the year. This was the only time during the Second World War when he held such a command, though his influence on the campaign which it waged in the Caucasus has never been analysed in great detail.

The majority of the sources used are from the records of the Wehrmacht, including orders, reports and war diaries. They serve as an important foundation from which to judge the actions of a commander in an objective manner. Secondary literature is used where it challenges the consensus that Hitler was an amateur strategist and commander who refused the sage advice of professionals – whether military or civilian.

The dissertation sheds new light on Hitler as a commander of men from the strategic to the tactical level of warfare. Important aspects of his personality are discussed, such as his opinions on military command in the First World War and his directives and commands for his own armed forces in the Second, especially the orders which affected the front-line troops. It will be shown that the men of Army Group A were supplied and given air support within the parameters of the possible, though this was not generally acknowledged in the memoirs of the generals who fought in this formation.

Hitler was concerned as much with the fighting capabilities of his Axis partners as he was with his own troops. The thesis stresses the measures he took in order to provide these countries with modern weaponry – often to the detriment of the Wehrmacht – though circumstances dictated that he was not always in a position to help his allies as much as he might have wished.

Other neglected areas of research are also addressed, such as logistics and military intelligence. It will be shown that Hitler was determined to rectify the transport problems which plagued the Wehrmacht in the first year of the war against the Soviet Union, and that operational decisions which he made were based on the sober assessment of reports coming from the front.

Acknowledgements

The work of the past four years has been made immeasurably easier by many people in different countries. I would like to begin by thanking my family most sincerely for their constant support, especially my mother, my brother Neil for helping to produce the maps, and my sisters Theresa and Lynda for financial and practical assistance in procuring books in the United States.

In Germany I was most fortunate to have had Waldemar Tröster as a friend who put me up (and put up with me) during my many visits, for which I am eternally grateful. I would also like to acknowledge the role of the late Mr Hermann Frey and of Ms Elisabeth Disch in this regard, whose generosity, kindness and understanding were most welcome in a time when they were most needed.

My many visits to the archive in Freiburg were made an even more enjoyable experience than they would otherwise have been thanks to the help and friendliness of its staff, especially Ms Andrea Meier and Mr Jan Warßischek. I would also like to thank Mr Hans-Friedrich Dannemann for much enlightenment during countless discussions of all things military, more often than not over a few beers.

I am indebted to Mr David M. Glantz and Prof. Evan Mawdsley for taking time to answer questions I had relating to Russian sources. Mr Oleg Kuznetsov in Moscow was also very helpful in this respect.

I was particularly fortunate to have Prof. Richard Overy and Prof. John Horne as my examiners. Their interest in my chosen topic and their suggestions for improvements and corrections were most welcome. Without such invaluable guidance the present thesis would have been found wanting in several aspects.

I reserve my especial thanks for my supervisor, Prof. Alan Kramer. His guidance during the past four years was exemplary and very much appreciated, and his questions, comments and suggestions relating to the work always helped to improve it. His patience, empathy and amenity never once wavered, even after more than one deadline passed without his receiving the work which he had been expecting.

Any errors committed in the time between the meticulous proofreading conducted by my supervisor and examiners and when the final draft was completed are mine alone.

I dedicate this work to the memory of my father, Sgt Patrick (Paddy) Donohue, his comrade and friend, Sgt Michael (Mick) Lennon, and my cousin, Sarah Donoghue.

Prefatory Notes

Transliteration

No official transliteration system exists for Russian. The system employed in the present work is the British Standard, with the exception of several transliterations taken from linguistics. These are: *й* /j/, *ы* /y/, *э* /è/, *ю* /ju/ and *я* /ja/.

All toponyms are taken from Russian, even where the place name in question is in the Ukraine, Georgia, and so on. There are several reasons for this: firstly, the names found in German documents and on maps are always transliterations from Russian, even if such places were, for example, in the Ukraine (e.g. Kiew, Dnepropetrowsk); secondly, the use of one language avoids the need for a number of disparate transliteration systems (e.g. Tbilisi for T'bilisi); finally, Russian toponyms are perhaps still more widely recognized in the English-speaking world than their equivalents in the official languages of the successor states of the Soviet Union (e.g. *Russian* Kiev, Khar'kov, Dnepropetrovsk vs. *Ukrainian* Kyiv, Kharkiv, Dnipropetrovs'k). The present-day country of Ukraine is usually referred to as *the* Ukraine throughout, unless the modern sovereign state is under discussion. There is no political statement or otherwise underlying this convention or the use of Russian toponyms: the intention is primarily to avoid anachronisms. However, in certain cases modern equivalents are given where these would be easier to find in a contemporary atlas (e.g. Slavjansk-na-Kubani for Slavjanskaja). This also applies to places which were originally Cossack settlements (stanitzas) but were subsequently given town status and renamed (e.g. Labinsk for Labinskaja). Similarly, contemporary names are given in brackets for toponyms which have subsequently been changed: thus, Medvezh'e (Krasnogvardejskoe).

Certain names are given in their more widely accepted English equivalents (e.g. Moscow, Mount Elbrus, Kerch Peninsula). However, all rivers are transliterated from Russian even if they are primarily in successor countries of the Soviet Union other than the Russian Federation (e.g. Dnepr instead of the common English exonym Dnieper). Similarly, town names are generally given in transliteration so that they can be located more readily on Russian maps (including the use of the apostrophe for the Russian letter *ь*): thus, for example, Kerch', Khar'kov.

Distances are usually given as approximations in a straight line between places. However, an exception is found in the sections on road and rail transport, where the distances are those travelled on the ground.

Titles and Names

The rank given for an individual is that which was held at the time under discussion. German ranks are given as a direct translation, *not* as their equivalent in the British Army at the time: thus, for example, *Generaloberst* is rendered as 'colonel-general', *Generalleutnant* as 'lieutenant-general' (not major-general, its British equivalent). The same applies for Red Army ranks: *general-polkovnik* is translated as 'colonel-general', *general armii* is 'army general', and so on. Romanian, Hungarian and Italian ranks are given in their respective languages in the footnotes in order to avoid ambiguity, as these are not direct translations: thus, for example, Romanian *general de armată* is 'general', Italian *generale di divisione* is 'major-general'.

German names of institutions and units which are widely used in English-language studies are generally left in the original, with a translation or gloss in either the main text or footnote where this is deemed necessary: e.g. Luftwaffe, Luftflotte (Air Fleet), Fliegerkorps (Air Corps), SS-*Wiking*. Russian military names and titles are mostly translated, with the exception of words generally used in English as well as certain abbreviations: thus, for example, Stavka (the Soviet high command), VVS (the Red Air Force). The words *Soviet* and *Russian* are sometimes used interchangeably; however, the former is usually reserved for anything pertaining to the Soviet Union or its political leadership and structures, while the latter is more often used for the Red Army (which reflects German usage during the war).

Hungarian and Japanese personal names are rendered in the form usually employed in Western literature (i.e. given name followed by surname).

Contents

	page
List of Tables	xii
List of Abbreviations, Acronyms and Foreign Terms	xiv
Chapter 1: Introduction	1
Methodology	3
Literature Review	3
From Barbarossa to Taifun	24
Chapter 2: Hitler and War	31
Introduction	31
German Military Leadership in the First World War	33
From Reichswehr to Wehrmacht	36
Strategy	38
The Human Factor in War	39
Technology	48
Command and War	53
Air Warfare	61
Naval Warfare	64
Chapter 3: The Wehrmacht and Its Allies	69
Introduction	69
Economic Mobilization for War	71
Replacements	75
Trucks and Tanks	78
Horses and Tractors	82
Fuel	84
Weapons and Ammunition	87
Luftwaffe and Kriegsmarine	89
Romania	91
Hungary	100
Italy	108
Japan	113
Finland	118

page

Turkey 121

Peoples of the Occupied Territories 125

General German Assistance 128

Chapter 4: Transport and Logistics 135

Introduction 135

Railways 138

Persecution and Holocaust 160

Roads and Terrain 166

Air Transport 180

Black Sea 194

Chapter 5: Military Intelligence and FHO 206

Introduction 206

Clausewitz and Intelligence 207

Consumer and Analyst 208

Fremde Heere Ost 210

Hitler and Intelligence 212

FHO Estimates of Soviet Formations 213

Production Figures 234

Operation Kreml 239

Chapter 6: The Campaign 249

Introduction 249

Preliminary Operations: Khar'kov 254

Preliminary Operations: The Crimea and Sevastopol' 256

Operation Blau: Planning 260

Blau I 263

Blau II (Clausewitz) 265

Edelweiß 268

Chapter 7: Conclusion 309

Appendices 324

Orders of Battle 324

Maps 347

page

Bibliography 369

Primary Sources 369

Secondary Sources 376

List of Tables

Table		*Page*
1.	German Aircraft Deliveries to the FARR, 1941-2	98
2.	Hungarian Armoured Fighting Vehicles Deliveries, 1941-1944	105
3.	German Aircraft Deliveries to the MKHL, Summer 1942 to Spring 1944	106
4.	Italian Oil Imports from Germany, 1940-1942	112
5.	Value of Exported Arms and War Material, 1935-1938	129
6.	German Sales of Tanks and Assault Guns to Selected Axis and Eastern European Countries, 1940-1944	132
7.	Exports of War Material to Selected Axis and Friendly Nations, 1941 and 1942	133
8.	Wagon Placement of the Deutsche Reichsbahn	156
9.	Delivery of Newly Constructed Vehicles to the Deutsche Reichsbahn	157
10.	Precipitation for Selected Cities in the Soviet Union	171
11.	Luftflotte 4 Transport Missions	187
12.	German Transport Aircraft Losses	191
13.	Production of Aircraft According to Year and Type	193
14.	German Aircrew Losses, 1939-1943	193
15.	German Ocean-Going Merchant Ships in the Black and Mediterranean Seas over 400 Gross Register Tons (GRT)	196
16.	Supplies Shipped on the Black and Baltic Seas, April 1941 to February 1943	202
17.	FHO Estimates for Army Group Centre and South, 20 December 1941 and 14 February 1942	215

Table		*Page*
18.	FHO Estimates, 27 July 1942	223
19.	Differences in FHO Estimates for 27 July and 13 August 1942	225
20.	FHO Estimates, 1 September 1942	226
21.	FHO Estimates, 1 November 1942	229
22.	Comparison of Prisoner and Booty Figures between FHO and QMG to 31 May 1942	236
23.	Comparison of Prisoner and Booty Figures between FHO and QMG for 1942	237
24.	Shipments from the Western Hemisphere to the Soviet Union, 1941-1943	252
25.	Estimated Soviet Airfield Occupancies, 17 September 1942	287
26.	Munitions Stocks in Percentage of First Provision for Establishment Weapons, 27 October 1942	298
27.	German Infantry Weapons Losses in 1941 and 1942	304
28.	Expenditure of Ammunition in 1941 and 1942	305

List of Abbreviations, Acronyms and Foreign Terms

Note: all entries relate to Germany unless otherwise stated

1. Skl.	Operations Department of the Skl.
3. Skl.	Intelligence Department of the Skl.
Ia	first general staff (*or* operations) officer
Ic	third general staff (*or* intelligence) officer
Abwehr (in full *Amt Ausland/Abwehr*)	Intelligence Department of the OKW
ACI (*Aviazione Cobelligerante Italiana*)	Italian Co-Belligerent Air Force
Admiral Schwarzes Meer	*naval commander responsible for the Black Sea and Sea of Azov*
AOK (*Armeeoberkommando*)	army headquarters
Armeegruppe	*command arrangement where at least one army headquarters was subordinated to another*
Armee-Wirtschaftsführer	*officer responsible for economic questions at an army headquarters*
ARMIR (*Armata Italiana in Russia*)	Italian Army in Russia (*alternative name for 8th Italian Army*)
Ausf (*Ausführung*)	model
Befehlshaber der Eisenbahntruppen	Commander of Railway Troops
Black Sea Group of Forces of the Transcaucasus Front	*Soviet formation formerly known as North Caucasus Front*
BMM (*Böhmisch-Mährische Maschinenfabrik*)	Bohemian and Moravian Engineering Works (*German name for ČKD*)
BvTO (*Bevollmächtigter Transportoffizier*)	*officer responsible for transport questions at an army headquarters*
CdT (*Chef des Transportwesens*)	Head of Transport at the OKH

ČKD (*Českomoravská-Kolben-Daněk*)	*Czechoslovakian engineering company*
Comando Supremo	High Command of the Italian Armed Forces
CSIR (*Corpo di Spedizione Italiano in Russia*)	Italian Expeditionary Corps in Russia
DAK (*Deutsches Afrikakorps*)	German Africa Corps
Deutsche Reichsbahn	*state railway company*
DHM (*Deutsche Heeresmission*)	*military mission in a foreign country*
DRZW (*Das Deutsche Reich und der Zweite Weltkrieg*)	*German history of the Second World War*
Durchgangsstraße	through road
E-boat ('enemy boat')	*British term for the German fast attack craft known as an S-Boot (Schnellboot)*
Einsatzgruppe	task force
Ersatzheer	Replacement Army
FARR (*Forţele Aeriene Regale ale României*)	Royal Romanian Air Force
Feldherr	commander
FHO (*Fremde Heere Ost*)	Foreign Armies East (*department of the OKH responsible for intelligence gathering on eastern armies*)
FHQu (*Führerhauptquartier*)	Führer Headquarters
Fliegerkorps	air corps
front	*army group* (*USSR*)
Führerbefehl	Führer Order
GAL (*Grupul Aerian de Luptă*)	Romanian Combat Air Group (*in southern Russia*)
Gau	*administrative region of the NSDAP and later of the Third Reich*
Gauleiter	*district (Gau) leader of the NSDAP*
Gefechtsverband	combat group

Gen.Kdo.z.b.V. (*Generalkommando zur besonderen Verwendung*)	Corps Headquarters for Special Duties
Gen.St.d.H. (*Generalstab des Heeres*)	General Staff of the Army
Geschwader	*unit of the Luftwaffe ≈ RAF Group*
GKO (*Gosudarstvennyj komitet oborony*)	State Defence Committee (*USSR*)
Government-General	*administrative region of the Third Reich comprising parts of Poland and Ukraine*
Greter	*broad Russian country track*
Großraumwirtschaft	greater economic area
GRT	gross register tons
GRU (*Glavnoe razvedyvatel'noe upravlenie*)	Main Intelligence Directorate (*of the Red Army*)
Gruppe	1. *temporary army task force* 2. *unit of the Luftwaffe ≈ RAF Wing*
Heeresgruppe	army group
Hiwi (*abbreviation of Hilfswilliger*)	voluntary helper
Honvéd	Hungarian Armed Forces (*1918-1949*)
Hundertschaft	*unit with approximately 100 men*
Hung.	Hungarian
IJN	Imperial Japanese Navy
Ital.	Italian
IVMV (*Istorija Vtoroj mirovoj vojny 1939-1945 v dvenadtsati tomakh*)	*Soviet history of the Second World War*
Jäger(division)	light infantry (division)
jatkosota	*Finnish 'continuation war' against the Soviet Union (1941-1944)*
JG (*Jagdgeschwader*)	fighter group
KG (*Kampfgeschwader*)	bomber group

K.G.z.b.V. (*Kampfgruppe zur besonderen Verwendung*)	Bomber Unit for Special Duties
Kriegsakademie	War Academy
Kriegsmarine	Navy (*1935-1945*)
KTB (*Kriegstagebuch*)	war diary
KTB OKW (*Kriegstagebuch des Oberkommandos der Wehrmacht*)	*war diary of the High Command of the Armed Forces*
KV	*heavy tank* (*USSR*)
KwK (*Kampfwagenkanone*)	tank cannon
LG (*Lehrgeschwader*)	training group
Luftflotte	air fleet
Luftwaffe	Air Force
Luftwaffenkommando	*headquarters for a specific area, between air fleet and air corps*
Magyar Királyi Honvédség	Royal Hungarian Army (*1922-1945*)
Marinegruppenkommando Süd	*naval command responsible for the Black Sea and Balkan Peninsula regions*
MFP (*Marinefährprahm*)	naval ferry barge
MKHL (*Magyar Királyi Honvéd Légierő*)	Royal Hungarian Air Force
mot.	motorized
mt.	mountain
NCO	non-commissioned officer
NJG (*Nachtjagdgeschwader*)	night-fighter group
NKVD (*Narodnyj komissariat vnutrennikh del*)	People's Commissariat for Internal Affairs (*USSR*)
NSDAP (*Nationalsozialistische Deutsche Arbeiterpartei*)	National Socialist German Workers' Party (*or* Nazi Party)

OA (*Organisationsabteilung*)	Organization Department of the OKH
OB (*Oberbefehlshaber*)	commander-in-chief
Oberbaustab	higher construction headquarters
OKH (*Oberkommando des Heeres*)	High Command of the Army
OKL (*Oberkommando der Luftwaffe*)	High Command of the Air Force
OKW (*Oberkommando der Wehrmacht*)	High Command of the Armed Forces
Ostbahn	*German-run former Polish railways in the Government-General*
Ostheer	*German Army on the Eastern Front*
OT (*Organisation Todt*)	*civil and military engineering concern*
panje	*small horse indigenous to eastern Europe*
Panther	*medium tank*
Panzer, Pz, PzKpfw (*Panzerkampfwagen*)	tank
Panzerstraße	tank road
PzAOK (*Panzerarmeeoberkommando*)	tank army headquarters
RA (*Regia Aeronautica*)	Royal Italian Air Force
RAD (*Reichsarbeitsdienst*)	Reich Labour Service
rasputitsa	*biannual period when unpaved roads in eastern Europe become impassable due to melting snow or heavy rainfall*
Reichsbahn	see *Deutsche Reichsbahn*
Reichsbahndirektion	*railway administration area*
Reichsgau	*one of eleven districts formed from territories annexed after 1939*
Reichsstatthalter	Reich Governor (*of a Reichsgau*)
Reichsverkehrsdirektion	Reich Transport Administration
RM (*Reichsmark*)	*currency of Germany (1924-1948)*
Rom.	Romanian

RSA (*Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*)	*collection of Hitler's speeches, writings and directives*
SC (*Sprengbombe Cylindrisch*)	*air-dropped, high-explosive bomb*
Schwerpunkt	point of main effort
SD[1] (*Sicherheitsdienst*)	Security Service (*intelligence branch of the SS*)
SD[2] (*Sprengbombe Dickwandig*)	*air-dropped, submunitions bomb*
SI (*Suomen ilmavoimat*)	Finnish Air Force
Skl. (*Seekriegsleitung*)	Naval War Command (≈ *naval general staff*)
Sonderstab HWK (*Sonderstab für Handelskrieg und Wirtschaftliche Kampfmaßnahmen*)	Special Staff for Economic Warfare and War-Economic Measures
SS (*Schutzstaffel*)	Protection Squad (*originally Hitler's personal bodyguard, founded in 1925*)
Staffel	*unit of the Luftwaffe ≈ RAF Squadron*
Stavka VGK	Headquarters of the Supreme High Command (*USSR*)
StG (*Sturzkampfgeschwader*)	dive-bomber group
Straßenbau-Bataillon	road construction battalion
StuG (*Sturmgeschütz*)	self-propelled assault gun
StuK (*Sturmkanone*)	assault-gun cannon
T-34	*medium tank* (*USSR*)
TACAM (*Tun Anticar pe Afet Mobil*)	*Romanian self-propelled anti-tank gun*
Tiger	*heavy tank*
uk-gestellt (*in full: unabkömmlich gestellt*)	*regarded as indispensable to the war effort*
Volksdeutsche	*ethnic Germans who were citizens of countries other than Germany*

VOV (*Velikaja Otechestvennaja vojna 1941-1945 godov v dvenadtsati tomakh*)

Russian history of the Great Patriotic War

VS (*Verbrauchssatz*) consumption rate

VVS (*Voenno-vozdushnye sily*) Red Air Force

VVS ChF (*Voenno-vozdushnye sily Chernomorskogo flota*)

Air Force of the Black Sea Fleet (*USSR*)

Waffenbrüderschaft *word used for the military cooperation between Germany and Finland*

Waffen-SS *combat units of the SS*

WFSt (*Wehrmachtführungsstab*) Armed Forces Operations Staff

WiRüAmt (*Wehrwirtschafts- und Rüstungsamt*) War Economy and Armaments Office of the OKW

WiStabOst (*Wirtschaftsstab Ost*) Economics Staff East

WO (*Wirtschaftsoffizier*) *officer responsible for economic questions in foreign countries*

WWA (*Wehrwirtschaftsamt*) War Economy Office of the OKW

ZG (*Zerstörergeschwader*) heavy-fighter group

Chapter 1: Introduction

Whereas Socialism, and even capitalism in a grudging way, have said to people, "I offer you a good time," Hitler has said to them, "I offer you struggle, danger and death," and as a result a whole nation flings itself at his feet.

George Orwell[1]

Adolf Hitler has been the subject of extensive research since the end of the Second World War almost seventy years ago. However, his role as military commander during the planning and execution of the German summer offensive of 1942 (Operation Blau) and the subsequent drive into the Caucasus Mountains (Operation Edelweiß) has only been comprehensively examined on the strategic level. The latter – which was intended to be the climactic final phase of Blau – soon took on the role of secondary operation to the more apocalyptic battle further north at Stalingrad. Its importance to German strategy in the Soviet Union has therefore been overshadowed by the outcome of the battle on the Volga. Nevertheless, its strategic significance was not lost on Hitler, who stated in summer 1942 that if the Germans failed to capture the oilfields at Groznyj and Majkop he would have to end the war.[2]

His two-month *operational* command of Army Group A has been generally overlooked in the historiography of the campaign. This was the only time when Hitler controlled such a formation personally, yet his actual command performance has never been fully evaluated. Indeed, most critiques of his military record have dealt exclusively with Hitler the strategist. The operations were unique in twentieth-century military history to the extent that the political leader of a state determined not only the strategy of its armed forces as a whole, but also the operational command of a large formation in the field. It was the one time when he truly earned the title of *Feldherr* (commander).

The consensus among historians continues to be that his leadership at the mid-point of the war is notable for its detachment from reality and an inability (or lack of desire) to come to terms with the problems associated with a second year of campaigning in the Soviet Union

---

[1] Taken from a review of Hitler's book, *Mein Kampf*, in *New English Weekly* (21 March 1940): cited in George Orwell, *The Collected Essays, Journalism and Letters of George Orwell*, vol. 2, eds. Sonia Orwell and Ian Angus (Harmondsworth, 1970), p. 28.

[2] Field Marshal Friedrich Paulus's testimony at the International Military Tribunal, Nuremberg. Cited in Bernd Wegner, 'Der Krieg gegen die Sowjetunion, 1942/43', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 6: *Der globale Krieg: Die Ausweitung zum Weltkrieg und der Wechsel der Initiative, 1941-1943* (Stuttgart, 1990), p. 783. Series hereafter known as *DRZW*.

with considerably weakened forces. This unanimity among most commentators generally stems from their continual, uncritical acceptance of the picture of Hitler portrayed in the memoirs of the generals who fought his campaigns.

The present thesis will argue that Hitler's waging of 'economic warfare' against the Soviet Union in summer 1942, far from being the only alternative left to a politician and commander who was strategically bankrupt, was in fact the result of a sound assessment of the situation which Germany found itself in. Indeed, the implications surrounding the potential loss of vital economic areas or material aid from the Western Allies and the concomitant reduction in the Soviet capacity to resist the German Army have usually been underestimated. It will be shown that his planning and execution of Blau and Edelweiß was the fruit of a wider appreciation of strategy and geopolitics than most of his generals cared to admit after the war.

Hitler's musings on military theory and practice will be examined as an introduction to his thoughts on their relevance to history and to Germany's strategic situation in 1942. On the operational level, the supposed lack of material and air support for the formations fighting in the Caucasus will be addressed as part of the overall campaign. Finally, neglected areas of research such as logistics, military intelligence, and the economic and military assistance afforded by Germany to its allies will also be examined.

The intention is not to rehabilitate Hitler in any moral sense: his crimes against humanity – combatant and non-combatant alike – suffice to ensure that this will never happen. Rather, the aim is to reassess the abilities and thought processes of a man who, in his own lifetime, went from being known as the 'greatest commander of all time' to the infamy of being a supposed burden on the fighting capability of the German Wehrmacht.[3] Hitler was by no means infallible as a military commander, but an in-depth study of his strategy and command does offer a different insight into a man who has since become a byword for charlatanism.

[3] The word *Gröfaz* was used pejoratively as an abbreviation of the term coined by Field Marshal Wilhelm Keitel, the Chief of Staff of the OKW, to describe Hitler following the defeat of France in June 1940 (*Größter Feldherr aller Zeiten*).

Methodology

German archival material for this stage of the war is plentiful and forms the bulk of the primary sources used, including the war diaries of Army Group A and its constituent armies (17th and 1st Panzer), which are important records for operational decision-making. There are also abundant documents for the early period of the war concerning all other matters of military and economic significance.

Secondary literature on every aspect of the role of Hitler and Germany in the Second World War is copious and practically exhaustive. However, the overwhelming majority of commentators empathize with the long-held view expounded by former Wehrmacht servicemen of Hitler as a military incompetent who cared little for their professional advice, about insurmountable objectives and insufficient means, or for the welfare of the officers and men under his command. This consensus will be challenged primarily with the aid of contemporary source material but also with the views of historians who have studied the conflict in more than just a superficial manner.

Literature Review

Since the end of the Second World War, countless books have been written on all principal operations and battles on the Eastern Front. One major exception, however, is Operation Blau. Historians have generally tended to treat this campaign as merely a jumping-off point towards the cul-de-sac that was Stalingrad. Blau was an operation which was intended to be decisive in destroying the military and economic capabilities of the Soviet Union in the same way as the initial invasion of the Soviet Union (Operation Barbarossa), yet there is a paucity of books on it.

It is common in historiography for a particular opinion to gain currency, only for a different view to supersede it in time when new documents emerge. This latest proposition might in turn be supplanted by another or, indeed, by the previous thesis. With respect to Blau, however, the consensus has been – and continues to be – that the operation was doomed to failure from the outset.

Hitler as military commander: The battle waged by the German generals after the war in order to exculpate themselves from the responsibility for their defeat has always been unbalanced. This began almost at once with a work written by a former Chief of the General Staff of the Army, Colonel-General Franz Halder, which is best described as a bitter diatribe against his former master and therefore not of much consequence to the serious historian.[4] Equally concise accounts of the working conditions in the General Staff under Hitler are offered by Bernhard von Loßberg and Percy Ernst Schramm, who are also critical of a leader whom they believed to be intractable once he had convinced himself of the correctness of a particular decision.[5] Walter Warlimont wrote a more thorough account of life within Hitler's military circle, having served several years in the Armed Forces Operations Staff (*Wehrmachtführungsstab*, WFSt). His book offers especially interesting accounts of Hitler's idiosyncratic behaviour while acting under duress.[6]

Surprisingly, scholarly works on Hitler as a military commander are scarce. A good place to start for a succinct analysis is Rupert Matthews.[7] John Strawson has also written a general account, though it deals primarily with Hitler as a strategist. A more thorough examination of Hitler's relationship with his top generals and staff officers is Geoffrey P. Megargee's fine work, which argues that the Supreme Commander was not to blame for everything that went wrong militarily for Germany during the war, though he too is particularly scathing of Hitler's style of leadership and the command arrangements which he deliberately put in place.[8]

Non-specialist evaluations of Blau and Edelweiß usually restate what the German generals had to say after the war about Hitler's leadership. This is unfortunate for the

---

[4] Franz Halder, *Hitler as War Lord* (London, 1950). Halder, who had held this post from 1 September 1938 until 24 September 1942, was dismissed from the armed forces on 31 January 1945 and spent time in different concentration camps until taken into custody by the Americans after the war.

[5] Bernhard von Loßberg, *Im Wehrmachtführungsstab: Bild eines Generalstabsoffiziers* (Hamburg, 1950); Percy Ernst Schramm, 'Hitler, Oberster Befehlshaber der Wehrmacht, als 'Feldherr'', in *idem* (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940-1945*, vol. 4: *1. Januar 1944 – 22. Mai 1945*, ed. Percy E. Schramm (Frankfurt/Main, 1961), hereafter known as *KTB OKW*, vol. 4; and *idem*, *Hitler, the Man and the Military Leader* (London, 1971). Loßberg served in the High Command of the Army (*Oberkommando des Heeres*, OKH) and of the Armed Forces (*Oberkommando der Wehrmacht*, OKW). For details of his preliminary study of 15 September 1940 concerning an invasion of the Soviet Union (code-named Fritz, later Barbarossa), see Ernst Klink, 'Die Landkriegführung', in Horst Boog et al., *DRZW*, vol. 4: *Der Angriff auf die Sowjetunion* (Stuttgart, 1983), pp. 229-33. Schramm wrote the war diary of the OKW from 1943 to 1945.

[6] Walter Warlimont, *Inside Hitler's Headquarters, 1939-45* (Novato, CA, 1991 [1964]). He served as deputy chief of this staff from January 1942 until September 1944.

[7] Rupert Matthews, *Hitler: Military Commander* (London, 2003); John Strawson, *Hitler as Military Commander* (London, 1973).

[8] Geoffrey P. Megargee, *Inside Hitler's High Command* (Lawrence, KS, 2000).

historian as it perpetuates the idea that his strategy and command style were generally aimless and capricious.

German-Soviet War: American historian David M. Glantz is indisputably the leading authority on the conflict on the Eastern Front in the English-speaking world. He has written numerous books and articles on the subject, particularly from the Soviet perspective, though his works generally offer a sober analysis of Hitler's strategic and operational command. Together with Jonathan M. House he has written one of the best single-volume works on the war.[9] His books and articles are also an excellent source of data pertaining to German and Soviet manpower and *matériel*, combat efficiency and losses, and orders of battle.[10] His survey of the state of the Red Army in the first years of the Great Patriotic War is peerless.[11] Whereas some historians condemn Hitler for failing to broaden the detailed successive operational plans Blau I to III to include a thorough outline of Blau IV (the drive into the Caucasus), Glantz correctly notes that orders addressing this situation should and would be left until later.[12] In one of the most comprehensive studies of Blau ever written in English he asserts that it would be an oversimplification to portray Hitler as an 'irrational fanatic'. According to Glantz, kowtowing subordinates and German military intelligence were both influential in Hitler's concluding that the Soviet Union was on the verge of military collapse.[13]

Like the Austrian historian Heinz Magenheimer, he is also one of the few specialists to appreciate what was explicitly stated in the order for the resumption of the offensive (Directive No. 41): namely, that the *sine qua non* for the success of Blau was the destruction of enemy forces in the south *in addition to* any economic exploitation of the areas subsequently overrun.[14] Perhaps his one weakness with respect to German strategy is his assertion that Blau produced three strategic axes (Voronezh, Stalingrad and, later, the

---

[9] David M. Glantz and Jonathan M. House, *When Titans Clashed: How the Red Army Stopped Hitler* (Edinburgh, 2000 [1995]).
[10] See, for example, David M. Glantz, *Kharkov 1942: Anatomy of a Military Disaster Through Soviet Eyes* (Shepperton, 1998), pp. 71-2 (Soviet army and division establishments), and David M. Glantz and Jonathan M. House, *The Stalingrad Trilogy*, vol. 1: *To the Gates of Stalingrad: Soviet-German Combat Operations, April-August 1942* (Lawrence, KS, 2009), pp. 5-8 (German combat effectiveness on the eve of Blau).
[11] David M. Glantz, *Colossus Reborn: The Red Army at War, 1941-1943* (Lawrence, KS, 2005) and *Companion to Colossus Reborn: Key Documents and Statistics* (Lawrence, KS, 2005).
[12] *Idem*, *Kharkov 1942*, pp. 30-1.
[13] *Idem*, *Gates of Stalingrad*, p. 19.
[14] *Idem*, *Kharkov 1942*, p. 21; Heinz Magenheimer, *Hitler's War: Germany's Key Strategic Decisions, 1940-1945* (London, 1999 [1998]), pp. 139-40.

Caucasus), which would each require its own army group.[15] However, the operation against Voronezh was essentially carried out in order to gain the upper Don and a more easily defended river line, and was further necessary in order to form the northern wing of the encirclement of Soviet forces between the rivers Donets and Don. For the rest of the duration of Blau, only the (weak) 2nd German Army and (even weaker) 2nd Hungarian Army were deployed in this sector. This flank defence hardly constituted a strategic axis to the same extent as Stalingrad or the Caucasus.

Two recent histories of the German-Russian war have added significantly to our understanding of the conflict. Chris Bellamy cites Mark Harrison, who argues that economic factors ultimately determine the outcome of any struggle. According to the calculations of the economists, Bellamy continues, the Soviet Union should have collapsed in 1942. With the 'iron law of GDP' as arbiter, the Soviets were at a massive disadvantage compared to Germany.[16] Evan Mawdsley agrees that economic factors played a key role in Hitler's strategy for the new offensive. For the German political elite, he writes, autarky was the watchword with respect to the war in the east, especially in 1942. This made perfect strategic sense when one considers the effect of the Allied blockade on Germany in the First World War and that the United States would now be bringing its economic might to bear on the Axis Powers in the present conflict.[17] Mawdsley sees further merit in Hitler's strategy from a purely military perspective. He correctly assesses the decision to attack in the south as opposed to in the central sector as a sensible option, which bypassed the strongest area of the Soviet front.[18]

One of Germany's pre-eminent scholars of the campaign in the east, Bernd Wegner, has contributed to his country's history of the Second World War in the form of one of the most extensive studies of Blau to date in terms of preparations, resources and operations.[19] Despite his correct conclusion that the Wehrmacht was much weakened on the previous year, he also acknowledges elsewhere that the strength of the Red Army in the field left Hitler no choice but to resume the offensive in 1942. He is also one of the few historians who argues that a 'battle of annihilation' (*Vernichtungsschlacht*) could be achieved by the German Army in the southern sector of the front. The Soviets, he notes, could not avoid a decisive battle here

---

[15] Glantz, *Kharkov 1942*, p. 59.
[16] Chris Bellamy, *Absolute War: Soviet Russia in the Second World War* (New York, 2007), pp. 468, 472.
[17] Evan Mawdsley, *Thunder in the East: The Nazi-Soviet War, 1941-1945* (London, 2005), p. 7.
[18] *Idem*, 'Eastern Front', in Richard Holmes (ed.), *The Oxford Companion to Military History* (Oxford, 2001), p. 271.
[19] Wegner, 'Krieg gegen die Sowjetunion'.

because the region was so economically and logistically crucial to them.[20] On Hitler's role as a strategist in general, however, Wegner is convinced that he was obsessed with intuition as opposed to knowledge, though he does concede that the German General Staff was also dismissive of non-operational intelligence gathering.[21]

Several older books which have dealt with Blau in detail are of enduring importance and have acted as sources for most of the works cited above, despite having been published over thirty years ago. One of the finest and best known is the first volume of a monumental two-volume work by John Erickson, who was one of the world's foremost Sovietologists.[22] This work contains much important data, particularly with respect to armaments production, orders of battle, casualties, the Soviet General Staff and its method of war-making, combat effectiveness, and so on. Like any military historian in the tradition of Hans Delbrück, he views the political climate as an important adjunct to military culture and operations, noting that the German occupation of the Caucasus would help to win the allegiance of Turkey while simultaneously cutting off the Allied supply route to the Soviet Union via Iran. He also points to the importance of the Crimean Peninsula for both sides, explaining that the Soviets were contemplating a major operation here at the beginning of 1942 in order to win it back, which could have had a positive effect on Turkey as well as providing bases from which to attack the Romanian oilfields at Ploieşti.[23]

Earlier books tend to more disparaging towards Hitler and his intentions regarding Blau. This is understandable when one considers that sources used by later historians were often not available in the decades following the war, especially in the Soviet Union. Albert Seaton's comprehensive account of the conflict is a good place to start for operational history.[24] One significant drawback, however, is an over-reliance on German archival material, which necessarily results in an unbalanced account. Of particular interest is his perceptive remark that neither of the heads of the intelligence department of the German

---

[20] *Idem*, 'The German Campaigns in Russia, 1941-43', *Journal of Strategic Studies*, 13 (1) (Mar., 1990), pp. 114, 116.
[21] *Idem*, 'The Tottering Giant: German Perceptions of Soviet Military and Economic Strength in Preparation for "Operation Blau" (1942)', in Christopher Andrew and Jeremy Noakes (eds.), *Intelligence and International Relations, 1900-1945* (Exeter, 1987), p. 307; *idem*, 'Krieg gegen die Sowjetunion', p. 814.
[22] John Erickson, *Stalin's War with Germany*, vol. 1: *The Road to Stalingrad* (London, 2003 [1975]), pp. 341, 329.
[23] Ibid., pp. 341, 329. Delbrück was a German soldier, historian and member of parliament. His magnum opus, *Geschichte der Kriegskunst im Rahmen der politischen Geschichte* (History of the Art of War within the Framework of Political History), was published in four volumes between 1900 and 1920.
[24] Albert Seaton, *The Russo-German War, 1941-45* (Novato, CA, 1993 [1971]).

Army responsible for eastern European armies (FHO) who held the position during the war was a specialist in this domain.[25]

One of America's leading experts on the German-Soviet War, Earl F. Ziemke, wrote (together with Magna E. Bauer) a fine two-volume study of the campaign which, despite being first published over forty years ago, continues to be an important source for contemporary historians. Volume 1 covers the first half of the campaign.[26] It is a treasury of important military documents and directives from both sides pertaining to, *inter alia*, operations, combat effectiveness and production figures. It is also extremely perceptive on points often overlooked by others. For example, the authors see in the later successful German operations around Khar'kov (Wilhelm and Fridericus II) the evidence which would later convince Hitler and the high command that Soviet ability to resist had been severely weakened compared to the previous year and that the second phase of Blau might consequently proceed more quickly than originally anticipated, thereby allowing the transfer of units to Army Group Centre for an attack on Moscow at a later date. Ziemke and Bauer also discuss Operation Kreml – the German plan designed to deceive the Soviets into believing that Moscow would be the target of the summer offensive – which is most often omitted in the literature. They describe it as having the potential to make it a 'masterpiece of this somewhat speculative form of military art'.[27] Unfortunately, however, Hitler's role in the matter is not analysed.

One final book worthy of mention, which examines German planning and operations against the Soviet Union from 1940 to 1942, was written shortly after the war by American historian George E. Blau.[28] Though this study first appeared in 1955, it has been cited in many of the publications noted above. The author had the advantage of access to most German documents which had been seized and taken to the United States after the war. One limitation of the work is that he depended in large part on the *Strategic Survey of the German Campaign in the East* – a study by German generals prepared under the supervision of Halder. He also made use of the memoirs and thoughts of men who held important staff positions and field commands, such as Warlimont, Adolf Heusinger, Gerd von Rundstedt and Heinz Guderian. The fact that high-ranking officers tried to various degrees to exculpate themselves from all German military setbacks means that the monograph is prejudiced

---

[25] Ibid., p. 256. See Chapter 5 below for a full discussion of FHO (*Fremde Heere Ost*, Foreign Armies East).
[26] Earl F. Ziemke and Magna E. Bauer, *Moscow to Stalingrad: Decision in the East* (New York, 1988 [1968]).
[27] Ibid., pp. 330, 329. See below for further discussion of this operation.
[28] George E. Blau, *German Campaign in Russia: Planning and Operations (1940-1942)* (Washington, DC, 1955).

against Hitler. Nevertheless, Blau's overview covers every aspect of the early history of the German-Russian conflict most comprehensively, including intelligence, economics, logistics and operations. Most of his observations have stood the test of time, even with the emergence of new primary source material. His argument that German intelligence was good at gathering information but poor at evaluating and interpreting its findings is often overlooked by historians who tend to be dismissive of every aspect of the work carried out by FHO. Nor did Blau shy from exposing Halder as one of the leading military figures who readily agreed with Hitler's assessment that the Red Army was practically finished by the beginning of the second campaign in the east, despite attempts to cultivate the idea of himself as the General Staff professional whose sound strategic rationale was thwarted time and again by Hitler's dilettantism and persistent underestimation of Soviet capabilities.[29]

Operations Blau and Edelweiß in Second World War literature: Authors writing on the Second World War as a whole tend to blame Hitler's strategic and operational decision-making for the ultimate failure of the German summer offensive in 1942. His strategy has generally been represented disparagingly as 'economic' in nature, thereby challenging Clausewitz's principal maxim of destruction of the enemy force in the field as the only certain path to victory. However, one of Britain's finest military thinkers and writers of the twentieth century, Sir Basil Liddell Hart, wrote that Hitler's decision to go on the offensive once again following the setback of the previous winter was partly a consequence of the pressure exacted on him by his economics experts. He suggested that the decision was ultimately Hitler's, in spite of the reservations expressed by his leading commanders. Liddell Hart further noted that the operation itself followed the 'canons of orthodox strategy' at the beginning of Blau, only to pay forfeit for disregarding them with the 'fatal divergence of effort' that was Directive No. 45, which divided Army Group South in two and ordered divergent goals for both new formations.[30]

This is also the view shared by Jeremy Black, who has identified 'poor direction' on Hitler's part as the main reason for the collapse of Blau. He contends that the plan was flawed from the outset: problems of supply were overlooked, Soviet strength was underestimated, and a 'massive flank' to the north was offered to the Soviets to attack.[31] These views,

---

[29] Ibid., pp. 178, 165-6.
[30] Basil Liddell Hart, *History of the Second World War* (London, 1973 [1970]), pp. 254, 255, 266. Carl von Clausewitz was a Prussian major-general and military theorist, whose most famous work, *On War*, was published posthumously in 1832. See Chapter 6 below for a discussion of this directive.
[31] Jeremy Black, *World War Two: A Military History* (London, 2003), pp. 115-16.

however, can be challenged: firstly, logistics was always going to be a problem given that the transport network of western and Asiatic Russia was primitive compared to western European standards; secondly, the Germans felt confident that the Soviets were running out of manpower reserves, especially after the preliminary operations at Khar'kov and in the Crimea; thirdly, any advance in one sector necessarily meant a lengthening of the front line and a concomitant extended flank. The rivers Don and Volga, however, were ideal natural obstacles on which to build a strong defensive position.

One of Hitler's most celebrated biographers, Alan Bullock, suggested that he was not deficient in 'military talents'. The fact that he lacked the training of a professional soldier did not mean that he was ignorant of military history and science. If he is to be regarded as an amateur, Bullock wrote, the same can be said of Churchill and Stalin. Hitler also had a sound understanding of the technological revolution in warfare which occurred at the time, and he was responsible for practical contributions with respect to innovation and rearmament, especially in terms of the use of armour and aircraft. His support of *Blitzkrieg* was 'decisive' in initiating German successes in the early period of the war, which suggested a prescience that was lacking in all other national leaders as well as in professional opinion in foreign armies. However, Bullock concluded that he was as excitable and irresolute in the conduct of operations as he was audacious in conceiving them.[32]

Joel S. Hayward has written a book ostensibly about the Luftwaffe at Stalingrad but which devotes a considerable proportion of its pages to the preliminary ground operations and Blau.[33] Unlike many who have analysed the operation and its consequences, he pays particular attention to the German fuel crisis, which, he believes, convinced Hitler to opt for a resumption of the offensive in the southern sector.[34] Hayward suggests that Hitler missed a 'golden opportunity' to deal the Soviet war economy a severe blow by not bombing the oilfields of the Caucasus.[35] However, Hitler ordered 17th Army to retreat into the Kuban' bridgehead after the defeat at Stalingrad so that it might be in a position to renew its offensive into the oil-producing regions of the Caucasus in 1943.[36] Any wholesale destruction of the oilfields would therefore have been counterproductive at that point. Hayward also subscribes

---

[32] Alan Bullock, *Hitler and Stalin: Parallel Lives* (London, 1991), p. 744. See Chapter 2 below for a brief discussion of the genesis of *Blitzkrieg*.
[33] Joel S. Hayward, *Stopped at Stalingrad: The Luftwaffe and Hitler's Defeat in the East, 1942-1943* (Lawrence, KS, 1998).
[34] Ibid., pp. 4-20, and *idem*, 'Too Little, Too Late: An Analysis of Hitler's Failure in August 1942 to Damage Soviet Oil Production', *Journal of Military History*, 64 (3) (July, 2000), p. 769.
[35] *Idem*, 'Too Little, Too Late', p. 771.
[36] As noted in Erich von Manstein, *Lost Victories* (St. Paul, MN, 2004 [1958]), p. 392.

to the commonly held view that splitting the offensive was a violation of Clausewitz's maxim that the enemy's military forces should be destroyed in the field by concentration of force.[37]

Anthony Beevor's study of the Battle of Stalingrad was an international bestseller and has therefore done more than most to evoke the notion of Hitler as an incompetent with respect to decision-making on the strategic and operational levels of war. He argues that it was Hitler's 'feverish mood' which resulted in the German advance being split in two – a 'most disastrous' alteration of the original plan of attack that was contrary to the advice of his Chief of Staff.[38] However, only after Blau had begun to falter before Stalingrad did Halder come to the realization that the task might be beyond the German forces.

More recent publications still often censure Hitler for practically everything that went wrong for Germany in 1942. Richard Evans, for example, maintains that it was only Hitler who underestimated the Soviet Army, while the Supreme Commander's simultaneous contempt for the General Staff left Halder in despair.[39] Another British historian, Ian Kershaw – perhaps the most celebrated biographer of Hitler in the English-speaking world – has branded Hitler's decision to split the offensive in two as 'sheer lunacy'.[40] Kershaw's two-part biography is a monumental achievement, yet he relies heavily on Halder's opinions for the events surrounding Blau.

Richard Overy is in a small minority when he argues that it was understandable why an operation into the Caucasus should be enticing for Hitler, given that any victory here would also open the gate to the Middle East. He argues that the Wehrmacht struck the Soviets at their weakest point – a fact missed by historians who tend to misinterpret or misunderstand Clausewitz by suggesting that in order to initiate a *Vernichtungsschlacht*, the enemy should be engaged where he is strongest (in this case Moscow). Overy does, however, suggest that Hitler could not appreciate that his strategy was a massive gamble.[41]

American historians Williamson Murray and Allan R. Millett agree, arguing that Operation Blau represented a massive overreach by the Germans in terms of general strategy and logistics. The distances to the oilfields, they stress, were simply too great for a successful conclusion to the campaign with the forces to hand.[42] The amount of ground to be covered was indeed daunting, but by no means insurmountable. As a consequence, Hitler hoped to

---

[37] Hayward, *Stopped at Stalingrad*, pp. 16-17.
[38] Anthony Beevor, *Stalingrad* (London, 1998), pp. 77-8.
[39] Richard Evans, *The Third Reich at War* (London, 2008), p. 405.
[40] Ian Kershaw, *Hitler*, vol. 2: *1936-1945: Nemesis* (London, 2000), p. 529.
[41] R. J. Overy, *Why the Allies Won* (London, 1996), pp. 66-7.
[42] Williamson Murray and Allan R. Millett, *A War to be Won: Fighting the Second World War* (Cambridge, MA; London, 2000), p. 283.

offset the transport problem by concentrating on only one sector for the renewed offensive. A report dated 6 June 1942 showed that the Wehrmacht was indeed weaker than it had been the previous spring, but by concentrating on a major offensive in only one sector the Germans were able to assemble a potent force of sixty-eight divisions along the southern third of the front.[43]

Robert M. Citino, an American author of many books and articles on German military history, has written a particularly useful book which extensively treats Blau and the preliminary operations in southern Russia.[44] Citino argues that Hitler's generals fully supported a renewed offensive in 1942 primarily because the 'default setting' of the German Army was one of movement, or *Bewegungskrieg* – an intrinsically aggressive approach to waging war. He is, however, particularly scornful of Hitler's move away from the traditional method of issuing and carrying out orders – known as *Auftragstaktik* (invariably translated as 'mission command' or 'directive control') – in favour of maintaining closer control over the actions of his generals. Nevertheless, while many authorities are critical of the complexity of Hitler's operational plan for Blau, Citino concedes that there was, perhaps, no other choice. The operation had to be carried out in stages because the Luftwaffe simply did not possess enough machines to support a full-blown offensive in a single bound.[45]

The views of German historians vary little from their English-speaking counterparts. The don of Second World War studies, Gerhard L. Weinberg, is usually quite perspicacious with respect to German strategy and argues that neither Halder nor the General Staff offered a suitable alternative to Blau. According to Weinberg, Halder's narrow strategic concept was actually even more land-based than Hitler's. He does, however, blame the excessive optimism and 'eccentric' role of the latter in setting two simultaneous points of main effort as one of the primary causes of the ultimate failure of the operation. Curiously, Weinberg also suggests that preliminary operations in the Crimea were unnecessary, given that one of the tasks allotted to Army Group A was to secure the Black Sea coast: any Soviet troops left on the peninsula, he argues, would have been doomed anyway if this mission was successful.[46] However, this view is not corroborated by German commanders who fought in this sector. Instead, many of them wished to clear their southern flank before any further advance eastward (see Chapter 6 below). This would have prevented a strong Soviet force from

---

[43] Cited in Jeremy Noakes and Geoffrey Pridham (eds.), *Nazism, 1919-1945*, vol. 3: *Foreign Policy, War and Racial Extermination* (Exeter, 1997 [1988]), p. 840.
[44] Robert M. Citino, *Death of the Wehrmacht: The German Campaigns of 1942* (Lawrence, KS, 2007).
[45] Ibid., pp. 82, 160, 157.
[46] Gerhard L. Weinberg, *A World at Arms: A Global History of World War II* (Cambridge, 1994), pp. 409, 411.

threatening the rear of the main operation and deprived the Soviet Black Sea Fleet of its principal base.[47]

Magenheimer is one of the few historians to realize the full importance of Blau *vis-à-vis* overall German strategy. He suggests that time was against Hitler due to the entry of the United States into the war, leaving only 1942 in which to force a decision. Magenheimer also argues that failure of the operation would mean that any Axis victory would have become practically impossible.[48]

Given the limits on space in books on the Second World War, all of the authors cited above can be forgiven for not entering into a detailed discussion of the advantages and disadvantages of Operation Blau. Nevertheless, their bias and dependence on the views of German generals need addressing.

Apart from the war diaries of the individual armies and other commands, the best primary source material on the course of the campaign is the war diary of the OKW, edited by Percy Ernst Schramm; volume 2 covers operations in 1942. However, the operations of the Luftwaffe and Navy are only covered in a cursory manner as an adjunct to the action on land.[49]

Wegner's contribution to volume 6 of *Das Deutsche Reich und der Zweite Weltkrieg* is invaluable for operations in the Soviet Union, as are his numerous articles on the subject.[50] One drawback of the former from the point of view of the military historian is that actual operations on the ground are not dealt with as comprehensively as they might have been. This is understandable, however, as the series does not concentrate solely on military matters: rather, it is a complete synopsis of every aspect of German history during the Second World War including, *inter alia*, politics and strategy, society, economics, and occupation policy.

More specific to Edelweiß are the books by Wilhelm Tieke and Hermann Frank Meyer, which both address the tactical operations of German Army Group A in the Caucasus (the latter primarily on the sector around Mount Elbrus).[51] Glantz also covers Edelweiß in an article on events in the Caucasus, which is an excellent collection of German and Soviet primary sources and orders combined with a day-by-day account of the fighting.[52] A. A.

---

[47] Citino, *Death of the Wehrmacht*, p. 52.
[48] Magenheimer, *Hitler's War*, pp. 127, 147.
[49] Percy E. Schramm (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940-1945*, vol. 2: *1. Januar 1942 – 31. Dezember 1942*, ed. Andreas Hillgruber (Frankfurt/Main, 1963), hereafter known as *KTB OKW*, vol. 2.
[50] See, for example, Wegner, 'German Campaigns in Russia'.
[51] Wilhelm Tieke, *The Caucasus and the Oil* (Winnipeg, 1997 [1970]), and Hermann Frank Meyer, *Blutiges Edelweiß: Die 1. Gebirgs-Division im Zweiten Weltkrieg* (Berlin, 2008).
[52] David M. Glantz, 'The Struggle for the Caucasus', *Journal of Slavic Military Studies*, 22 (4) (2009).

Grechko, a former Red Army general who fought in the campaign, has written a comprehensive account of operations from the Russian viewpoint.[53] As with all such literature written in the years after the war, however, he highlights the weaknesses of his own side in the early stages of the German advance while simultaneously stressing what he perceived to be the overwhelming superiority of the enemy in terms of personnel and *matériel*.

Luftwaffe operations are discussed in a general manner for all theatres in 1942 by former general Hermann Plocher.[54] As with most of these manuscripts written by German officers for their American captors, however, there is a tendency to gloss over any deficiencies in leadership and to underestimate the efforts of the Red Air Force. Plocher is also critical of the fact that the Luftwaffe never managed to create a sufficiently potent strategic arm and does not acknowledge that priorities had to lie with other types of aircraft. Joel S. Hayward and Christer Bergström have brought the research up to date and in a more critical manner.[55] The latter in particular has produced some excellent work in a field of study that has been swamped with many books of little consequence. His output has benefitted from his abundant use of both German and Russian archival sources. Surprising, however, is the conspicuous lack of detailed research of Luftwaffe combat and airlift operations on the Eastern Front in 1942 in *Das Deutsche Reich und der Zweite Weltkrieg*.

Hitler and war: Two recent publications by John F. Williams and Thomas Weber address Hitler's experiences in the Great War and dispel certain myths about his service, such as his entitlement to certain decorations that he received.[56] Martin van Creveld has likewise written an interesting article dealing with Hitler's war experiences, which also propounds simple and convincing arguments for why he often made decisions that have subsequently come to be viewed as flawed.[57]

The best sources for Hitler's thoughts on warfare in general are from his own mind. These include the general orders he issued from late 1942 addressing his most important ideas on different aspects of what it means to be a commander. An important source of his

---

[53] A. A. Grechko, *Bitva za Kavkaz* (Moscow, 1967).
[54] Hermann Plocher, *The German Air Force versus Russia, 1942* (New York, 1966).
[55] Hayward, *Stopped at Stalingrad*, and Christer Bergström, *Stalingrad – The Air Battle: 1942 through January 1943* (Hinckley, 2007).
[56] John F. Williams, *Corporal Hitler and the Great War, 1914-1918: The List Regiment* (London, 2005), and Thomas Weber, *Hitler's First War: Adolf Hitler, the Men of the List Regiment, and the First World War* (Oxford, 2010).
[57] Martin van Creveld, 'War Lord Hitler: Some Points Reconsidered', in Jeremy Black (ed.), *The Second World War*, vol. 2: *The German War, 1943-1945* (Aldershot, 2007).

strategic thought is his directives, though these were intended as general, long-term guidelines and are not to be regarded as a 'master plan'.[58] His semi-biographical first book, *Mein Kampf* (My Struggle), and his second, unpublished manuscript offer insights into the fundamentals of the strategy which he was originally intent on pursuing.[59] Also essential for an understanding of his thoughts on military matters is a multi-volume collection of speeches, writings and orders edited by a host of German historians.[60] These are particularly important as a source of his views on military matters which appeared in local newspapers and might otherwise have been lost to posterity.

Finally, the recordings of his musings to his inner circle during the war years are also an indispensable record of his thoughts on disparate topics, including all things military.[61] *Tischgespräche* is also interesting for an insight into daily life and working conditions in Hitler's headquarters.[62]

Economics: Hitler's obsession with technology is evident in his practical approach to the minutiae of the construction and effect of weaponry of all types. His input into armaments production is comprehensively analysed by the former head of the department of the Wehrmacht dealing with economic and armaments matters, Georg Thomas, and German historian, Willi Boelcke, whose annotations are particularly useful to understanding the context in which many orders were issued.[63] Hitler's interest in this domain is evidenced by his many directives and orders concerning industrial production. This invaluable source has been compiled by Martin Moll, whose introduction outlines the political and legal environment in which they were issued.[64]

---

[58] Adolf Hitler, *Hitler's War Directives, 1939-1945*, ed. H. R. Trevor-Roper (London, 1966 [1964]).
[59] *Idem*, *Mein Kampf* (London, 1990 [1974]), and *idem*, *Hitler's Second Book: The Unpublished Sequel to Mein Kampf*, ed. Gerhard L. Weinberg (New York, 2003). *Mein Kampf* – part biography, part political treatise – was first published in two volumes between 1925 (*A Reckoning*) and 1926 (*The National Socialist Movement*).
[60] *Idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, 8 vols. (Munich, 1992-2003), hereafter known as *RSA*.
[61] *Idem*, *Hitlers Tischgespräche im Führerhauptquartier: Entstehung, Struktur, Folgen des Nationalsozialismus*, ed. Henry Picker (Berlin, 1999 [1951]); *idem*, *Monologe im Führerhauptquartier, 1941-1944: Die Aufzeichnungen Heinrich Heims*, ed. Werner Jochmann (Hamburg, 1980); *idem*, *Hitler's Table Talk, 1941-1944: His Private Conversations* (London, 2000 [1953]).
[62] *Idem*, *Tischgespräche*, pp. 45-70.
[63] Georg Thomas, *Geschichte der deutschen Wehr- und Rüstungswirtschaft, 1918-1943/1945* (Boppard, 1966), and Adolf Hitler, *Deutschlands Rüstung im Zweiten Weltkrieg: Hitlers Konferenzen mit Albert Speer, 1942-1945*, ed. Willi Boelcke (Frankfurt/Main, 1969). General Thomas was head of the War Economy and Armaments Office of the OKW (*Wehrwirtschafts- und Rüstungsamt*, WiRüAmt) from summer 1939 until 20 November 1942.
[64] Adolf Hitler, *'Führer-Erlasse', 1939-1945*, ed. Martin Moll (Stuttgart, 1997).

The economic history of the Axis Powers is well served by Alice Teichova (interwar period), Milan Hauner (immediately prior to the Second World War), and E. A. Radice (German influence on the economies of eastern Europe).[65] Important comprehensive studies of the economic relationship between Germany and its individual principal allies have also been published.[66]

A number of decent books have been written on the armies of the Axis partners and their relationship with Germany and the Wehrmacht.[67] However, while most of them deal perfunctorily with economic and military aid, most support the hypothesis that Hitler and the German military leadership did little of consequence for these countries in terms of arms exports and were generally dismissive of their combat capabilities and arrogant towards their political leadership. One notable exception is the pioneering work by Hans Werner Neulen, who has provided scholars of the Axis partners with a comprehensive account of their air forces and the succour which they received from Germany.[68] However, a detailed study of German aid in terms of exports of *matériel* to these countries before and during the Second World War still awaits its author.

The history of the Soviet wartime economy has been impressively recounted by Mark Harrison.[69] His work includes a wealth of important information on every aspect of the topic, including the assistance received from the West. Generally speaking, however, English-language books which address the shipments of military material from the United States to the Soviet Union concentrate on the routes taken by Allied shipping to the principal northern Russian ports of Arkhangel'sk and Murmansk. This issue is corrected in thorough studies by

---

[65] Alice Teichova, 'East-Central and South-East Europe, 1919-39', in Peter Mathias and Sidney Pollard (eds.), *The Cambridge Economic History of Europe*, vol. 8: *The Industrial Economies: The Development of Economic and Social Policies* (Cambridge, 1989); Milan Hauner, 'Military Budgets and the Armaments Industry', in M. C. Kaser and E. A. Radice (eds.), *The Economic History of Eastern Europe, 1919-1975*, vol. 2: *Interwar Policy, the War and Reconstruction* (Oxford, 1986); E. A. Radice, 'The German Economic Programme in Eastern Europe', in M. C. Kaser and E. A. Radice (eds.), *The Economic History of Eastern Europe, 1919-1975*, vol. 2: *Interwar Policy, the War and Reconstruction* (Oxford, 1986).

[66] See, for example, Rebecca Haynes, *Romanian Policy towards Germany, 1936-40* (London, 2000); Iván T. Berend and György Ránki, *Hungary: A Century of Economic Development* (Newton Abbot, 1974); and Angela Raspin, *The Italian War Economy, 1940-1943: With Particular Reference to Italian Relations with Germany* (New York; London, 1986).

[67] See, inter alia, Peter Gosztony, *Hitlers Fremde Heere: Das Schicksal der nichtdeutschen Armeen im Ostfeldzug* (Düsseldorf; Vienna, 1976); Peter Abbott and Nigel Thomas, *Germany's Eastern Front Allies, 1941-45* (London, 1982); J. Lee Ready, *The Forgotten Axis: Germany's Partners and Foreign Volunteers in World War II* (Jefferson, NC; London, 1987); Richard L. DiNardo, *Germany and the Axis Powers: From Coalition to Collapse* (Lawrence, KS, 2005); and Jonathan R. Adelman (ed.), *Hitler and his Allies in World War II* (London, 2007).

[68] Hans Werner Neulen, *In the Skies of Europe: Air Forces Allied to the Luftwaffe, 1939-1945* (Marlborough, 2000).

[69] Mark Harrison, *Soviet Planning in Peace and War, 1938-1945* (Cambridge; New York, 1985), and *idem* (ed.), *The Economics of World War II: Six Great Powers in International Comparison* (Cambridge, 2000).

two American historians, George C. Herring and Hubert P. van Tuyll.[70] Both books show how the routes via the Persian Gulf and the Pacific Ocean were significantly more important to the Soviets throughout the war. From the Russian perspective, N. V. Butenina has produced a detailed account based on Russian archival sources. So important was this aid that the title of her study describes the provisions of the American 'Lend-Lease' Act as the 'deal of the century'.[71]

The Wehrmacht and its Axis partners in 1942: The list of publications on the German armed forces in the Second World War seems to be infinite, though naturally they range widely in quality and utility. The definitive work on the units of the Wehrmacht is the twenty-volume tour de force by Georg Tessin.[72] This is a truly monumental achievement of research; the sheer breadth of its scope and the manner of its creation excuse any errors. To this can be added the twelve-volume series by Kurt Mehner, which includes a sizable number of orders of battle for the whole war (with the exception of the first months of 1943).[73]

Wegner's contribution to volume 6 of *Das Deutsche Reich und der Zweite Weltkrieg* is the best source for the organization, capabilities and operations of the Wehrmacht in 1942. However, his otherwise peerless contribution is somewhat negative in its assessment of German strategic possibilities and potential. While problems undoubtedly existed with regard to logistics and combat power, for example, the fact that the German Army was capable of taking the offensive once again in summer 1942 after such a severe mauling at the hands of the Red Army the previous winter was testament to the organizational ability of rearward services and the resilience and fortitude of the German front-line soldier.

German armoured fighting vehicles are best dealt with by Peter Chamberlain and Hilary Doyle in a number of admirably inclusive books. They are also an important source of information for the various different types of machines which were delivered to Germany's allies.[74]

---

[70] George C. Herring, *Aid to Russia, 1941-1946: Strategy, Diplomacy, the Origins of the Cold War* (New York; London, 1973), and Hubert P. van Tuyll, *Feeding the Bear: American Aid to the Soviet Union, 1941-1945* (New York; Westport, CT; London, 1989).

[71] N. V. Butenina, *Lend-liz: sdelka veka* (Moscow, 2004). This act was officially known as 'An Act to Further Promote the Defense of the United States' (see Chapter 6 below).

[72] Georg Tessin (ed.), *Verbände und Truppen der deutschen Wehrmacht und Waffen-SS im Zweiten Weltkrieg, 1939-1945*, 20 vols. (Osnabrück, 1967-2002).

[73] Kurt Mehner (ed.), *Die Geheimen Tagesberichte der deutschen Wehrmachtführung im Zweiten Weltkrieg, 1939-1945*, 12 vols. (Osnabrück, 1984-95).

[74] See especially Peter Chamberlain and Hilary Doyle, *Encyclopedia of German Tanks of World War Two* (London, 1999 [1978]).

An excellent overview of the Luftwaffe is provided in a study by the Royal Air Force authored anonymously by British intelligence officers shortly after the war. It is a comprehensive analysis of the changing command structure, organization, and combat and other operations of the German Air Force.[75] More recent and comprehensive works have been written by Horst Boog and Williamson Murray, who are two of the leading experts on the subject.[76] However, with respect to organization, planning and operational capabilities, both cited works suffer from the sense of pessimism which pervades similar works on the Army. Air transport operations are best covered by former Luftwaffe general Fritz Morzik. He evokes the image of a service which was grossly inadequate for the multiple tasks which it was forced to conduct in widely dispersed theatres throughout 1942.[77] For technical data on aircraft, William Green has written a detailed analysis, which is still a standard work despite being published over forty years ago.[78]

By far the best study of the German wartime navy is the three-volume work by Michael Salewski. The period under review in the present study is covered in the second volume, which is based on a large foundation of primary sources.[79] Hitler's naval conferences are recorded and commented on by Jak P. Mallman Showell, who succinctly places German strategic conundrums and Hitler's responses to them in context.[80] With respect to the naval war against the Soviet Union, Jürg Meister has written the definitive account of operations in the Baltic and Black Sea theatres.[81] This is an essential source of information on the support which the German Navy afforded operations on land, especially logistics aid and the transfer of Army units, as well as the relative strengths and weaknesses of both sides, including Germany's allies. Friedrich Ruge, a former vice admiral, has produced a good general account and assessment of the Red Navy adversary.[82] However, his work – like most of those written by his comrades in the Army – is often particularly biased against Hitler and the armed forces high command, especially his opinion that supply for the Army by sea was almost completely neglected. Naval warfare in the Russian theatre is very much overlooked in *Das Deutsche Reich und der Zweite Weltkrieg*, though a brief discussion of events in the

---

[75] Anon., *The Rise and Fall of the German Air Force, 1933-1945* (Kew, 2008 [1948]).
[76] Horst Boog, *Die deutsche Luftwaffenführung, 1935-1945* (Stuttgart, 1982), and Williamson Murray, *The Luftwaffe, 1933-1945: Strategy for Defeat* (Washington, DC, 1996 [1983]).
[77] Fritz Morzik, *German Air Force Airlift Operations* (New York, 1961), and Fritz Morzik and Gerhard Hümmelchen, *Die deutschen Transportflieger im Zweiten Weltkrieg* (Frankfurt/Main, 1966).
[78] William Green, *The Warplanes of the Third Reich* (London, 1970).
[79] Michael Salewski, *Die deutsche Seekriegsleitung, 1935-1945*, vol. 2: *1942-1945* (Munich, 1975).
[80] Adolf Hitler, *Fuehrer Conferences on Naval Affairs, 1939-1945*, ed. Jak P. Mallman Showell (London, 2005 [1990]).
[81] Jürg Meister, *Der Seekrieg in den osteuropäischen Gewässern, 1941-45* (Munich, 1958).
[82] Friedrich Ruge, *Die Sowjetflotte als Gegner im Seekrieg, 1941-1945* (Stuttgart, 1981), p. 99.

Black Sea in 1942 is to be found in a contribution by Werner Rahn (the title of which suggests otherwise).[83]

With the obvious exception of Germany, the organization and operations of the armed forces of the individual Axis nations has not been the subject of much quality research in English. Nevertheless, some excellent studies do exist. For Romania, Mark Axworthy has written a comprehensive account of its Army on the Eastern Front, though one shortcoming in an otherwise outstanding piece of military historiography is his assertion that the large numbers of casualties incurred by Romanian ground forces was proof of their good combat performance and tenacity in defence.[84] Dennis Deletant has also done much to highlight the political and military history of Romania before and during the Second World War, especially its relationship with Hitlerite Germany.[85]

Nándor Dreisziger and Lóránd Dombrády have done the same for the Hungarian armed forces.[86] Both works cited are comprehensive analyses, particularly of the units which served on the Eastern Front, as well as of relations with the political leadership and with Germany. As with the studies on Romania, however, neither addresses German economic or military aid in a detailed manner.

For Italy, MacGregor Knox is one of the leading authorities in the English-speaking world on its armed forces and their role in the Axis alliance.[87] The best account of the commanders, men and *matériel* of the Italian Army on the Eastern Front is by German historian Thomas Schlemmer.[88] He demonstrates with an extensive analysis of its equipment that this was a particularly strong force, despite the obvious lack of tanks capable of combatting their Russian opponents effectively.

An excellent overview of the political and military relations between Germany and Japan is by Gerhard Krebs and Bernd Martin, while naval matters are analysed by Berthold J.

---

[83] Werner Rahn, 'Die deutsche Seekriegführung, 1943 bis 1945', in Horst Boog et al., *DRZW*, vol. 10: *Der Zusammenbruch des Deutschen Reiches*, part 1: *Die militärische Niederwerfung der Wehrmacht* (Munich, 2008).

[84] Mark Axworthy, Cornel Scafeş and Cristian Craciunoiu, *Third Axis, Fourth Ally: Romanian Armed Forces in the European War, 1941-1945* (London, 1995).

[85] See in particular Dennis Deletant, *Hitler's Forgotten Ally: Ion Antonescu and His Regime, Romania 1940-44* (New York, 2006).

[86] See especially Nándor Dreisziger (ed.), *Hungary in the Age of Total War (1938-1948)* (New York, 1998), and Lóránd Dombrády, *Army and Politics in Hungary, 1938-1944* (Highland Lakes, NJ, 2005).

[87] MacGregor Knox, *Common Destiny: Dictatorship, Foreign Policy, and War in Fascist Italy and Nazi Germany* (Cambridge, 2000), and *idem*, *Hitler's Italian Allies: Royal Armed Forces, Fascist Regime, and the War of 1940-43* (Cambridge, 2000).

[88] Thomas Schlemmer, *Die Italiener an der Ostfront 1942/43: Dokumente zu Mussolinis Krieg gegen die Sowjetunion* (Munich, 2005).

Sander-Nagashima and Hans-Joachim Krug et al.[89] Martin in particular has done a significant amount of research in the area of German-Japanese relations. His conclusion that the relationship was actually of little benefit to either side is undoubtedly correct, though it is also true that physical distance in addition to a lack of impetus on both sides for closer cooperation meant that the countries effectively fought two separate wars.

The political and military history of Finland from the interwar period to the end of the twentieth century has been traced by H. M. Tillotson, while one of the best works available in English covering the period under review in the present thesis is by Finnish historian Olli Vehviläinen.[90] The latter is particularly important for information on German economic and military aid to the country.

Germany's relations with Turkey are analysed comprehensively in two older – but nevertheless still authoritative – works in German.[91] Both studies, however, concentrate primarily on political issues, with military cooperation only dealt with fleetingly. An updated, English-language equivalent of the German surveys is by Turkish historian Selim Deringil, which draws on the former two but also includes much useful information on the state of the Army.[92] However, his assertion that the Turkish armed forces of the period lacked the specialization and skills essential for modern war was not shared by many German specialists, who were aware at the time of British military and naval assistance.

Transport and logistics: A crucial aspect of warfare which is a decidedly unpopular topic of research among military historians is logistics. An influential work by Martin van Creveld has a wide-ranging sweep, but this inevitably means that his discussion of the Second World War is limited.[93] An excellent companion is the more recent study by Thomas M. Kane, who shows the importance of a sound transport and logistics system for successful campaigns in modern warfare.[94]

---

[89] Gerhard Krebs and Bernd Martin (eds.), *Formierung und Fall der Achse Berlin-Tōkyō* (Munich, 1994); Berthold J. Sander-Nagashima, *Die deutsch-japanischen Marinebeziehungen, 1919 bis 1942* (Hamburg, 1998), and Hans-Joachim Krug et al., *Reluctant Allies: German-Japanese Naval Relations in World War II* (Annapolis, MD, 2001).

[90] H. M. Tillotson, *Finland at Peace and War, 1918-1993* (Norwich, 1993); Olli Vehviläinen, *Finland in the Second World War: Between Germany and Russia* (Basingstoke, 2002).

[91] Lothar Krecker, *Deutschland und die Türkei im Zweiten Weltkrieg* (Frankfurt/Main, 1964), and Zehra Önder, *Die türkische Außenpolitik im Zweiten Weltkrieg* (Munich, 1977).

[92] Selim Deringil, *Turkish Foreign Policy during the Second World War: An 'Active' Neutrality* (Cambridge, 1989).

[93] Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (Cambridge, 2004 [1977]).

[94] Thomas M. Kane, *Military Logistics and Strategic Performance* (London; Portland, OR, 2001).

Requisite reading for supply of the Wehrmacht by railway are the comprehensive analyses by Hans Pottgiesser, Horst Rohde and Eugen Kreidler.[95] All are broad in scope, though the role of the German state railway company (*Deutsche Reichsbahn*) in the Holocaust is not discussed in detail in what are otherwise notably authoritative works. However, this has been the subject of much research by others. Excellent general studies are the six-volume work edited by David Cesarani, especially the contributions in volume 3 by Peter Longerich, Christopher Browning, Yaacov Lozowick and Albert Mierzejewski.[96] One unfortunate drawback of such a vast study, however, is that it suffers from a certain amount of overlap between different articles. Nevertheless, the contributors are experts in their respective fields and have contributed significantly to our understanding of the part played by the Reichsbahn in transportations. The three-volume work edited by Eberhard Jäckel et al. is also useful as a reference despite some minor errors.[97] The operational aspect of the Holocaust has been thoroughly examined by Raul Hilberg, Albert Mierzejewski, and in the more recent collaboration by Alfred Gottwaldt and Diana Schulle.[98] All are important examinations of the subject, though the effect of the direction of deportations on military operations further east is not addressed in detail.

For road construction carried out in the occupied eastern territories by the German concern known as Organisation Todt, the works of Franz Seidler and Hedwig Singer are indispensable.[99] Singer's edited volumes are particularly useful for primary source documentation relating to every aspect of the work carried out by the organization. For an excellent survey of the types of trucks used by the German Army, see the comprehensive

---

[95] Hans Pottgiesser, *Die Reichsbahn im Ostfeldzug, 1939-1944* (Neckargemünd, 1960); Horst Rohde, *Das deutsche Wehrmachttransportwesen im Zweiten Weltkrieg: Entstehung–Organisation–Aufgaben* (Stuttgart, 1971); and Eugen Kreidler, *Die Eisenbahnen im Machtbereich der Achsenmächte während des Zweiten Weltkrieges* (Frankfurt; Zürich, 1975).

[96] Peter Longerich, 'The Wannsee Conference in the Development of the 'Final Solution'', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004); Christopher Browning, 'Nazi Policy: Decisions for the Final Solution', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004); Yaacov Lozowick, 'Malice in Action', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004); and Alfred Mierzejewski, 'A Public Enterprise in the Service of Mass Murder: The Deutsche Reichsbahn and the Holocaust', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004).

[97] Eberhard Jäckel et al. (eds.), *Enzyklopädie des Holocaust: Die Verfolgung und Ermordung der europäischen Juden*, 3 vols. (Berlin, 1993).

[98] Raul Hilberg, *The Destruction of the European Jews*, 3 vols. (New York, 1985); Alfred Mierzejewski, *The Most Valuable Asset of the Reich: A History of the German National Railway*, vol. 2: *1933-1945* (Chapel Hill; London, 2000), and *idem*, *Hitler's Trains: The German National Railway and the Third Reich* (Stroud, 2005); Alfred Gottwaldt and Diana Schulle, *Die 'Judendeportationen' aus dem Deutschen Reich, 1941-1945: Eine kommentierte Chronologie* (Wiesbaden, 2005).

[99] Franz Seidler, *Die Organisation Todt: Bauen für Staat und Wehrmacht, 1938-1945* (Koblenz, 1987), and Hedwig Singer (ed.), *Quellen zur Geschichte der Organisation Todt*, vols. 1 and 2: *Entwicklung und Einsatz der Organisation Todt (OT)* (Osnabrück, 1998).

account by Reinhard Frank, which also includes a useful introduction to supply by road.[100] A similarly commendable study on the important issue of horses in the logistics system of the German Army in Russia is the seminal work by Richard L. DiNardo.[101] It is also an interesting account of the procurement and use of horses in the armed forces in general, and is especially useful for information on the numbers of animals pressed into service by the Wehrmacht.

Military intelligence: The study of intelligence is still in its infancy compared to other areas of research. However, it has been well served in a general sense by several leading writers, most notably Michael I. Handel.[102] Others have also done much to draw attention to this somewhat esoteric – but nevertheless very important – aspect of political strategy and military operations.[103] However, many authors defend their area of expertise somewhat too vigorously by overstating its significance in terms of its effect on the outcome of wars.

The head of FHO from early 1942, Reinhard Gehlen, later became head of the West German Federal Intelligence Service (*Bundesnachrichtendienst*, BND). He later wrote about his work and experiences during the war in his memoirs.[104] As is often the case, however, they are tainted with the jaundiced opinion that the products of his diligence and efficiency were usually disregarded by a master who neither understood nor respected his work, and the reader might be forgiven for believing that everything Gehlen predicted in terms of Soviet intentions was ultimately proved correct. However, this myth is debunked in a seminal work by David Kahn, which is still the best study of German military intelligence to date.[105] He argues that the doctrinal environment in the German Army was not conducive to producing good intelligence officers and therefore accurate reports. He further notes that Hitler was no more inclined or disinclined to heed intelligence reports than any other political leader or commander.

---

[100] Reinhard Frank, *Lastkraftwagen der Wehrmacht. Deutsche und erbeutete Radfahrzeuge im Einsatz: Technik–Anstrich–Abzeichen–Zubehör* (Friedberg/Hessen, 1992).
[101] Richard L. DiNardo, *Mechanized Juggernaut or Military Anachronism? Horses and the German Army of WWII* (Mechanicsburg, PA, 2008 [1991]).
[102] Among his many books and articles on the subject, see, for example, Michael I. Handel (ed.), *Intelligence and Military Operations* (London, 1990).
[103] For good introductions on various topics, see Andrew and Noakes (eds.), *Intelligence and International Relations*; Richard K. Betts and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003); and Christopher Andrew, Richard J. Aldrich and Wesley K. Wark (eds.), *Secret Intelligence: A Reader* (London, 2009).
[104] Reinhard Gehlen, *Der Dienst: Erinnerungen, 1942-1971* (Mainz; Wiesbaden, 1971). He served as head of the Gehlen Organization (under the auspices of the United States) from late 1946. It was renamed in 1956 when it came under the control of the West German government, and he served as president of the new BND until 1968.
[105] David Kahn, *Hitler's Spies: German Military Intelligence in World War II* (London, 1978).

The work conducted by FHO has had few chroniclers. However, an article by Hans-Heinrich Wilhelm using some interesting primary sources dispels some of the more outrageous claims made by Gehlen. A more recent and thorough examination by Magnus Pahl is based mainly on archival sources and is particularly useful, though the author portrays Gehlen in a far more positive light than other commentators.[106]

Operation Kreml (noted above) has yet to be studied in detail, especially with respect to Hitler's influence on its inception and development. The issue has been addressed by many authors, but even Wegner only mentions it cursorily in his contribution to volume 6 of *Das Deutsche Reich und der Zweite Weltkrieg*. The most thorough account written in English thus far is by Earl F. Ziemke.[107] An article written for a Soviet journal of military history based on captured German documents is also helpful, but it is primarily a translation of different orders issued by Army Group Centre headquarters, preceded by a brief introduction.[108] Unfortunately, neither article illustrates the extent of Hitler's involvement in the plan.

Russian sources: In 2011 historians in the Russian Federation began work on a new twelve-volume history of the Great Patriotic War, which also benefits from contributions from non-native specialists. This work supersedes the six-volume series edited by P. N. Pospelov, originally published in the 1960s. The first book is a chronicle of the war to 1945; the second deals comprehensively with events leading up to the conflict, including the German campaigns in Europe up to 1941 and then the initial months of the struggle against the Soviet Union; the third covers the period from September 1941 until the end of 1943. The second volume also contains valuable primary source material in the form of fifty Russian and German documents pertaining to the relationship between the two countries prior to the conflict and then during the war itself.[109] The editor of the first volume, V. A. Zolotarëv, has also edited a smaller, four-volume work, which is a good synthesis of narrative based on Russian and German primary sources as well as on secondary literature. The contribution by P. P. Chevela covers the period from the German summer offensive in 1942 to the Battle of

---

[106] Hans-Heinrich Wilhelm, 'Die Prognosen der Abteilung Fremde Heere Ost 1942-1945', in Hans-Heinrich Wilhelm and Louis de Jong, *Zwei Legenden aus dem Dritten Reich* (Stuttgart, 1974); Magnus Pahl, *Fremde Heere Ost: Hitlers militärische Feindaufklärung* (Berlin, 2012).

[107] Earl F. Ziemke, 'Operation Kreml: Deception, Strategy, and the Fortunes of War', *Parameters*, 9 (1) (1978).

[108] Anon., 'Operatsija 'Kreml''', *Voenno-istoricheskij zhurnal*, 8 (1961).

[109] P. N. Pospelov (ed.), *Istorija Velikoj Otechestvennoj vojny Sovetskogo Sojuza 1941-1945 v shesti tomakh*, 6 vols. (Moscow, 1960-5); A. È. Serdjukov (ed.), *Velikaja Otechestvennaja vojna 1941-1945 godov v dvenadtsati tomakh*, vol. 1: *Osnovnye sobytija vojny*, ed. V. A. Zolotarëv (Moscow, 2011); vol. 2: *Proiskhozhdenie i nachalo vojny*, ed. O. A. Rzheshevskij (Moscow, 2012); and vol. 3: *Bitvy i srazhenija, izmenivshie khod vojny*, ed. V. P. Baranov (Moscow, 2012). Hereafter known as *VOV*.

Stalingrad.[110] However, to various degrees all of the works cited above accentuate the sacrifices of the Soviet state and armed forces while neglecting the contribution made by the Western Allies. Nevertheless, for obvious political reasons this is not as evident in the works published after 1989 as it is in the histories written during the Soviet period; the former in particular are far more critical of the leadership during the first half of the war.

The Red Army equivalent of Tessin's magnum opus noted above is the exhaustive series edited by A. N. Grylev on Russian front-line and reserve units from strategic axis down to battalion level; volume 2 covers the orders of battle for 1942 (including air formations attached to the ground forces).[111] One minor limitation in an otherwise invaluable reference work is that information is only given for the first day of each month. A suitable counterpart for the Red Air Force has been published by its operations staff under the editorship of V. G. Nikiforov, though it is not as comprehensive as it might have been: whereas Grylev's collection charts the order of battle at the beginning of each month, detailed information is only given for the air force on dates which are often several months apart.[112]

Soviet naval operations in the Black Sea are dealt with in an excellent study by two former high-ranking Soviet seamen, V. I. Achkasov and N. B. Pavlovich, as part of their general history of the Red Navy at war against its Axis enemies.[113] Unfortunately, however, it suffers from the usual distortion associated with the time and place of publication.

From Barbarossa to Taifun

On 18 December 1940 Hitler signed Directive No. 21, code-named *Fall Barbarossa* (Case Barbarossa), which envisaged an attack on the USSR beginning no later than 15 May the following year. This decision is regarded as one of the most fateful of the war as it would inevitably lead to the two-front war which Hitler had continuously stressed he wanted to avoid. However, it was difficult at the time to see an alternative strategy, especially as Britain could not be eliminated as an opponent either militarily or by a negotiated peace.[114]

---

[110] P. P. Chevela, 'Novye Ispytanija', in V. A. Zolotarëv (ed.), *Velikaja Otechestvennaja vojna, 1941-1945: voenno-istoricheskie ocherki v chetyrëkh tomakh*, vol. 1: *Surovye ispytanija* (Moscow, 1998).
[111] A. N. Grylev (ed.), *Boevoj sostav sovetskoj armii*, vol. 2: *Janvar'-dekabr' 1942 goda* (Moscow, 1966).
[112] V. G. Nikiforov (ed.), *Sovetskaja aviatsija v Velikoj Otechestvennoj vojne 1941-1945 gg. v tsifrakh* (Moscow, 1962).
[113] V. I. Achkasov and N. B. Pavlovich, *Soviet Naval Operations in the Great Patriotic War, 1941-1945* (Annapolis, MD, 1981).
[114] Creveld, *Supplying War*, p. 180. For the full text of this directive, see Hitler, *War Directives*, pp. 93-8. The Wehrmacht used the word *Fall* for its operations, which suggested a 'case' that had to be solved. In English-

During the planning stage of Barbarossa, the Commander-in-Chief of the Army, Field Marshal Walther von Brauchitsch, and the General Staff had wanted to concentrate on seizing Moscow because the roads were better there than in other areas and because they believed that the Soviets would be induced to commit any remaining reserves in order to defend their capital, which was an important industrial centre and the transport hub of the Soviet Union. Hitler, on the other hand, identified three targets – Leningrad, Moscow and Kiev – as the principal goals of the operation. At this early stage, however, such strategic differences did not interfere with operational planning: the main objective was to destroy the Red Army in the border regions and then to occupy Soviet territory up to the line Arkhangel'sk–Astrakhan' (approximately 1,600 km from the jumping-off point) in a campaign which studies had shown would last from eight to ten weeks.[115]

Operation Barbarossa began between 0300 and 0330hrs on the morning of 22 June 1941. Over 3 million German troops, supported by 3,350 tanks, 2,713 aircraft and 7,146 artillery pieces, crossed the border with the Soviet Union and launched what would become the single largest conflict in human history.[116] The initial advance was spectacular, especially in the northern and central sectors. By mid-July the Soviets had suffered at least 747,870 casualties, which amounted to one sixth of the strength of the Red Army at the beginning of the campaign. Up to this point they had also lost 10,180 tanks and 3,995 aircraft.[117]

On 25 July Brauchitsch noted that in principle the army command wanted to direct the campaign in the east differently than it had done in the west the previous year. The tenacity of the Red Army masses and the sheer depth of the area of operations demanded stricter leadership, he argued, than had been necessary in the earlier campaigns. Significantly, he further suggested that interventions on the part of the OKH were 'unavoidable'. This would have far-reaching consequences for future operations, as Hitler would later capitalize on these tendencies towards centralized command for his own benefit.[118]

The following month, with Army Group Centre (Field Marshal Fedor von Bock) standing less than 300 kilometres from Moscow, Brauchitsch prepared a memorandum

---

language studies, however, the word is usually translated as 'operation'. The code name Barbarossa was chosen by Hitler in honour of the twelfth-century Holy Roman Emperor Friedrich (Frederick) I, who took part in the Third Crusade to recapture Jerusalem and acquired the epithet because of his red beard.

[115] Ziemke and Bauer, *Moscow to Stalingrad*, p. 14. Brauchitsch succeeded Colonel-General Werner von Fritsch on 4 February 1938. He held this post until he was dismissed by Hitler on 19 December 1941 at the height of the Red Army winter offensive (see below).

[116] Klink, 'Landkriegführung', p. 270; Horst Boog, 'Die Luftwaffe', in *DRZW*, vol. 4, p. 312. This volume is the most comprehensive analysis of the preparations for Barbarossa and operations to February 1942.

[117] David M. Glantz, *Operation Barbarossa: Hitler's Invasion of Russia, 1941* (Stroud, 2011 [2001]), p. 48.

[118] Johannes Hürter, *Hitlers Heerführer: Die deutschen Oberbefehlshaber im Krieg gegen die Sowjetunion, 1941/42* (Munich, 2007), p. 285.

calling for a decisive thrust on the Soviet capital. However, Hitler rebuked this operational concept on 21 August as he first wanted to destroy the large grouping of Soviet forces centred on Kiev to the rear of the right wing of the army group, and four days later he ordered Panzer Group 2 (Colonel-General Heinz Guderian) to turn south in order to fulfil this mission. He reiterated that the objective of eliminating the Soviet Union as the continental sword of Britain could only be achieved with the destruction of its forces and with the occupation (or at least destruction) of the economic bases which gave them their combat power, and was therefore not prepared to forego the capture of the vital industrial areas of Leningrad and the Ukraine in favour of Moscow.[119]

By the end of the ensuing encirclement battle at Kiev in the last week of September four Soviet field armies (5th, 37th, 26th and 21st) had been virtually destroyed. These included 43 divisions totalling 452,720 men in addition to 3,867 guns and mortars. In just under three months from 7 July to 26 September Soviet South-Western Front (Colonel-General Mikhail Kirponos) lost 585,598 men from 627,000 engaged.[120] Guderian's southward diversion had paved the way for the assault on Moscow by removing significant impediments, especially the huge number of troops who would otherwise have continued to operate along the extended flank of Army Group Centre. The road to the capital from the south-west via Brjansk was now all but clear, and the operation also opened up the eastern Ukraine before Army Group South. Though Barbarossa was ultimately to fail before Moscow, Hitler's decision to move against the enemy forces around Kiev was not the cause.[121]

The attempt by the German Army to storm Moscow – code-named Operation Taifun (Typhoon) – began with the advance of Panzer Group 2 on 30 September, followed two days later by the remaining formations of Army Group Centre. The first snow fell in this sector on 6 October, but alternating periods of rain and snow combined with heavy tank and truck traffic soon began to turn unsurfaced roads into quagmires. Despite the inclement weather and terrain conditions, however, the double encirclements at Vjaz'ma and Brjansk in the first half of the month cost the Red Army 252,600 men killed or wounded and 673,000 taken

---

[119] Cited in Noakes and Pridham, *Nazism*, vol. 3, p. 824. Bock commanded this formation as Army Group North in Poland from 1 September 1939, then as Army Group B in the western campaign from 3 October 1939, and finally as Army Group Centre from 1 April to 19 December 1941. Guderian commanded Panzer Group 2 from 16 November 1940 until he was dismissed by Hitler on 25 December 1941 (it had been redesignated as 2nd Panzer Army on 5 October).

[120] Glantz and House, *When Titans Clashed*, pp. 77, 336 (note 10). Kirponos commanded this *front* (army group) – formed from the Kiev Special Military District – from the beginning of the campaign until 20 September, when he was killed in action.

[121] Glantz, *Operation Barbarossa*, pp. 131-2.

prisoner.[122] Practically everybody in the German high command was now certain that such an overwhelming victory, coming so soon after the one at Kiev, would finally break Soviet resistance. Hitler, too, was convinced that the issue had now been 'decided'.[123]

This optimism, however, was soon tempered by the situation along the entire front line. By the last week of October Army Group North had stalled to the south of Leningrad, but despite German requests the Finnish Commander-in-Chief, Field Marshal Carl Gustaf Mannerheim, refused to allow his troops to advance beyond the old 1939 border into the area to the north of the city because of a pledge he had given the Russians in 1918 never to do so. At the same time, Army Group Centre had come to a standstill before Moscow along the line Kalinin (Tver')–river Oka–Tula. Army Group South, meanwhile, had managed to take the important industrial cities of Khar'kov and Stalino (Donetsk) and to break into the Crimean Peninsula, but it, too, was soon halted by the mud of the *rasputitsa*.[124]

By this time Bock had severe reservations about the strength of his army group and how much further he could push it towards Moscow. However, memories of the consequences of halting on the river Marne in the initial period of the First World War drove him on towards the city for fear of missing the opportunity of capturing it. Halder saw two options at this juncture for the *Ostheer* (the formations on the Eastern Front): the first was to consolidate its position and conserve the strength of its units, whereas the second envisaged applying every ounce of remaining energy for one final push.[125] He decided on the latter in the hope of gaining as much ground as possible before the onset of winter.

Espionage conducted by the Soviet spy in Tokyo, Richard Sorge, convinced Stalin by late September that Japan would not attack the Soviet Union in the Far East. This allowed him to move 8-10 rifle divisions, 1,000 tanks and 1,000 aircraft to the west in October and November in order to face the Germans.[126] The weather at this time was relatively mild by Russian standards, but by early December the thermometer had plummeted and the snow arrived in earnest. The German lines were now overextended along the entire front, whereas the Red Army forces could temporarily concentrate at a number of critical points. German

---

[122] Glantz and House, *When Titans Clashed*, p. 337 (note 18). Hitler issued the order for the capture of the Soviet capital as Directive No. 35 on 6 September 1941. For the full text of this document, see Hitler, *War Directives*, pp. 152-5.
[123] David Stahel, *Operation Typhoon: Hitler's March on Moscow, October 1941* (Cambridge, 2013), p. 298.
[124] Ziemke and Bauer, *Moscow to Stalingrad*, p. 40. Mannerheim was commander-in-chief of the Finnish armed forces from 30 November 1939 until 12 January 1945. He was also the sixth president of the Republic of Finland, serving from 4 August 1944 until 4 March 1946. The *rasputitsa* is the biannual period (in spring and autumn) when unpaved roads in eastern Europe become impassable due to the damage caused by melting snow or heavy rainfall. The word literally means 'coming apart of roads'.
[125] Ibid., p. 43.
[126] Erickson, *Road to Stalingrad*, pp. 238-9.

intelligence had suggested that the Soviets would have no more reserves for at least another three months, which made the surprise all the greater when the Soviets finally opened their winter offensive on the northern flank of Army Group Centre at 0300hrs on 5 December. A second attack was launched against the southern salient the following day.[127]

In the immediate aftermath of the Soviet onslaught Bock and his subordinates were unsure of how to react and vacillated between alternatives. For example, the Commander-in-Chief of 4th Army, Field Marshal Günther von Kluge, initially pleaded to be allowed to stand firm and 'sit out' the offensive; a few days later, however, he was expressing a desire for a large-scale retreat. Guderian also admitted that he did not see how he could extricate himself from this 'very difficult situation'. In fact, nobody knew what the patent remedy was in such an emergency. Many commanders evidently counted on the 'luck' and 'genius' of the Führer for inspiration, which once again showed how high the reputation of the 'dilettante' Hitler still was among the military elite. The great victories of the past continued to have an effect on them, and Hitler was not blamed for the woes now besetting the *Ostheer*. Contrariwise, the professional reputation of the Army leadership sunk to its lowest point, and when he finally took over as Commander-in-Chief on 19 December he was regarded as a saviour by quite a number of generals. Guderian even hoped that Hitler would act fast and energetically to intervene in the 'bureaucratized' machinery of the Army, railways and other institutions.[128] As it happened, the civilian railway authorities quickly became more responsive to the needs of the Army as a consequence.[129] Only a few generals (such as the commander of Panzer Group 4, Colonel-General Erich Hoepner) were opposed to Hitler's assumption of power in the area of military command.[130]

The breakthroughs gained during the initial counterattacks to the north of Moscow encouraged the Stavka (Soviet high command) within weeks to switch from limited local attacks to more ambitious and wide-ranging operations involving *fronts* and armies from Leningrad in the north to the Black Sea in the south. However, the hastily formulated and clumsily executed plans ensured that the spectacular initial victories could not be translated into strategic success, especially the desire to destroy Army Group Centre.[131] Nevertheless,

---

[127] Glantz and House, *When Titans Clashed*, p. 87.

[128] Hürter, *Hitlers Heerführer*, pp. 324-5, 326. Kluge commanded 4th Army from 26 August 1939 until he took command of Army Group Centre on 19 December 1941.

[129] Megargee, *Inside Hitler's High Command*, p. 139.

[130] Hürter, *Hitlers Heerführer*, p. 326. Hoepner commanded this formation (redesignated 4th Panzer Army on 1 January 1942) from 17 February 1941 until his dismissal on 8 January 1942. He was later executed for his part in the attempted coup of 20 July 1944.

[131] Glantz, *Operation Barbarossa*, p. 192. The *Stavka Verkhovnogo glavnokomandovanija* (Headquarters of the Supreme High Command) – usually shortened to *Stavka VGK* or simply *Stavka* – was the main organ of

by the end of the year the Soviet Union could still field over 4.2 million men, despite having lost at least 4.5 million troops (3.1 million of whom were killed, captured or missing in action) since the beginning of the campaign.[132]

Though Army Group Centre still faced a multitude of problems, by the beginning of February 1942 the mortal danger which had persistently threatened it throughout the winter was finally past.[133] Towards the end of the month the Red Army counteroffensive finally began to peter out due to lack of supplies, terrain and weather conditions, and sheer exhaustion.

The failure before Moscow was not, as is widely believed, a result of the lateness of the campaigning season. A significant factor was supply problems (especially of fuel) along the railways, which had already arisen before the first frosts arrived.[134] It is now evident that one of the main reasons why logistical planning for Barbarossa was so casual was because the Germans believed that the Red Army would be defeated in a rapid campaign.[135] Similarly, planners assumed that the Army would expend less ammunition during Barbarossa than it had done during the campaign in the west, which must represent one of the most consequential miscalculations in military history.[136]

The main cause of the German inability to defeat the Red Army decisively in 1941, however, was a result of intelligence failures.[137] Hitler set the department in the OKH responsible for such matters the task of assessing the strengths and weaknesses of the Red Army and was reassured by studies suggesting that the Soviet Union would hastily collapse once its economic infrastructure was overrun.[138] This, however, proved to be a grave error in judgement. The Wehrmacht was further denied a successful outcome to its offensive by early December 1941 thanks to the cumulative debilitating effects of time, space, attrition, the desperate resistance proffered by the Red Army, and 'sheer fate'.[139] However, even before

---

strategic leadership of the armed forces of the USSR. It comprised of Stalin, *ex officio* Marshals of the Soviet Union, and the Chief of Staff of the Army as well as the heads of the Navy and Air Force: Erickson, *Road to Stalingrad*, pp. 136-7. For most of the war it had seven members.

[132] Glantz and House, *Stalingrad*, p. 474.

[133] Erickson, *Road to Stalingrad*, p. 317.

[134] Creveld, *Supplying War*, p. 172.

[135] Colin S. Gray, *War, Peace and International Relations: An Introduction to Strategic History* (London; New York, 2007), p. 147.

[136] Williamson Murray, 'The Problem of German Military Effectiveness, 1900-1945', in *idem*, *War, Strategy, and Military Effectiveness* (Cambridge, 2011), pp. 221-2.

[137] Glantz and House, *When Titans Clashed*, p. 67.

[138] Albert Seaton, *The German Army, 1933-1945* (London, 1982), pp. 163-4. See Chapter 5 below for a discussion of the strengths and weaknesses of German military intelligence at this time.

[139] Glantz, *Colossus Reborn*, p. 10.

Barbarossa had come to a halt that month, oil reserves for the Wehrmacht had become severely depleted. By the turn of the year Hitler was concerned that a dearth of petroleum would put an end to large-scale operations, so economic considerations were as much responsible for his offensive strategy for the coming year as was the depleted nature of the formations fighting in the Soviet Union.[140]

As the above literature review suggests, practically every aspect of the military history of the German campaign in the Soviet Union to 1942 has been exhaustively researched by prominent scholars worldwide. The conclusion to be drawn from the overwhelming majority of these studies is that Adolf Hitler was a dilettante who was out of his depth in a number of regards: strategic, operational and tactical military planning; economic policy for Germany and its armed forces; and leadership of a coalition of co-belligerents with disparate ideals and goals. The present thesis will, however, show that decisions taken by Hitler – understood in their context – made considerably more sense than most historians have hitherto accepted.

[140] Hayward, 'Too Little, Too Late', p. 769.

Chapter 2: Hitler and War

Go into emptiness, strike voids, bypass what [the enemy] defends, hit him where he does not expect you.

Sun Tzu[1]

Introduction

Historians interested in Hitler as a military commander will find some useful chapters in biographies or in the memoirs of certain former officers who served in the Wehrmacht. However, it is more difficult to find scholarly works which address his decision-making with respect to strategy and operations or his understanding and employment of land, sea and air power. The assessment of him as a war leader who was ultimately an incompetent dilettante by many important figures who served him has largely remained unchallenged. Even the editing done on the war diary of the OKW portrayed his command in a more negative manner than the original written by Helmuth Greiner.[2]

It is well known that Hitler was a keen student of military history. For instance, the two leading figures in the OKW, Field Marshal Wilhelm Keitel and Colonel-General Alfred Jodl, both attested to his boundless knowledge of all things military – from historical campaigns to the technical minutiae of modern weapons – which he gleaned from many disparate sources. Jodl wrote of him after the war that he had learned a great deal from decades of lectures on technical and military matters, and had read the works of Frederick the Great, Moltke the Elder, Alfred von Schlieffen and Clausewitz. His leadership during the French campaign in 1940 was clear, consistent and adroit, and he showed himself to be a classic *Feldherr*.[3] His practical experience of combat came during the Great War on the Western Front as a

---

[1] Cited in Mark McNeilly, *Sun Tzu and the Art of Modern Warfare* (Oxford, 2001), p. 47. Sun Tzu (*fl.* 6th c. BC) was a Chinese general and philosopher. He is believed by most commentators to be the sole author of the famous treatise on military theory known as *The Art of War* (*c.*500 BC), from which the above quote is taken.

[2] Joel Hayward, 'Adolf Hitler', in Charles Messenger (ed.), *Reader's Guide to Military History* (London; Chicago, 2001), p. 230.

[3] Cited in David Irving, *Hitler und seine Feldherren* (Frankfurt/Main; Berlin, 1975), p. 115. Keitel served as Chief of Staff of the OKW from 4 February 1938 until the end of the war. Jodl, his deputy, was chief of the *Wehrmachtführungsstab* during the same period. Up to 8 August 1940 this headquarters was known as the Armed Forces Operations Office (*Wehrmachtführungsamt,* WFA). Both men were hanged at Nuremberg for war crimes on 16 October 1946. Hitler's idol, Frederick II (the Great) of Prussia, ruled as King from 31 May 1740 until his death on 17 August 1786. Field Marshal Helmuth Graf von Moltke was Chief of the Prussian General Staff from 29 October 1857 until 10 August 1888. Field Marshal Alfred Graf von Schlieffen held the same post from 7 February 1891 until 1 January 1906.

volunteer in Royal Bavarian Reserve Infantry Regiment 16, where he served as a dispatch runner.[4]

The Revolution in Military Affairs (RMA) which occurred during the First World War witnessed the birth of air-to-air combat, aerial reconnaissance, strategic bombing and the concept of aircraft as 'flying artillery' in support of armour. Additionally, logistics became centred on the internal combustion engine and command on electronic communications.[5] Even almost a century later the fact that this war had perhaps more of an impact on military change than any other modern conflict was still not fully appreciated.[6] As with many of his generation, the whole episode had the most profound effect on Hitler's personality. Nowhere is the language in *Mein Kampf* so elegant or the style so artificially literary than when he describes his experiences of combat in the years 1914-18.[7] For Hitler, life was a serious matter, while the most serious matter in life was war. Indeed, he believed that the Great War had been lost because the German leadership had not treated the matter with the gravity which it deserved. Now, however, the new trial of life or death for the German nation, which he himself had instigated, would be fought with fanaticism, ruthlessness and solemnity.[8]

This chapter will examine Hitler's thoughts on the men who make war – from the politicians and commanders who lead to those who fight in the trenches. It will also focus on the interwar period and the transition from the weak armed forces of the Weimar Republic (*Reichswehr*) to the military machine of the Third Reich (*Wehrmacht*) which he helped to create. His contribution to military-technological matters up to 1942 in addition to his influence on German strategy, operational art and tactics up to and including the initial period of the Russian campaign will be also discussed.

---

[4] The unit is sometimes referred to as the List Regiment, so named in honour of its commander, Colonel Julius List, who fell on 31 October 1914 during the First Battle of Ypres (see note 14 below).
[5] Jonathan Bailey, *The First World War and the Birth of the Modern Style of Warfare* (Camberley, 1996), p. 17.
[6] Dennis Showalter, 'Military Innovation and the Whig Interpretation of History', in Harold R. Winton and David R. Mets (eds.), *The Challenge of Change: Military Institutions and New Realities, 1918-1941* (Lincoln, NE, 2000), p. 220.
[7] As noted by German historian Werner Maser: cited in Friedrich Heer, *Der Glaube des Adolf Hitler: Anatomie einer politischen Religiosität* (Munich; Esslingen, 1968), p. 186.
[8] Creveld, 'War Lord Hitler', pp. 13, 15.

Hitler was scathing of the German military leadership both before and during the First World War. Indeed, he posited that the country had been let down by men whose prior military, technical and economic preparations had been woefully inadequate.[9] He noted, for example, that while the earliest tanks had appeared on the Allied side in the summer of 1916, the order for the first 600 models of the new weapon was only first issued in Germany the following year. This commission was then halted just when Major-General J.F.C. Fuller (with the assistance of Winston Churchill and David Lloyd George) was rescinding the order with which Field Marshal Sir Douglas Haig had originally halted tank production in Britain.[10] Indeed, the German military leadership had given low-priority status to armour until the last year of the war. Instead, it promulgated the concept of bravery while ignoring any attempts at technical innovation or the mass production of weapons. As a result, mobility and flexibility at the operational level were denied.[11] In August 1941 Hitler suggested that if the German Army had had 400 tanks in summer 1918 it would have won the war. The political leadership, however, had not recognized the importance of technical weapons soon enough. He claimed that the Air Force (*Luftwaffe*) had made the greatest advances in only a few decades, despite being the youngest arm of the service; conversely, the Navy had experienced practically no change since the Great War. He suggested that it was 'tragic' that a battle cruiser had lost its worth in the face of the development of the air arm, notwithstanding the fact that it was the epitome of human achievement in the mastery of material. This situation, he opined, was similar to the eventual obsolescence of the medieval knight on horseback resplendent with armour.[12]

Hitler stated before a gathering of the National Socialist German Students' League (*Nationalsozialistischer Deutscher Studentenbund*) that the old officer class was the best:

---

[9] Adolf Hitler, '"Die Toten des 9. November 1923". Rede auf NSDAP-Versammlung in München' (9 November 1927), in *idem*, *RSA*, vol. II: *Vom Weimarer Parteitag bis zur Reichstagswahl, Juli 1926 – Mai 1928*, part 2: *August 1927 – Mai 1928*, ed. Bärbel Dusik (Munich, 1992), p. 531. The Nazi Party was formally known as the National Socialist German Workers' Party (*Nationalsozialistische Deutsche Arbeiterpartei*, or NSDAP).

[10] *Idem*, *Monologe*, p. 391 (6 September 1942). Fuller was also a military theorist and author, most famous for his writings on mechanized warfare. Churchill, the future prime minister, served as First Lord of the Admiralty from 25 October 1911 until 18 May 1915. In February 1915 he established the Admiralty Landships Committee, which was responsible for the development of armoured fighting vehicles. Lloyd George was Prime Minister of the United Kingdom from 7 December 1916 until 22 October 1922. Haig commanded the British Expeditionary Force (BEF) from 10 December 1915 until the end of the war.

[11] Holger H. Herwig, 'The Dynamics of Necessity: German Military Policy during the First World War', in Allan R. Millett and Williamson Murray (eds.), *Military Effectiveness*, vol. 1: *The First World War* (Boston, MA; London, 1989 [1988]), pp. 94-5.

[12] Hitler, *Monologe*, pp. 57-8.

they were not just specialists as military craftsmen (*Kriegshandwerker*) and teachers (*Kriegslehrer*) but were also leaders of the masses (*Massenführer*) – something which could not be learned in schools. They had become 'leaders' in their dealings with the troops – which they had been compelled to do – and thus learned how to manage people. He suggested that from a purely psychological point of view, busying oneself exclusively with intellectual matters did not constitute leadership. During the First World War one could already observe that the German reserve officer showed deficiencies in his education with respect to leadership of the masses and practical dealings with his troops. These officers generally had no connection with the enlisted men even though such a bond was always stronger in units where the commanders were more conspicuous. As the Great War had shown, certain occupations were simply not suitable for leadership. The question now, he suggested, was simply a case of which was more important: development of General Staff officers on the one hand, or leaders of the masses on the other? Hitler did not want *völkisch* (i.e. ideologically committed racist) troop commanders but leaders who became acquainted with the mass movement through practical service. This, he declared, was the task of the *Studentenbund*.[13]

After the First World War the German military leadership was faulted for the failure at Verdun in 1916 due to an insufficient number of divisions and a dearth of heavy artillery both before and during the operation. Also, primarily for reasons of prestige it did not give up an attack which had no prospect of succeeding (essentially a repeat of what had happened at Ypres two years previously).[14] The offensive at Verdun, Hitler argued, was an act of madness for which the leaders on both sides should have been court-martialled. A commander needed imagination, he suggested, so it was no wonder that the German nation was both soldierly and artistic. He believed that his own strength lay in the fact that he could relate to the front-line troops and their experiences. This, he maintained, gave him the advantage of being able to recognize very swiftly how to proceed in order to counter any threat.[15]

---

[13] Adolf Hitler, 'Rede auf Führertagung des NSDStB in München' (2 May 1931), in *idem*, *RSA*, vol. IV: *Von der Reichstagswahl bis zur Reichspräsidentenwahl, Oktober 1930 – März 1932*, part 1: *Oktober 1930 – Juni 1931*, ed. Constantin Goschler (Munich, 1994), pp. 348, 349-50.

[14] Anon., 'Die zweite Oberste Heeresleitung: Kriegführung an der Westfront', BA-MA RH 61/146, fol. 45. This is an undated manuscript written by the *Kriegsgeschichtliche Forschungsanstalt des Heeres* (Military History Research Institute of the Army). The First Battle of Ypres (Belgium) was fought between German and Allied forces from 19 October until 24 November 1914. It resulted in at least 134,000 German and 130,000 Allied casualties. The Battle of Verdun (northern France) was a series of engagements fought between German and French forces from 21 February until 18 December 1916. It resulted in over 500,000 casualties on both sides.

[15] Hitler, *Monologe*, p. 80 (13 October 1941).

In addition to the general inadequate provision of heavy artillery, Hitler also believed that the leadership of the Army during the First World War had been responsible for terribly antiquated offensive tactics. Nonetheless, he was adamant that Germany would have won the war if there had been an additional three corps available to strengthen the right flank of the initial advance.[16] As it happened, the loss of two corps to the Eastern Front on 25 August 1914 (just as victory seemed likely), mounting casualties due to tactical ineptitude, supply problems, and exhaustion all ultimately meant that the German Army would eventually run out of men at the front at the crucial moment.[17] Hitler believed that these much needed additional corps could have been formed by taking superfluous units whose task was merely defensive from other army groups. However, he argued that consideration for seniority and the class pretensions of the 'princely' commanders had prohibited such an action.[18] Indeed, three commanders at the time – Duke Albrecht of Württemberg (4th Army), Crown Prince Wilhelm of Prussia (5th Army) and Crown Prince Rupprecht of Bavaria (6th Army) – were virtually impossible to dismiss from their posts because of their royal heritage.[19] He further noted that the combat value of the individual German soldier had not been recognized. During mobile operations in the first year of the war, for example, units advanced in close formation; later, during the positional warfare which followed, there was not enough spacing between sentry posts in the trenches. A further failure of the leadership was that company commanders in the infantry were sometimes as old as fifty years of age and were therefore incapable of coping with the physical demands of combat. For such tasks, he believed, young leaders were needed.[20]

Hitler's disdain for the training of old-school officers and their ineptitude in matters beyond their immediate area of expertise had at least some foundation in truth. For instance, curricula at the prestigious *Kriegsakademie* (War Academy) in Berlin, which produced future members of the General Staff, were completely devoid of subjects such as politics (both domestic and foreign) and economics. Indeed, the German version never came close to emulating the equivalent institutions in Great Britain and France in this regard.[21] The apparently hyperbolic accusations which Hitler would later level at most of his older generals

---

[16] Hitler, *Monologe*, p. 61 (17 September 1941).
[17] Hew Strachan, *The First World War*, vol. 1: *To Arms* (Oxford, 2001), pp. 241-2.
[18] Hitler, *Monologe*, p. 61.
[19] Strachan, *To Arms*, pp. 235-6.
[20] Hitler, *Monologe*, p. 61.
[21] Herwig, 'Dynamics of Necessity', p. 83. The *Kriegsakademie* had its origins in a school founded for young officers in 1801. It was officially re-established by future Lieutenant-General Gerhard von Scharnhorst on 15 October 1810.

concerning their limited knowledge of the multifarious aspects of modern warfare might well have been apt for many of them.

From Reichswehr to Wehrmacht

There were two approaches to the style of warfare precipitated by World War I: the first entailed the large-scale use of tanks (greater mechanization) while the second depended predominantly on artillery (greater firepower). While the German Imperial Army of 1918 had employed the latter option because of the dearth of armour, during the interwar period the Reichswehr under Colonel-General Hans von Seeckt opted for the first approach, concentrating on mobility and speed in the offensive in addition to precise and flexible firepower.[22] The result of the arduous re-examination of its methods conducted by the Army from 1921 to 1926 was a new doctrine of war with an emphasis on movement (*Bewegungskrieg*). Seeckt's successors also devised a realistic operational doctrine which espoused mechanization and the use of tanks. The result was what would come to be known to the world as *Blitzkrieg*.[23] The dearth of modern means of combat was further to be compensated for by the initiative of commanders who would act as they believed the situation deemed necessary (*Auftragstaktik*), while defence was only justified against a strongly superior enemy and in order to facilitate an attack at another place or at a later time.[24] Interestingly, however, not all senior German commanders were fully committed to the notion of mission-directed tactics: both Schlieffen and one of his successors, Field Marshal Paul von Hindenburg, had placed strict limits on subordinate commanders, while Seeckt had a disinclination for those who showed too much independence.[25]

---

[22] Bailey, *First World War*, pp. 20-1, 22. Seeckt was head of the *Truppenamt* (Troop Office, the covert name for the General Staff, which had been proscribed by the Allies after the war) from 1 October 1919. He was also head of the Army (*Chef der Heeresleitung*) from March 1920 until he was forced to resign on 8 October 1926.
[23] Robert M. Citino, *The Path to Blitzkrieg: Doctrine and Training in the German Army, 1920-39* (Mechanicsburg, PA, 2008 [1999]), p. 5. The new army service regulation (*Heeresdienstvorschrift*) known as HDv 487, entitled *Führung und Gefecht der verbundenen Waffen* (Command and Combat of Combined Arms), was published in 1921 and is generally known by the abbreviation *FuG*.
[24] Cited in Gerhard P. Groß, 'Das Dogma der Beweglichkeit: Überlegungen zur Genese der deutschen Heerestaktik im Zeitalter der Weltkriege', in Bruno Thoß and Hans-Erich Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg – Ein Vergleich: Krieg, Kriegserlebnis, Kriegserfahrung in Deutschland* (Paderborn, 2002), p. 155.
[25] Daniel J. Hughes, 'Auftragstaktik', in Trevor N. Dupuy (ed.), *International Military and Defense Encyclopedia*, vol. 1 (Washington; New York, 1993), pp. 331-2. Hindenburg was Chief of Staff of the Imperial Army from 29 August 1916 until 3 July 1919. He later served as the second President of the Weimar Republic from 12 May 1925 until his death on 2 August 1934.

Seeckt proceeded with his ideas despite opponents both at home and abroad forming a majority who felt that positional warfare (*Stellungskrieg*) was proof that defence was still superior to offence.[26] The transition from Reichswehr to Wehrmacht generally occurred as smoothly as an undertaking of such complexity could have, with practically no didactic problems. In essence, *Blitzkrieg* was an evolutionary development of training, war-gaming and manoeuvres: it began with the birth of the Reichswehr, continued its development under Lieutenant-General Wilhelm Groener, and culminated in the 1930s under Colonel-General Ludwig Beck following fifteen years of doctrinal experimentation.[27]

Hitler readily acknowledged the professionalism of the Army (*Reichsheer*), notwithstanding its limitations. He believed that though its moral qualities would develop poorly if it continued in its role as simply an internal police force, at least the value of its current technical training was excellent. The Reichsheer in its present state, he declared, could readily act as a framework for the future German 'national army' (*Volksheer*). This mind-set, in fact, effectively mirrored the concept conceived by the military leadership.[28] Until Hitler finally came to power, however, the Reichswehr remained primarily a school whose function was to instil a new set of military values in its soldiers until the international situation might turn in Germany's favour and permit rearmament and expansion.[29]

The new doctrine issued in two parts in 1933-4 known as *Truppenführung* (Troop Command) stated that tanks were now to be used as an offensive, breakthrough weapon as opposed to an infantry support role as in the First World War. However, though the position of the infantry as the most important arm of the service was explicitly reaffirmed, it would now be required to cede some of its influence on the battlefield to the new tank force.[30] Beck's shift in emphasis from a defensive to an offensive strategy at the end of 1935 was the result of motorization combined with the introduction of compulsory military service earlier

---

[26] Groß, 'Dogma der Beweglichkeit', p. 155.

[27] Citino, *Path to Blitzkrieg*, p. 244. Groener served as Minister for the Reichswehr from 1928 and, additionally, as Minister for the Interior from 1931. The following year he was forced to resign both posts. Beck became head of the *Truppenamt* on 1 October 1933 and (officially) Chief of the General Staff on 1 June 1935. He remained in this post until 27 August 1938, when he resigned as a result of Germany's belligerent foreign policy and his belief that the Wehrmacht was too weak to support it. He was later executed following the attempt on Hitler's life on 20 July 1944.

[28] Adolf Hitler, 'Reichswehr und deutsche Politik' (June 1930), in *idem*, *RSA*, vol. III: *Zwischen den Reichstagswahlen, Juli 1928 – September 1930*, part 3: *Januar 1930 – September 1930*, ed. Christian Hartmann (Munich, 1995), p. 257 (plus note 28).

[29] Citino, *Path to Blitzkrieg*, p. 73. Hitler became Reich Chancellor on 30 January 1933.

[30] Heinz-Ludger Borgert, 'Grundzüge der Landkriegführung von Schlieffen bis Guderian', in Friedrich Forstmeier (ed.), *Handbuch zur deutschen Militärgeschichte, 1648-1939*, vol. 5: *Abschnitt 9: Grundzüge der militärischen Kriegführung, 1648 - 1939* (Frankfurt, 1979). *Truppenführung* (officially designated HDv 300) was a considerable improvement on the *FuG*.

in the year.[31] Thus, though Hitler may not have been personally responsible for the creation of the *Blitzkrieg* method of aggressive warfare, his decision to rearm Germany was the *sine qua non* of the re-emergence of the German Army.[32] By 1939 defence and delaying action were hardly taught in the Wehrmacht; instead, it concentrated on the offensive, just as its predecessor had done before the First World War. However, *Auftragstaktik* in its present form was retained.[33]

Strategy

It has been posited by many authors that Hitler effectively had no strategy.[34] Conversely, some historians have argued that he pursued and achieved his aims in a methodical manner.[35] A convincing argument suggests that the driving force behind his success was economic, though nationalism and irrendentism were also significant factors. This theory postulates that he viewed material prosperity as the root of political strategy and seemingly feared that Germany would ultimately succumb to 'economic exhaustion' before it was defeated militarily.[36] Other historians have taken the middle ground: early successes led to a situation where he essentially continued to campaign in order to remain on the offensive without any particular objective apart from further military victories.[37] This would suggest that Hitler and the armed forces high command simply wanted to attack where they could as a way of escaping from their intuition that the war could no longer be won.[38] Others still have been more sympathetic, suggesting that Hitler was not alone among political leaders in the Second World War to promote hope as a substitute for strategy, as Churchill had also been guilty of this in 1940.[39]

---

[31] Manfred Messerschmidt, 'German Military Effectiveness between 1919 and 1939', in Allan R. Millett and Williamson Murray (eds.), *Military Effectiveness*, vol. 2: *The Interwar Period* (Boston, MA; London, 1990 [1988]), p. 230.
[32] Citino, *Path to Blitzkrieg*, p. 229.
[33] Groß, 'Dogma der Beweglichkeit', p. 159.
[34] The most famous advocacy of the notion that Hitler essentially stumbled from one event to the next with no real influence on them is A.J.P. Taylor, *The Origins of the Second World War* (London, 1961).
[35] The most famous advocacy of the so-called *Stufenplan* ('step-by-step plan') is Andreas Hillgruber, *Hitlers Strategie: Politik und Kriegführung, 1940-1941* (Frankfurt, 1965).
[36] Richard E. Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare* (London, 1994 [1985]), p. 32.
[37] As proposed by the British general and military historian and theorist, Sir Basil Liddell Hart: cited in Clayton R. Newell, *The Framework of Operational Warfare* (London, 1991), p. 59.
[38] Bernd Wegner, 'Vom Lebensraum zum Todesraum: Deutschlands Kriegführung zwischen Moskau und Stalingrad', in Jürgen Förster (ed.), *Stalingrad: Ereignis, Wirkung, Symbol* (Munich, 1992), pp. 23-4.
[39] As noted by Colin S. Gray, *The Strategy Bridge: Theory for Practice* (Oxford, 2010), p. 116.

Whatever Hitler's master plan might ultimately have been, or however he planned to realize it, the basic tenets of his strategy – expressed in his speeches and writing from the earliest stages of his political career – were unambiguous. He had intimated to his inner circle before he had even come to power that while economic goals such as the acquisition of oil, wheat and ores were certainly important, his true aim was to set the foundation of the German nation and empire for the next thousand years.[40] Though he did engage in strategic thinking in a circuitous and expedient manner, he never wavered from his professed ultimate goal – the acquisition of *Lebensraum* ('living space') in the east for the German people at the expense of Russia and its 'vassal border states'.[41] Percy Ernst Schramm suggested that it would be incorrect to belittle Hitler as a strategist, and added that he would often cite the elder Moltke's famous dictum that strategy is not an esoteric lore but simply the most basic application of common sense.[42] It was with such stark logic that he defended his decision to attack his erstwhile ally, the Soviet Union. If Britain's last remaining hope of succour on the Continent was overrun, he argued, Churchill would also lose the United States as an ally as a consequence of increased Japanese freedom of action in the Far East and Pacific theatres.[43]

The Human Factor in War

Racism: Hitler believed that the 'decay' of the Russian state was a result of the dominance of its Jewish element over the core Germanic stock which had initially given it its vitality.[44] The notion that the Jews were intrinsically linked to the foundation of Bolshevism was central to this argument.[45] To his mind it was therefore imperative that both had to be destroyed if the German nation was to fulfil its destiny as potentate over the peoples and lands of eastern Europe as far as the Ural Mountains. He was passionate in his belief that the German 'master race' (*Herrenvolk*) had earned the natural right to rule over the Slavs – a race of 'born slaves' – and suggested that it was providential that Fate had burdened the Russians with Bolshevism

[40] Cited in V. E. Tarrant, *Stalingrad: Anatomy of an Agony* (London, 1992), p. 2.
[41] Hitler, *Mein Kampf*, p. 598.
[42] Cited in Hans-Jürgen Eitner, *Der Führer: Hitlers Persönlichkeit und Charakter* (Munich, 1981), p. 275.
[43] Cited in Alan Clark, *Barbarossa: The Russian-German Conflict, 1941-1945* (London, 1995 [1965]), p. 23. See also Chapter 6 below for a brief synopsis of other factors which influenced Hitler's strategy *vis-à-vis* the Soviet Union in 1941-2.
[44] Hitler, *Mein Kampf*, p. 598.
[45] *Idem*, *Table Talk*, pp. 7, 75-6 (11-12 July and 19 October 1941). See also the section on the Holocaust in Chapter 4 below.

as the inner weaknesses of the Soviet state caused by this political system would hasten its collapse.[46]

His contempt for the ethnic groups which inhabited the lands to the east of Germany was shared by many of his compatriots and contemporaries (though generally in a less trenchant manner). Indeed, such racialism had had a long history throughout western Europe, but it reached its apogee of virulence at the turn of the twentieth century with the promulgation of social Darwinism (the application of certain aspects of the theory of evolution by natural selection espoused by the British naturalist, Charles Darwin, to the analysis of human society). For example, the perceived Slavic faint-heartedness in the face of adversity as expressed by one German officer, Major-General Hugo Freiherr von Freytag-Loringhoven, was not uncommon. He suggested that it was the nature of the Russian to go from one extreme of the gamut of human emotion to the other within a short period, thus explaining why he would become completely pessimistic when over-optimistic hopes were not fulfilled.[47] The Chief of the Prussian General Staff at the outbreak of the First World War, Colonel-General Helmuth von Moltke (the Younger), was forever concerned that the strong ethnic overtones which had always pervaded the thinking of his predecessors with respect to the strategic problem of a conflict with the Russian Empire had now evolved into the current character of a life-and-death struggle for survival and world hegemony between different races. With the increased tensions in the Balkans from 1912 onwards, everyone from the man in the street to government ministers was now discussing the inevitability of war between Teuton and Slav.[48] The military leaders and politicians of Europe were agreed on one thing before the Great War finally erupted: biological factors as opposed to physics, mathematics and the ensuing technology would decide the coming conflict.[49] Hitler was still fettered by such logic when he expressed five months into the campaign against the Soviet Union his

---

[46] Ibid., p. 33 (17 September 1941); Hitler, *Mein Kampf*, p. 598.

[47] Hugo von Freytag-Loringhoven, *The Power of Personality in War* (first published in 1905), in Thomas R. Phillips (ed.), *Roots of Strategy*, vol. 3 (Harrisburg, PA, 1991), pp. 197-8. Freytag-Loringhoven served as Deputy Chief of Staff of the German Army during the First World War and was also a prolific military historian.

[48] Azar Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford, 2001), p. 349. The younger Moltke (nephew of Moltke the Elder) served in this position from 1 January 1906 until 14 September 1914, when Kaiser Wilhelm II replaced him with General Erich von Falkenhayn after the First Battle of the Marne. The First Balkan War was fought between the Ottoman Empire and a coalition comprising Bulgaria, Greece, Montenegro and Serbia from 9 October 1912 until 30 May 1913. The Second Balkan War – precipitated by a quarrel over territories wrested from the Turks during the first conflict – was then fought from 29 June until 10 August 1913 between Bulgaria on one side and Greece, Montenegro, Romania, Serbia and the Ottoman Empire on the other. (All dates in the present work are given according to the Gregorian calendar.)

[49] Helmuth Trischler, 'Nationales Sicherheitssystem – nationales Innovationssystem: Militärische Forschung und Technik in Deutschland in der Epoche der Weltkriege', in Thoß and Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg*, p. 114.

incredulity to the Reich Minister for Armament and Ammunition, Fritz Todt, that a nation as 'primitive' as the Russians could manage such technical achievements in terms of tank production so rapidly.[50]

The Red Army soldier of the Second World War was quite a different proposition to his forbear in the Imperial Army of Tsar Nicholas – a fact which Hitler continuously denied. Indeed, he likely felt a certain amount of pride in the fact that his regiment had never served in Russia during the Great War as this theatre was regarded as a 'soft touch' and generally entrusted to third- or fourth-rate divisions as a consequence.[51] However, in summer 1942 the Commander-in-Chief of Army Group North, recently promoted Field Marshal Georg von Küchler, could report that, despite low morale, Soviet troops in the front line fought like 'animals' to the end and had to be finished off one by one. Nowhere on the present Eastern Front had the Germans observed the events of 1916-17, he remarked, when the Russians had simply stuck their bayonets into the ground and abandoned their positions.[52]

Hitler's obsession with 'race' was undoubtedly a weak basis for strategy.[53] Worryingly for the Army leaders, however, was the fact that his (and indeed their) prejudices were not confined to the peoples of eastern Europe. For instance, a striking example of his dismissal of an opponent simply by means of crude racial profiling was his assertion that an American soldier could never fight in a heroic manner.[54] However, at times his fixation with national traits did allow him to use his political background as an organizer and tactician to produce adroit and often intelligent assessments of domestic and foreign politics.[55]

The troops: Hitler remarked soon after the invasion of the Soviet Union that he had been passionate about his service as a soldier, so much so that he would now once again volunteer for the front if he was twenty to twenty-five years younger.[56] Some months later, when he took personal command of the German Army at the height of its first major reversal in the war up to that point, he reassured the troops in Russia that his own background as a soldier

---

[50] Cited in David Irving, *Hitler's War* (New York, 1990), p. 433 (29 November 1941). Todt held this post from 17 March 1940 until his death in a plane crash shortly after taking off from Hitler's headquarters in Rastenburg, East Prussia on 8 February 1942.
[51] Williams, *Corporal Hitler*, p. 3. Nicholas II served as the last Emperor of Russia from 1 November 1894 until his overthrow by the Bolsheviks on 15 March 1917. He and his family were subsequently murdered on 17 July 1918.
[52] Hitler, *Tischgespräche*, p. 565 (30 June 1942). Küchler held this command from 17 January 1942 until 29 January 1944.
[53] Michael Geyer, 'German Strategy in the Age of Machine Warfare, 1914-1945', in Peter Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Oxford, 1986), p. 582.
[54] Hitler, *Table Talk*, p. 181 (5 January 1941).
[55] Geyer, 'German Strategy', p. 582.
[56] Hitler, *Monologe*, p. 46 (24 July 1941).

who had taken part in many battles of the Great War meant that he was bound to them as closely as he possibly could be in their desire for victory.[57] At least in the early years of the present conflict, Hitler was never glib about spilling precious German blood and persistently tried to justify this unfortunate corollary of war to his immediate entourage. For instance, he noted two months into the Russian campaign that he had the right to send up to 200,000 men to their deaths because he had been responsible for the increase of over 2.5 million people in the German population since his accession to power.[58]

He argued that it was a fundamental error to believe that war had become more cruel or bloodier than in the past. It simply corresponded in its weapons to the general technical culture of the time, just as it had corresponded two thousand years ago to the conditions of that era. However, one thing had always remained constant: life, he declared, is fought for with life. Even in the event of a sharp disarmament in technological terms and the use of primitive weapons, the final sacrifice would always be the highest investment: human beings.[59] He was adamant that the man who stood at the front and did his soldierly duty might die, though this would be accompanied with honour. However, anyone who misbehaved on the home front *had* to die, and, indeed, with the greatest of shame. Likewise, the 'poor devil' (*armer Deubel*) under fire at the front should be assured that the package which his wife sent to him as a greeting from home would not be stolen along the way. Hitler further noted that he had introduced severe punishment for especially reprehensible crimes as soon as the war had begun. During the First World War, on the other hand, this had only been introduced in the final year.[60]

On 16 October 1942 the OKH issued Hitler's Basic Order No. 4. In this document he pointed to the fact that people were the most valuable commodity which the Army possessed and that every commander of troops therefore had to handle this prized material as economically as possible. Weapons and ammunition could often be substituted for people, and losses could be reduced with appropriate and foresighted measures. Instead of forcing an attack with massed troops and suffering the concomitant heavy losses, one could often eliminate the enemy by concentrating firepower in a way that would minimalize German

---

[57] BA-MA RH 19-III/770, fol. 19 (20 December 1941).
[58] Cited in Creveld, 'War Lord Hitler', p. 18 plus note 37 (19 August 1941).
[59] Adolf Hitler, 'Politik der Woche' (article in the *Illustrierter Beobachter*, 3 November 1928), in *idem*, *RSA*, vol. III: *Zwischen den Reichstagswahlen, Juli 1928 – September 1930*, part 1: *Juli 1928 – Februar 1929*, eds. Bärbel Dusik and Klaus A. Lankheit, with the collaboration of Christian Hartmann (Munich, 1993), pp. 202-3. The *Illustrierter Beobachter* (Illustrated Observer) was a monthly (later biweekly) publication of the NSDAP, which appeared from November 1926 until April 1945.
[60] Hitler, *Tischgespräche*, p. 398 (10 May 1942).

casualties during the advance.[61] This had also been noted in the second half of the previous war. According to the regulation on elastic defence-in-depth first issued on 1 December 1916 and which effectively remained one of the key components of German doctrine until the end of the conflict, firepower was to be substituted for a reliance on large numbers of troops in defensive battles.[62] Hitler further argued that there were far fewer fatalities in units that dug in than in those whose leaders did not immediately enforce this spadework, even if it seemed that such a measure was inconsequential. This procedure was likewise to be extended to all units in reserve. He further ordered that steel helmets were to be worn at all times by troops who were in close proximity to the enemy. In one particular base hospital, he noted, there had been a large number of head injuries, over half of which had been suffered by soldiers who had not been wearing helmets.[63]

With respect to troop welfare, Hitler stressed that their care was not just to be understood as a means of command and control in normal circumstances but also during battle. The fighter – who was shouldering the main burden of the struggle – was to be assured that the main care was for him alone. It was self-explanatory that the leadership owed this to the troops at the front, but it was also a necessary means of maintaining combat power. He noted that the OKH had been ordered to arrange for the provision of special supplementary rations for these men, which would be marked *Nur für Frontkämpfer im Großkampf* (For Front-Line Fighters in Battle Only). Division commanders would be empowered to give temporary double rations to companies in forward areas which had been particularly depleted. This was justified, he argued, as the few men remaining in these units were actually doing the work of double their number.[64]

In contrast to his obvious sense of affection for the front-line troops, however, Hitler was capable of exceptional callousness towards people whom he believed were not worthy of being treated as equal members of the *Volk*. In one of his more pitiless directives he ordered that in the event of danger to bomb-disposal units during the clearance of duds or ordnance with long-delay fuses, such tasks were to be conducted by concentration camp inmates and prison detainees.[65] However, there remained the chance of redemption for some. Two years

---

[61] 'Grundlegender Befehl Nr. 4 (Aushilfsmittel der Führung)', BA-MA RH 2/940, fol. 28.
[62] Cited in Timothy T. Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War* (Fort Leavenworth, KS, 1981), p. 12. General Erich Ludendorff, the Deputy Chief of Staff of the Imperial Army, credited the authorship of the new instructions, entitled *Grundsätze für die Führung in der Abwehrschlacht im Stellungskrieg* (Principles of Command in the Defensive Battle in Positional Warfare), to Colonel Max Bauer and Captain Hermann Geyer.
[63] 'Grundlegender Befehl Nr. 4 (Aushilfsmittel der Führung)', BA-MA RH 2/940, fol. 29.
[64] Ibid., fol. 31.
[65] Hitler, *'Führer-Erlasse'*, p. 146 (12 October 1940).

later he ordered the prompt establishment of a brigade for use in Africa to comprise men deemed unworthy to bear arms (*Wehrunwürdigen-Brigade*). Such men would thus be given the opportunity to prove themselves in the face of the enemy and consequently the possibility of regaining their right to serve in regular units.[66]

Morale and the soldier: When the German system of defences facing France (the so-called Siegfried Line) was under construction in 1938, Hitler ordered that it should preserve the combat power of the defenders and not just simply their lives. He further demanded that the latrines were to be built in the bunkers instead of outside, where many had fallen in the Great War while simply going to the lavatory, and noted that young troops in particular experiencing combat for the first time were prone to suffer from bouts of diarrhoea. Finally, he suggested that only those who had gone weeks and months through the horrors of defensive battles understood what a treasure a canteen of drinking water could be and how glad the men were to be able to prepare hot beverages for themselves.[67]

Hitler was particularly scathing of the demands of the German military leadership with regard to combatting armour during the First World War. Commanders, he noted, had forced their formations to counter the machines with men alone; the catchword had been that the best weapon against tanks was the fortitude of the defender.[68] Similarly, problems concerning the assault in its final 300 metres were to be overcome with morale according to pre-First World War doctrine. A solution to such predicaments was not necessarily to be found in technology: instead, steely determination, offensive spirit and the *furor teutonicus* were highlighted as alternatives. The significance of élan was therefore to be given the highest priority. This narrow-mindedness had not been confined to the German Army: in its guise as *offensive à outrance* (literally 'offensive to the extreme') it had also formed part of the French concentration plan and doctrine of strategic initiative known as Plan XVII formulated by the new Chief of Staff, Major-General Joseph Joffre, from 1911 onwards.[69] However, Hitler believed that greater discipline and fearlessness were only generally decisive in situations where the weapons on both sides were at least by and large technically equal.

---

[66] 'KTB OKH/Organisationsabteilung vom 1.8.42-31.12.42' (October 1942), BA-MA RH 2/824, fol. 73.
[67] Cited in David Irving, *Führer und Reichskanzler Adolf Hitler* (Munich; Berlin, 1989), p. 127. The Siegfried Line (known to the Germans as the *Westwall*) was initially proposed by Hitler in 1936. Work on this strong system of fortifications began two years later and finished in 1940.
[68] Adolf Hitler, 'Tankrüstung im Zeichen der Abrüstung. Wehrpolitische Betrachtung' (article in the *Illustrierter Beobachter*, 28 September 1929), in *idem*, *RSA*, vol. III: *Zwischen den Reichstagswahlen, Juli 1928 – September 1930*, part 2: *März 1929 – Dezember 1929*, ed. Klaus A. Lankheit (Munich, 1994), p. 388.
[69] Groß, 'Dogma der Beweglichkeit', pp. 146-7 (plus note 15). Future Marshal Joffre held this post from 28 July 1911 until 13 December 1916.

Attempts to counter better technology with nerves simply resulted in the latter being squandered and the soldier being gradually driven to insanity and despondency.[70]

As a former soldier who had experienced combat Hitler was aware of the knowledge gained by the troops and was keen to harness it in the latest conflict. He decreed that the basis for manufacturing new weapons and making improvements to existing ones had to be the practical experience of the troops at the front: they experienced the merits and deficiencies of their weapons and equipment for themselves and knew the needs of battle best. The promptest evaluation of these experiences and their immediate utilization in the production of weapons were to be guaranteed. All front-line soldiers were to be informed that it was their right and duty to send any useful ideas or valuable suggestions directly to a specific field post number, which meant that the official channels could be bypassed.[71] Such experience of combat was critical as far as Hitler was concerned: if one concentrated on the basics, he argued, a soldier could learn everything possible within a three-month training period; the rest had to be left to the schooling which came automatically at the front. He suggested that such a soldier was presently better trained than one who had had twelve months of instruction in peacetime. The education which ensued in the face of the enemy, he declared, was by far the best.[72]

On 8 October 1942 the OKH issued Hitler's Basic Order No. 1, a document which gives an indication of his determination to address the physical and psychological needs of the men serving in forward areas. In order to maintain the fighting strengths of the combat troops he ordered, *inter alia*, that the OKH – including the headquarters – would be reduced by 10%. All superfluous officers freed up in this way would then be sent to the front. The commands of the army groups, armies and corps were also to be scaled down by the same proportion with immediate effect. Units and formations not directly involved in the front (higher staffs, observation departments, signals and supply troops, and so on) were to set up 'alarm units' (*Alarmeinheiten*), which would foster an aggressive spirit in all formations that were not directly involved in combat and consolidate the bond between fighter and auxiliary.[73] They would receive infantry training once a week and would then gain combat experience by serving in the front line for a minimum of two and a maximum of four days

---

[70] Hitler, 'Tankrüstung', p. 389.
[71] 'Erfahrungen und Vorschläge zur Verbesserung der Bewaffnung' (17 April 1942), in *idem*, *'Führer-Erlasse'*, p. 246.
[72] *Idem*, *Monologe*, p. 373 (28 August 1942).
[73] 'Grundlegender Befehl Nr. 1 (Hebung der Gefechtsstärke)', BA-MA RH 2/2919, fol. 5, 6.

each month, thereby ensuring that they would be ready at short notice for use in a tactical capacity.[74]

Basic Order No. 3 concerning the formation of Luftwaffe field divisions was issued four days later. The rationale behind this directive was that these formations would facilitate the refreshment of certain infantry divisions which had been on continual service. They were to be handled with special care by the army commands, given that they were unaccustomed to ground combat and were in partial need of supplementation in terms of training and equipment. This meant that they could only be used for defensive purposes for the moment, though limited offensive tasks could be given in due course.[75] These units received insufficient preparation for some of the tasks which they were ordered to conduct and often took valuable *matériel* from their Army colleagues; however, Germany's Axis partners were also supplied with much needed equipment despite the inadequate training and education of their soldiers.[76]

At the end of the month the OKH issued guidelines from Hitler intended to maintain the morale of the front-line troops (Basic Order No. 5). He suggested that for these men only the best was good enough in terms of armament, equipment, clothing, provisions and sales articles. It was not acceptable, for example, that the soldiers in forward areas got the poor quality cigarette (*1 Pfennig-Zigarette*) while the better brands remained in the rear. The same applied to alcohol, where the men in the trenches had to make do with very small quantities of products of inferior quality as defence against the inclement weather. He did not want to hear excuses such as it was a waste of time to send these goods to the front because they were in such short supply anyway: given the lower head-count of the companies at the front, he argued, it was better for morale if even only a limited number of troops received the quality goods, as they would then at least realize that their efforts were appreciated. Even lighting equipment should be taken from the staffs and rear areas because every minute counted at the front during night alarms. The same was to be done with respect to fuel materials such as methylated spirits in solid form in order to ensure that troops on the principal battlefronts got warm food. Once again, any shortages would have to be shouldered by those employed behind the front line.[77]

---

[74] BA-MA RH 21-1/451, fol. 252-3 (16 October 1942).
[75] 'Grundlegender Befehl Nr. 3 (Einsatz der Luftwaffen-Felddivisionen)' (12 October 1942), BA-MA RH 2/940, fol. 22, 23.
[76] See Chapter 3 below for a survey of the assistance which Germany provided to its Eastern Front allies.
[77] 'Grundlegender Befehl Nr. 5 (Frontkämpfer)' (29 October 1942), BA-MA RH 2/430, fol. 3-4.

Hitler was careful to issue instructions to officers who had had units 'loaned out' to them temporarily. He suggested that these formations got treated worse than a commander's own troops, remained longer in battle, got their post later, did not get as much praise as they might deserve, and so on. Indeed, he believed that such units actually had a more difficult time than others in that, among other things, they were under a strange command, had been redeployed from their normal surroundings, and got their replacements later than other units. He argued that such troops were actually 'guests' and should be treated as such – better, in fact, than the commander's own men.[78]

Hitler's principle of paralyzing and demoralizing the enemy was also to be conducted on the tactical level. At the close of the Balkan campaign, for instance, the OKW issued his instruction stating that offers to surrender from the enemy – including those from individual units and bodies of troops – were always to be accepted. He believed that capitulations had a stronger psychological effect on the hostile formations still resisting than capture or disintegration.[79] Later, during the Russian campaign, 1st Panzer Army (Colonel-General Ewald von Kleist) received a directive issued by Hitler which addressed the organization of a defensive front in winter. This would not yet affect the army as it was still on the march, but its corps were given instructions for the possibility that they would apply at a later date. It was apparent, Hitler observed, that enemy offensive actions were only being bolstered by limited numbers of reserves gleaned from within the depths of the country to a very small degree. Instead, the Soviets were shuffling formations from one sector to another; these troops were then redeployed at the front in their new sectors almost at once or after only a short period of replenishment. German small- and large-scale raids had led in many cases to not inconsiderable local successes, without substantial losses to their own troops. This, Hitler believed, suggested that such operations by assault detachments made it difficult for the enemy to withdraw forces from the front without great forfeiture, and his combat power was constantly weakened even if only on a small scale at any one time. Furthermore, the feeling of superiority over his enemy grew in the German soldier. Finally, such regular actions would ensure that the ossification of the troops in passive defence would be avoided.[80] This

---

[78] 'Grundlegender Befehl Nr. 6 (Op Abt) (Aufrichtigkeit und Anständigkeit der Führung)', BA-MA RH 2/430, fol. 9.

[79] 'Kapitulationsangebote' (19 April 1941), BA-MA RH 2/513, fol. 32. The German campaign in the Balkans began with the simultaneous invasions of Yugoslavia and Greece on 6 April 1941. The former surrendered eleven days later, while the Greeks fought on for a further six days.

[80] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (20 September 1942), BA-MA RH 21-1/409, fol. 154. Kleist commanded 1st Panzer Army from its creation (as Panzer Group 1) on 16 November 1940 until he took command of Army Group A from the OKH (i.e. Hitler) on 21 November 1942. Its headquarters were known as Armeegruppe von Kleist from January to May 1942.

instruction addressed what Clausewitz regarded as the uneconomical management of forces which resulted when troops were left 'idle' instead of engaging the enemy in order to reduce his overall strength.[81]

Technology

While Hitler believed in the primacy of the individual during any conflict, he was nevertheless especially interested in technology as a decisive factor in conducting successful campaigns.[82] He deplored the fact that the German leadership in the First World War had shunned improvements in military technology in favour of expanding the armed forces numerically. This, he claimed, was evidenced by the fact that 80,000 workers had been initially exempted from military service as indispensable for the construction of submarines only in the final year of the war, while the attempt in 1917 to secure the necessary number of men needed for the production of tanks had failed. This had been a cardinal error: the decisive factor in winning any war, he argued, was that one must always have technically better weapons than one's enemy – preferably at the decisive point.[83]

In his article on tank production he recalled the former Austrian lieutenant, Gunther Burstyn, who had presented the plans for a new weapon on tracks to the War Ministry in Vienna before the First World War. This was dismissed as a completely absurd idea by the people responsible for assessing such innovations, which, according to Hitler, somehow always seemed to happen. He suggested that it could hardly be imagined what the impression would have been in 1914 if the Central Powers had suddenly produced such a machine on the battlefield. It had become quickly established that modern aircraft could not be fought with regular howitzers, he argued, but the authorities never came to the realization that tanks could not be countered with weapons which were intended for completely different roles. A disregard for technology became evident, which later revenged itself in a terrible manner.[84] Hitler believed that it was usually the lot of the inventor to be ridiculed by so-called experts, who tended to be fearful of new philosophies which destroyed their own bigoted and

[81] Carl von Clausewitz, *On War* (Princeton, NJ, 1989 [1976]), p. 213.
[82] See, for example, his countless orders, directives and interventions on the subject in Hitler, *Deutschlands Rüstung*, and *idem*, *'Führer-Erlasse'*.
[83] *Idem*, *Tischgespräche*, p. 680 (28 July 1942); *idem*, *Monologe*, p. 275 (9 February 1942).
[84] *Idem*, 'Tankrüstung', p. 387.

ostensibly immutable beliefs.[85] However, he was explicit in his belief that he was someone who was receptive to novel ideas. Very often with a new weapon, he argued, its acceptance or otherwise depended on who got to inspect it initially. If this was a person who did not know what to do with it then it could easily get discarded. As a consequence, a weapon could not be condemned just because a certain individual did not know anything about it. He noted that he had experienced this with the MG 34, a general-purpose machine gun which had fired even in the severest cold-weather conditions as long as it got the appropriate oil.[86]

In addition to the effect and technical data of weaponry Hitler was also interested in their construction. After all, he observed, all additional armament and ammunition spared German blood. He therefore ordered that weapons, munitions and equipment which were directly used in battle and were highly effective were to be fully allocated with iron according to anticipated production.[87]

The importance of tanks on the modern battlefield, Hitler noted, was best illustrated by the fact that they were forbidden in Germany under the terms of the Treaty of Versailles. By producing its own vehicles, however, Germany could spare 'human material' (*Menschenmaterial*), which, as experience in the First World War had shown, was more difficult to replace than technological weapons.[88] Thus, for example, it was Hitler who first insisted that German tanks should be armed with a 7.5cm long-barrelled gun, despite constant clashes with the Army Ordnance Office (*Heereswaffenamt*, HWA) in the OKH.[89] He stated that in peacetime, people decided too readily in favour of mobility over firepower. However, the last war had shown that only the heaviest tank with the thickest armour was of any value. It was lamentable, he said, that as soon as the conflict had ended the lightest of machines were once again favoured by most commentators. Speed seemed to be the important factor for such people simply because Germany had good roads.[90] Hitler stressed that he had to fight for the heavy tank in the face of such opposition. Similarly, he argued that it was he who had instigated the introduction of wire broadcasting (also known as cable radio) despite protestations from the Postmaster General, who had suggested that it was not yet ready from a technical point of view. He also remarked that he had gone to the Fried. Krupp AG steel

---

[85] *Idem*, *Tischgespräche*, p. 499 (2 June 1942).
[86] *Idem*, *Monologe*, pp. 372-3 (28 August 1942). The versatile Maschinengewehr 34 entered service with the German Army in 1934 and was used until the end of the war.
[87] 'Fertigung von Waffen, Munition und Gerät' (14 April 1942), cited in *idem*, *'Führer-Erlasse'*, p. 245.
[88] *Idem*, 'Tankrüstung', p. 390. The Treaty of Versailles, signed on 28 June 1919, was imposed on Germany after the First World War by the victorious Allied Powers. Article 171 of the accord also proscribed the use by the Reichswehr of armoured cars and other similar vehicles.
[89] Irving, *Hitler's War*, p. 266; Hitler, *Tischgespräche*, p. 680.
[90] Hitler, *Monologe*, pp. 112-13 (29 October 1941).

and armaments manufacturer before the present conflict in order to address the matter of motorization simply because the Army would not be moved on the subject. He had wanted to ensure the provision of Panzer IV medium tanks for the Waffen-SS units, but once the war had begun he noted that the Army leadership suddenly began to clamour for these vehicles.[91]

Throughout 1942 Hitler took an active part in the development and construction of German armour, especially tanks. He wanted improvements to both the design and quantity of the Panzer VI (Tiger) heavy tank, and he enthusiastically helped to plan the design of the new Panzer V (Panther) medium tank.[92] For instance, he was personally responsible for the Tiger being equipped with an 8.8cm cannon. The original specifications sent to the manufacturers Henschel and Porsche were superseded by his insistence on a more potent and proven gun.[93] Whereas Hitler had wanted a modified version of the 8.8cm anti-aircraft gun mounted on these vehicles, the HWA favoured a tank that mounted a smaller 6cm or 7cm tapered-bore gun in order to lower the overall size and weight.[94] One month before the opening of the Russian campaign he conceded that if a smaller calibre cannon could produce an equal penetration capability to the 8.8cm gun then this could be given preference when the provision and size of the ammunition and the reduced turret weight were taken into account. One way or the other, he demanded that the ultimate choice of calibre had to be suitable for combatting tanks, ground targets and bunkers.[95] However, the large amount of tungsten steel needed for the tapered-bore gun favoured by the Army (for a 36- to 40-tonne tank) was in short supply.[96] In September 1941 Hitler therefore decided against conical barrels, which resulted in the weight of the prototype rising to 45 tonnes.[97] Todt wrote to the head of the HWA, General Emil Leeb, insisting that Hitler wanted the 8.8cm Flak 41 gun in the new heavy tank without restrictions. Leeb warned that the severest reproach could be expected if

---

[91] Ibid., pp. 344-5 (16 August 1942). The Krupp family business, founded in 1811, was one of the main producers of steel and armaments in the world until the end of the Second World War. The *Panzerkampfwagen* ('armoured fighting vehicle') Mark IV was the workhorse of the German Army throughout World War II. The Waffen-SS was the armed force which had its origins in Hitler's personal bodyguard, the SS (*Schutzstaffel*, Protection Squad), first established in 1925. By the end of the war twenty years later a total of almost one million Germans and volunteers from approximately fourteen other nations had served in its thirty-nine divisions.

[92] Seaton, *German Army*, pp. 200-1.

[93] Richard M. Ogorkiewicz, *Armoured Forces: A History of Armoured Forces and their Vehicles* (London, 1970), p. 215.

[94] S. Hart and R. Hart, *German Tanks of World War II* (Staplehurst, 1998), pp. 117-18.

[95] BA-MA RW 19/822, fol. 136 (26 May 1941); Tom Jentz and Hilary Doyle, *Tiger 1: Heavy Tank, 1942-45* (London, 1993), p. 9.

[96] Hart and Hart, *German Tanks*, p. 118. Tungsten (chemical symbol W) is a hard metal and is resistant to corrosion. Its toughness is greatly increased when it is alloyed with steel. It is also used in the core of armour-piercing projectiles (as tungsten carbide, WC).

[97] BA-MA RW 19/822, fol. 134.

anything other than the specified cannon was fitted. Hitler also demanded that an order for several thousand barrels was to be submitted so that the armaments companies would be aware that mass production was required and would therefore apply themselves to the task with vigour.[98]

Nevertheless, the importance of mobility was not forgotten. Hitler realized more than anyone else that it would be responsible for victory in the next 'machine war'; the method used would not so much entail the destruction of enemy soldiers, but rather the annihilation of the will of their commanders with a succession of blows aimed at blunting their ability to resist.[99] To this end he was constantly looking for improvements to existing weapons in order to give his troops an advantage in battle. On 5 June 1942 the Organization Department in the OKH (*Organisationsabteilung*, OA) reported that when Hitler had been shown a self-propelled light field howitzer on the captured French Lorraine 103 TT chassis which had been developed among the troops, he demanded even more effective weapons and ordered the immediate conversion of ninety-eight heavy field howitzers and fifty-eight 7.5cm Pak 40 anti-tank guns to this chassis to be used as self-propelled guns.[100] Two months later he ordered that each *Jäger* (tank-destroyer) battalion was to receive two assault-gun batteries and heavy anti-tank guns. Additionally, these units were to be motorized and winter mobility enhanced with the aid of Steyr tractors. Towards the end of August he also demanded the development of a self-propelled Nebelwerfer (multiple rocket launcher).[101]

Lessons from the previous winter were not forgotten. On 18 September Hitler ordered that each corps sector was to construct heated shelters capable of accommodating approximately 80-100 tanks as well as armoured personnel carriers, tractors and other vehicles so that they could be deployed to threatened sectors in all weather conditions during the winter months.[102]

---

[98] Ibid., fol. 144, 145 (23 September 1941). Leeb – the younger brother of the Commander-in-Chief of Army Group North, Field Marshal Wilhelm Ritter von Leeb – held this position from 16 April 1940 until the end of January 1945.

[99] J.F.C. Fuller, *Machine Warfare: An Inquiry into the Influence of Mechanics on the Art of War* (London, 1942), p. 52.

[100] 'Beitrag zum KTB für die Zeit vom 1.-10.6', BA-MA RH 2/913, fol. 54. The OA was a department of the General Staff in the OKH. It was responsible for questions concerning the organization and weaponry of the Army. The self-propelled heavy field howitzer received the long-winded designation 15cm sFH 13/1 (Sf) auf Geschützwagen Lorraine Schlepper (f), while the mounted Pak 40 became known as the Marder ('Marten') I tank destroyer.

[101] 'KTB OKH/Organisationsabteilung vom 1.8.42-31.12.42', BA-MA RH 2/824, fol. 16, 39. The Nebelwerfer ('Fog Thrower') was initially so named in order to deceive enemy spies into thinking that it was merely used to create a smokescreen on the battlefield.

[102] BA-MA RH 19-III/770, fol. 45. This order was entitled 'Schaffung heizbarer Unterstellmöglichkeiten für Panzer und Kraftfahrzeuge': *KTB OKW*, vol. 2, p. 1304.

He was also minded to maintain awareness of issues which would generally have been perceived to be obvious to most commanders but which therefore often resulted in complacency. His Basic Order No. 8 of 24 November 1942 addressed the important issue of the maintenance of weapons and equipment. He noted that 'shocking' reports from experts at the front had shown that attention to this most important of tasks had slackened considerably. There were a number of principal reasons for this situation: the continuous battles left little time, troop leaders had little or no experience in this regard, and the experts and ordnance officers themselves were poorly trained or simply confined themselves to deskwork. This state of affairs, he noted, had to be changed by the intervention of higher-level commanders. They were to take full responsibility by supporting the work of the specialist staff and by implementing disciplinary measures where there was evidence of carelessness. It was important to have continuous instruction and practical training as well as continual inspections. He further stressed that this personnel was to concentrate its ongoing work on the troops in the forward line, which would stimulate the latter and likewise induce them to practical work. He also emphasized the importance of delivering up damaged weapons, irrespective of their condition. This had the double advantage of producing spare parts and preventing the machinery from being captured. It was also necessary to give a clear overview of the usage and losses of weapons and equipment in prompt and proper reports in order to assist the leadership to determine the expeditious and proper supply of deficient weapons, which was important to the conduct of operations. He warned that it was misguided not to report captured equipment out of fear that it would have to be handed up, and promised that a unit would be allowed to retain anything which it could put to good use. Finally, he noted that it was wrong, for example, to squander an inordinate number of shells on an enemy dispatch runner. Only the requisite amount of heavy weapons and ammunition were to be deployed in order to achieve the purpose of a given engagement.[103]

[103] 'Grundlegender Befehl Nr. 8 (Gen Qu) (Erhaltung von Waffen und Gerät)' (24 November 1942), BA-MA RH 2/940, fol. 57-8, 59, 61.

Hitler was convinced that the crucial task of the future militarization of German society was not merely about cultivating generals; rather, it was about making soldiers of the people. The generals, he said, would then emerge naturally. Of fundamental importance was that a nation had to form its own soldiers. National Socialism did not simply need to create leaders; instead, every member of society had to be re-educated to a creed – a world view – which would be universally recognized.[104]

The soldier, Hitler argued, had no need to be 'political' if he served a government which did full justice to the inner needs of the life of the nation. It was therefore also possible that the presence of a very good political leadership would mean that the military leader could afford to understand little or nothing of politics, but even then he was convinced that it was not feasible for the political leader to be ignorant of military affairs. Yet he further believed that in a situation where a political leader knew nothing of military matters, it was completely impossible that the military leader should have no need to understand politics. There needed to be an inversely proportional correlation between the political leader's lack of understanding of military necessities and the need for the soldier to become the bearer of political thought. Otherwise, he argued, the Army would become a moribund mechanism which might later become a burden on the nation.[105]

Hitler believed that the conceptions of war still championed by his generals had become stagnant. Indeed, he would often quote Clausewitz's famous dictum on the primacy of politics over military considerations when his senior officers showed themselves to be too conservative in their enthusiasm for his new political system and the demands that it put on them. They were taught that the duty of the soldier was simply to conform to the will of the political leadership.[106] Similarly, he made some prominent contributions to the success of the *Blitzkrieg* style of warfare, particularly in terms of leadership. His notion of *Führerprinzip* ('leader principle') ensured that responsibility now lay solely with the commander-in-chief of a formation, and he also tried to eliminate the staff channels and the prerogative of their members to engage with an officer one level above on questions of command and personnel.

---

[104] Adolf Hitler, 'Rede auf Gautag der Thüringer NSDAP in Gera' (6 September 1931), in *idem*, *RSA*, vol. IV: *Von der Reichstagswahl bis zur Reichspräsidentenwahl, Oktober 1930 – März 1932*, part 2: *Juli 1931 – Dezember 1931*, ed. Christian Hartmann (Munich, 1996), p. 85.

[105] *Idem*, '"Wir und die Reichswehr – Unsere Antwort an Seeckt und Geßler". Rede auf NSDAP-Versammlung in München' (15 March 1929), in *idem*, *RSA*, vol. III, part 2, p. 52.

[106] P. M. Baldwin, 'Clausewitz in Nazi Germany', *Journal of Contemporary History*, 16 (1), *The Second World War*, part 1 (Jan., 1981), p. 12.

Hitler changed the system between commander and chief of staff for political reasons in order to frustrate the General Staff, which he regarded – with some justification – as too cautious.[107] In business, he said, one cannot act democratically without ultimately perishing. The same principle applied to the Army: if everything was done democratically then each army and division would have to have its own council. Thus, if the majority then voted against an attack, for example, no progress would be made.[108]

Boldness was also crucially important: whoever did not take any risks, he stated, could never be victorious.[109] War was often as much about vivacity and the good fortune that usually favoured the brave as it was about professional ability. Ultimately, he declared, one could only ever succeed by making fewer mistakes than one's opponent.[110] According to him, the greatest military victories of world history had always been close-run affairs. In 1918, he argued, Germany had had as much a chance of being victorious as its enemies: it had simply been a test of nerves which it ultimately failed.[111] Indeed, the Second World War began partially as a result of Hitler's 'all-or-nothing' attitude towards politics. When he and his entourage received Britain's ultimatum that it would declare war if the Wehrmacht did not pull its forces back from Poland, Hermann Göring suggested that the risk involved indicated that Germany should comply. Hitler, however, simply replied that he had always played *va banque* throughout his life.[112]

His use of 'directives' (*Weisungen*) throughout the war was indicative of his own personality. These were issued via the OKW but, unlike orders (which are summary and immediate), they were essentially general instructions which would be valid for a considerable duration.[113]

The application of psychological weapons such as demoralization and disorganization were central to Hitler's theory of warfare. Paralyzing the military nerve-system of the enemy was seen by him as a more efficient *modus operandi* than simply using brute force in

---

[107] Simpkin, *Race to the Swift*, pp. 221, 260.
[108] Adolf Hitler, '"Die deutsche Not und unser Weg". Rede auf NSDAP-Versammlung in Memmingen' (18 January 1928), in *idem*, *RSA*, vol. II, part 2, p. 628.
[109] Hitler, *Monologe*, p. 364 (25 August 1942).
[110] Ibid., p. 392 (6 September 1942).
[111] Ibid., p. 365 (26 August 1942).
[112] Cited in Hitler, *Tischgespräche*, p. 306. Göring was President of the Reichstag (from 30 August 1932), Minister for Aviation (from 27 April 1933) and Commander-in-Chief of the Luftwaffe (from 1 June 1935). He was also officially confirmed as Hitler's successor by decree one week after the beginning of the Russian campaign (29 June 1941) until he was expelled from the NSDAP and removed from all his posts by Hitler on 23 April 1945. The expression *va banque* (from French, meaning 'go bank') comes from the gambling card game baccarat, where a player affirms his intention to bet against the banker's whole stake.
[113] As noted in the introduction to Hitler, *War Directives*, p. 24. See Chapter 6 below for a discussion of the directives which were issued in 1942 relating to operations against the Soviet Union.

potentially bloody frontal attacks.[114] This would then lead to the ultimate destruction of the enemy forces at a later point. Three days before the attack on Poland, for instance, he told his officers that the operation should not merely have the occupation of land as its goal; rather, the Polish Army was to be destroyed physically.[115] He did not ignore Clausewitz's emphasis on destruction of the enemy's armed forces, though his method more often than not reflected the indirect approach as championed by the Reichswehr via the military theorists Sun Tzu and Jomini.[116]

Perhaps Hitler's most famous intervention on the Eastern Front was his *Haltebefehl* ('stand-fast order') of 16 December 1941. In desperation due to the ongoing crisis along the entire front, he instructed the troops to 'fanatical resistance' in their positions. He argued that large-scale withdrawals to unimproved lines in the rear and without mobility and winter equipment would lead to the direst of consequences.[117] This drastic action was welcomed by certain commanders at the front. Once the worst of the travails had been overcome, Army Group South (Field Marshal Walter von Reichenau) noted that Hitler's insistence that the wings on either side of a breakthrough should stand firm and not retreat had fully paid off in the recent battles on the northern flank of 6th Army (General Friedrich Paulus). The report argued that the enemy divided his forces, wore himself out and did not attain freedom of movement. Even small attacks in his flank and rear had proved to be effective. The Russians primarily tried to take villages during their advances in order to gain accommodation, so defending towns and villages had therefore been the 'backbone' of the defence.[118] It has been suggested that the commanders were generally in agreement with Hitler's actions during this trying period, whereas historians have argued that they led to the heavy casualties and material losses which were later incurred.[119] However, Hitler's decision was likely the best

---

[114] Basil Liddell Hart, *Strategy: The Indirect Approach* (London, 1967 [1954]), p. 235.
[115] Cited in Karl Brandt, 'Germany's Vulnerable Spot: Transportation', *Foreign Affairs*, 21 (2) (Jan., 1943), p. 222.
[116] Baron Antoine-Henri de Jomini was a Swiss-born strategic theorist and general, who served in the French and Russian armies. He is best known for his work entitled *Summary of the Art of War*, first published in 1837-8.
[117] Percy E. Schramm (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940-1945*, vol. 1: *1. August 1940 – 31. Dezember 1941*, ed. Hans-Adolf Jacobsen (Frankfurt/Main, 1965), p. 1083. Hereafter known as *KTB OKW*, vol. 1.
[118] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 1.-15.1.42 (Anlagen)' (6 January 1942), BA-MA RH 19-I/235, fol. 93. Reichenau commanded Army Group South from 1 December 1941 until 12 January 1942. Paulus commanded 6th Army from 30 December 1941 until his surrender at Stalingrad on 31 January 1943.
[119] Klaus Reinhardt, *Moscow – The Turning Point: The Failure of Hitler's Strategy in the Winter of 1941-42* (Oxford, 1992), pp. 306-7.

solution in the circumstances: a retreat in the face of such strong enemy pressure and in such inclement weather would have invited disaster.[120]

Many commentators have argued that Hitler was particularly adverse to reports from the front which were deemed to contain negative, unpalatable information.[121] At least in the initial stages of the war, however, this was most certainly not the case. During the first winter in Russia he issued an order which stated that every report was a means of command and could consequently initiate decisive resolutions. Each one, therefore, was to be composed with the principles of unconditional truthfulness and sense of duty in mind. They were to be drafted in a manner which gave the higher command a true picture of the situation or an unambiguous answer to a query. It was dangerous to exaggerate or to avoid mentioning unpleasant truths: reporting errors and unfulfilled requests in a truthful manner, he asserted, redounded to the honour of every soldier. Finally, every superior had the duty to check dubious reports and to observe the above principles with relentless rigorousness. Conversely, subordinates were to be aware that reports were only to be submitted where they were actually required.[122] Later the following year he once again addressed the issue of reporting in another guideline for troop leaders. He repeated his dissatisfaction at the way in which certain dispatches contained biased information for reasons of self-promotion, cowardice, or others. These included so-called *Zweckmeldungen* (literally 'reports with a specific purpose in mind'), which were designed to influence a higher command in a particular direction. If, for instance, a headquarters had to give up a particular unit, a report would suddenly appear which suggested that there was an imminent threat of enemy action, yet if the same staff wanted to withdraw the unit itself for some reason, this 'danger' would then have passed. *Beschönigungsmeldungen* ('extenuating reports') were just as harmful and were usually the result of timidity: the leader in question would be fearful of supplying exact information on material losses and so on. He might also report a minor success as greater than it actually was purely out of conceit. Worst of all were 'non-reports' (*Nicht-Meldungen*), such as withholding information on casualties, because the leadership could then make no decisions at all. Reports had to be correct, he insisted, even if they might bring disadvantages for the staff in question.[123]

---

[120] Citino, *Death of the Wehrmacht*, p. 47.
[121] See, for example, Gehlen, *Dienst*, p. 23, and Kahn, *Hitler's Spies*, p. 542.
[122] 'Grundsätzlicher Befehl über das Meldewesen in der Wehrmacht' (26 December 1941), BA-MA RH 19-III/770, fol. 21-2.
[123] 'Grundlegender Befehl Nr. 6 (Op Abt) (Aufrichtigkeit und Anständigkeit der Führung)' (7 November 1942), BA-MA RH 2/430, fol. 7-8; 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 1.-15.1.42 (Anlagen)' (6 January 1942), BA-MA RH 19-I/235, fol. 112.

On 6 January 1942 some of Hitler's important thoughts on command were issued to the chiefs of staff of the army groups on the Eastern Front. Command, he maintained, had to be implemented more strictly by the higher staffs. The principle of issuing an order and then leaving complete freedom of action to subordinates to carry it out had on various occasions led to a situation where the intentions of the staff issuing the instructions had been jeopardized and grave disadvantages for the front as a whole had arisen. It was important that higher commands did not shy away from intervening in order to ensure that the desired aim was achieved. After all, he added, it was they who took responsibility for success. The duty of soldierly obedience left no room for the sensitivities of subordinate commands; rather, it demanded the promptest and most efficient execution of orders in the spirit intended by the persons issuing them.[124] It was also important – especially under the present fighting conditions – that higher commands concerned themselves with the details of the tactical situation; only when they acquainted themselves with such particulars would it be possible to intervene at the right moment and not succumb to dependence on their subordinates. It could therefore be expected that the OKH would ask an increased number of questions of a tactical nature of commanders in order to be able to supply Hitler in his position as Commander-in-Chief of the Army with the necessary information.[125] Later that year he insisted that the type of request or plea to subordinates in official commands, which had been used frequently up to that point, was to be replaced by the sharp form of the military order.[126] It is a misunderstanding to suggest that Hitler was interfering at the tactical level at this point of the war: rather, he was attempting to retain as much control in the hands of the commanders-in-chief of the army groups and armies so that the general situation could be brought into perspective in a holistic manner and thus controlled more readily by both himself and the General Staff.

Towards the end of 1942, with the prospect of another winter in Russia looming, Hitler issued a renewed order on the subject of defence. The main line of resistance (*Hauptkampflinie*, HKL) was to be held at all costs, meaning that it had to be retained after every battle even if given up temporarily. A unit which failed to do so, he declared, must view such a non-fulfilment of its duty as an ignominy. He pointed to the defensive successes of the divisions south of Lake Il'men' (Army Group North, 16th Army) as an example to the

---

[124] Cited in Ernst Klink, 'Heer und Kriegsmarine', in *DRZW*, vol. 4, p. 618.
[125] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 1.-15.1.42 (Anlagen)' (6 January 1942), BA-MA RH 19-I/235, fol. 112-3.
[126] Telex from 1st Panzer Army Ia to LIII Corps, XXXX Panzer Corps and LII Corps, BA-MA RH 21-1/423, fol. 94 (6 September 1942).

rest. It was important to maintain a continuous HKL, even if this meant that it would be relatively thinly manned. He pointed to the example of the First World War, when deep defensive lines with strongpoints had been the general German defensive strategy only from 1917 onwards as a response to the enemy's superiority in men and *matériel*. However, he noted that this disparity had been vastly greater than anything presently experienced on the Eastern Front. He conceded that the current opponent now had better tanks than before; however, so too did the Wehrmacht, in addition to the best anti-tank guns in the world. He suggested that the best way to deal with an enemy attack now – as in the last war – was to engage him with artillery and concerted air attacks during his preparations. It was difficult to locate his forces once he was on the move, so the best method of countering hostile operations was to focus fire when the Russians were still in their concentration areas.[127]

Breakthroughs could not be managed by simply isolating enemy units. Only immediate counterattacks – even just with weak forces – had any chance of success as they denied the Russians a chance to settle into defensive positions. The flanks on either side of the advancing enemy units were not to be prematurely withdrawn out of tactical considerations, but were instead to be held at all costs. Hitler correctly pointed to the fact that any withdrawal necessarily resulted in the expansion of the breakthrough. The key to this method of defence, he argued, was that reserves were to be positioned close to the front. He did admit, however, that this might not always be possible because of shortages in personnel. Nevertheless, this defensive philosophy necessitated a thorough elucidation of the enemy situation, careful observation of his conduct, and intuitive command. Lessons from the previous winter had shown that where reserves had to be brought forward from far in the rear, the situation could not always be rectified in good time.[128] The concept of having as much strength as far forward as possible was reiterated by the new Chief of Staff of the Army, General Kurt Zeitzler. He pointed to the example of a German division in a bridgehead deemed sufficiently deep to allow the mass of the artillery to be deployed there which had been nevertheless overrun, despite the fact that there had been knowledge of an impending enemy attack since the previous day. Only two batteries had been sited in the bridgehead, with the remaining twelve deployed further to the rear.[129]

---

[127] 'Führerbefehl vom 8. September 1942 über 'grundsätzliche Aufgaben der Verteidigung'', in *KTB OKW*, vol. 2, pp. 1292-3.
[128] Ibid., p. 1294.
[129] 'Grundlegende Bemerkungen Nr. 1 für die Herren Chefs der Heeresgruppen, Armeen, Armeekorps und Ia der Divisionen' (8 October 1942), BA-MA RH 20-6/1002, fol. 5. Zeitzler succeeded Halder on 24 September 1942 and remained in this post until 21 July 1944 (though from 1 July, having declared himself ill, he was represented by the Chief of Operations, Lieutenant-General Adolf Heusinger).

Hitler conceded that material losses during enemy breakthroughs were grave. However, giving up land which had immovable artillery batteries or important supply depots too easily was out of the question. In both cases, he warned, heavy weapons fell undestroyed into enemy hands. Therefore, a battery which had remained in position for months had to become a strongpoint, protected by anti-tank ditches, mines and so on. Then, when the last round had been fired, its crew was to fight with their side arms as their forefathers had done in the bygone years of 'proper German soldiery'. Finally, if no relieving force could reach them the gun was to be destroyed. Interestingly, Hitler argued that these positions were to be supplied with as much ammunition as possible from the outset so that they did not have to surrender after only a two-hour engagement while an ammunition dump five kilometres in the rear had fallen into enemy hands because of a general retreat.[130]

In the same order, Hitler noted that he felt more and more compelled to intervene in order to secure successful measures through the supreme command. This situation, he argued, was similar to what had happened and was 'necessary' from 1916 onwards and which alone had made it possible for the Imperial Army to hold the Western Front. It was therefore imperative that when the enemy began major offensive operations a detailed map showing the German front line, troop dispositions (especially artillery), all captured weapons, and the provision of munitions was sent on the next available courier plane to his headquarters. In defence, a crucial element for success was knowledge of the number and position of artillery batteries, tanks and assault guns, and available mines. This, he stressed, was not to be regarded as merely a trivial matter (*Nebensächlichkeit*).[131]

He further suggested that so-called operational retreats did not improve the situation unless they were to well-prepared defensive positions in the rear; in fact, he argued, they only exacerbated matters. Enemy strength was not reduced, while that of the German troops did not increase. Often, the front line to be held actually got longer, but even if it ended up shorter than it was before the engagement this was also favourable for the enemy. The combat power of both sides remained equal, yet the opponent now had the added advantage of bloodless victories. The only way for a defender to fight a numerically superior enemy was – and always had been – to remain in improved positions and force him to gradually bleed to death. Hitler therefore warned that no army group or army commander was to make tactical withdrawals without his express permission. Too often in this conflict, he continued, territory

[130] 'Führerbefehl vom 8. September 1942 über 'grundsätzliche Aufgaben der Verteidigung'', in *KTB OKW*, vol. 2, p. 1296.
[131] Ibid.

had been relinquished which in the Great War would only have been evacuated after a three-month battle. The watchword for the front must now be 'dig and dig again', especially when the ground was still soft, so that the crisis of the previous year could be avoided. Divisions which built poor positions and subsequently retreated without being fully decimated would see their members barred from receiving promotions or decorations, whereas those which fought to the last man would be made known to the German people and would find the honour in history which they deserved.[132]

In Basic Order No. 4 Hitler suggested that while some commanders made use of certain aids and makeshift measures in a really excellent manner, others did not use them at all. With respect to improvements in weapon technology, he pointed to the fact that much had recently been achieved. Many novel and valuable ideas were presently undergoing trials, and it was up to every troop commander to ensure that he was *au fait* with weapons innovations: only then could they be exploited to the fullest. He suggested, for instance, that some officers were masters at the art of mine-laying. They did this in a manner which ensured that the enemy was forced to attack either through a minefield or via channels which were completely dominated by German weapons. Other commanders, however, let their engineers and specialists do the work and had them send an occasional report later. Each troop leader had to understand that such disparate domains as command and control, deployment and effectiveness of weapons (including mines), and the erection of field fortifications were actually a unified whole. This could mean the difference between a great success for the expert and a major setback for the incompetent under the same conditions.[133] The following month, in an addendum to the above order, Hitler suggested that it was better to lay a vast number of mines in great depth at one place in order to completely contaminate such a zone than to disperse them weakly over many areas.[134] These strong, deep minefields were to be used where the effect of German anti-tank weapons was limited by terrain.[135]

His interest in command was not solely confined to the higher levels. On 19 January 1943 – as the battle at Stalingrad neared its conclusion – Hitler issued an order which suggested that, as the current situation showed, proper selection of leaders was one of the most important preconditions for victory. He noted that battle groups of every strength and composition had fought successfully against vastly superior numbers in the most difficult of

---

[132] Ibid., pp. 1296-7.
[133] 'Grundlegender Befehl Nr. 4 (Aushilfsmittel der Führung)' (16 October 1942), BA-MA RH 2/940, fol. 30-1.
[134] '1. Ergänzung zum Grundlegenden Befehl Nr. 4 (Ziff. 5)' (3 November 1942), BA-MA RH 19-III/563, fol. 29.
[135] BA-MA RH 19-III/770, fol. 103.

situations if an energetic and tough man ready for action was in command and knew how to assert his will. Such outstanding and indomitable leaders – from private soldier to general – often only came to the attention of their superiors when critical situations needed to be mastered because their high aptitude might not have been previously recognized. Hitler ordered that such personalities must not return to obscurity once the battles had passed; instead, they were to be seized and – according to their achievements – promptly promoted irrespective of age or rank.[136]

Air Warfare

Hitler correctly comprehended that the 'doomsday theorists' who foresaw a future where aircraft attacking civilian populations and centres of industry would become the principal arbiter in war had been proved wrong.[137] He initially supported the notion of strategic bombing as a terror weapon to strike at imprudent enemies and as a means of disrupting their economies; however, this initial enthusiasm later turned to scepticism when he witnessed the failure due to a lack of accuracy of the incessant bombing of London and other cities to disrupt the British munitions industry.[138] Indeed, he had intended up to at least 1943 to overrun areas which would be of economic benefit to Germany if they were not reduced to piles of rubble.[139]

Nevertheless, he was willing to defend the position of the Luftwaffe as an independent arm of the service against the various attempts to divide it up, particularly because he did not want it to come under the influence of the old Prussian institutions.[140] Seeckt, for example, had insisted that officers must show that they were 'air minded' by considering the operational use of aircraft in all plans and exercises.[141] However, even *Truppenführung* viewed the air forces as normally subordinate to the army commander and not an independent

[136] Ibid., fol. 120-1.
[137] John Mueller, 'Changing Attitudes towards War: The Impact of the First World War', *British Journal of Political Science*, 21 (1) (Jan., 1991), pp. 18-19.
[138] R. J. Overy, 'Hitler and Air Strategy', *Journal of Contemporary History*, 15 (3) (Jul. 1980), pp. 410, 412. This strategic bombing offensive (which came to be known as The Blitz) lasted from 7 September 1940 until the following May, when large numbers of German aircraft were withdrawn eastward in preparation for the invasion of the Soviet Union the following month.
[139] David MacIsaac, 'Voices from the Central Blue: The Air Power Theorists', in Peter Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Oxford, 1986), p. 637.
[140] Overy, 'Hitler and Air Strategy', p. 407.
[141] James S. Corum, 'A Comprehensive Approach to Change: Reform in the German Army in the Interwar Period', in Harold R. Winton and David R. Mets (eds.), *The Challenge of Change: Military Institutions and New Realities, 1918-1941* (Lincoln, NE, 2000), p. 52.

force. Fighter units, for example, were to be attached to army commands, just as they had been during the First World War.[142]

Hitler certainly welcomed the notion of close cooperation between the services, even if he remained wedded to the idea that the air arm should maintain its autonomous status. On 5 March 1942 a summary of his most recent thoughts on the conduct of battle on the Eastern Front was issued. He suggested that attacks launched prematurely by Army and Luftwaffe units which had been insufficiently massed had led to many failures in the past, and trying to check an enemy breakthrough everywhere only led to the dissipation of ground and air formations and their subsequent mauling. The Luftwaffe was to avoid supporting less important positions but was instead to deploy to threatened areas of the defence. Its influence would be decisive for the preparation and conduct of attacks because of the shortage of artillery in many sectors. He suggested that planned ground operations should be postponed if attrition of the enemy through concentrated air attacks could not be sufficiently assured or if the weather situation could not guarantee dependable support by the Luftwaffe. However, he conceded that the Army could not expect a great deal of assistance during the muddy season due to the current supply situation and the number of aircraft available. This had to be considered at the beginning of operations which might possibly extend into the start of the *rasputitsa*.[143]

The following month Hitler held a conference with the High Command of the Air Force (*Oberkommando der Luftwaffe*, OKL) on the intended operational use and deployment of aircraft for Operation Blau. Three days later the OKW noted his declaration that the Luftwaffe alone would be responsible for the successful conclusion of this offensive, and on the following day he insisted on the establishment of closer cooperation between the commands of the army groups and the air fleets which supported them. His interest in technical details also led him to underscore the need for vast quantities of SD 2 anti-personnel cluster bombs and to order the prompt supply of these weapons to the bomber units of Luftflotte 4 (Colonel-General Wolfram Freiherr von Richthofen). He also stressed the need for exceptionally heavy bombs which would be capable of breaching the enemy defences at Kerch' and Sevastopol' during the planned preliminary operations in the Crimea.[144]

---

[142] James S. Corum, *The Luftwaffe: Creating the Operational Air War, 1918-1940* (Lawrence, KS, 1997), p. 128.
[143] BA-MA RW 4/678, fol. 11-12.
[144] Bergström, *Stalingrad*, p. 25 (17 April 1942). An SD (*Sprengbombe Dickwandig*) 2 was an air-dropped, submunitions bomb. It was also known as the 'Butterfly Bomb' because of its appearance and was used extensively by the Luftwaffe throughout the war. Luftflotte (Air Fleet) 4 was commanded by future Field Marshal Richthofen from 4 July 1942 until 4 September 1943.

Hitler was instrumental in the rise of the air arm in terms of the commanders which were chosen and the resources which they subsequently received. It was of great benefit, for example, that the head of the Luftwaffe (Göring) could use his closeness to Hitler to ensure that plenty of money was spent on the construction programme. However, the task confronting the men who would later become its leaders was one of the most challenging that any had to face in the twentieth century: namely, to quickly create a major air force practically from scratch.[145] With this in mind, Hitler's first defence minister, Field Marshal Werner von Blomberg, transferred officers with General Staff training to the Luftwaffe.[146] Approximately two hundred men were redeployed, all of whom were excellent leaders with a sound knowledge of fundamental Army requirements, and included such luminaries as Walther Wever, Hans-Jürgen Stumpff (both future Chiefs of Staff) and Albert Kesselring (later field marshal and commander-in-chief of all German forces in the Western Mediterranean theatre).[147] Their initial lack of technical knowledge regarding aviation was more than redeemed by their organizational abilities.

Hitler believed that the Air Force was his most effective strategic weapon and that Germany would not have been able to face down its enemies in the first half of the war without an undivided Luftwaffe.[148] It was never the 'handmaiden' of the Army as many postwar historians were wont to term it. Its leaders realized that air power involved a wide-ranging spectrum of disparate functions which were as important as strategic bombing in their own right. They further recognized – unlike their counterparts in Britain and the United States – its equality with the traditional arms of the service in operational terms. The Germans felt that factors such as politics, strategy and geography would determine best how air power should be used. The position of their country in central Europe, for example, proffered an opportunity to strike at enemy communications and was therefore an influence on the development of the supporting role for the Army. Similarly, the ban on military aircraft contained in the Treaty of Versailles and the fact that Germany's civil aviation did not cover the same distances as flown in the United States or the British Empire denied its

---

[145] Corum, *Luftwaffe*, p. 124.
[146] *Idem*, 'Comprehensive Approach', p. 53. Blomberg held this post from 30 January 1933 until he was forced to resign on 27 January 1938. He became the first field marshal of the Wehrmacht on 20 April 1936.
[147] William R. Muscha, *Strategic Airpower Elements in Interwar German Air Force Doctrine* (Fort Leavenworth, KS, 2001), p. 56. Wever was the first Chief of Staff of the Luftwaffe, serving in this post from 1 March 1935 until his death in an air accident on 3 June 1936. Stumpff held the position from 1 June 1937 until 31 January 1939 and subsequently several field commands. Kesselring was OB Süd/Südwest from 2 December 1941 until 11 March 1945 (with brief intermissions), when he was appointed OB West.
[148] Overy, 'Hitler and Air Strategy', p. 407.

engineers the opportunity to work on the types of problems encountered by aircraft engines involved in long-range flight.[149]

The American signal corps officer and future airman, Brigadier-General William Mitchell, championed the use of many different types of aircraft under the central control of an autonomous air force which was independent of the army. His contemporary, the Italian Giulio Douhet, believed that the bomber alone and its strategic use against enemy centres of industry and population was the most important thing. However, the successes achieved with the tactical employment of aircraft in support of ground forces during the Second World War proved the correctness of the theories of the former; strategic bombing, though particularly successful in certain circumstances, never produced results as convincing as theory suggested it would.[150]

Naval Warfare

Hitler's denunciations for the loss of the Great War were not confined to the commanders of the Imperial Army. He also bemoaned what he perceived as the incompetence, thoughtlessness and irresponsibility of the leadership of the High Seas Fleet (*Hochseeflotte*) of the German Imperial Navy (*Kaiserliche Marine*) during the conflict.[151] On 6 January 1943 he lectured the Commander-in-Chief of the Navy of the Third Reich (*Kriegsmarine*), Grand Admiral Erich Raeder, on the value of the ocean-going ('blue-water') fleet proposed by the American naval officer and historian, Rear Admiral Alfred Thayer Mahan. He suggested that the role of the *Hochseeflotte* during the First World War had been 'insignificant'. The leaders of the Imperial Navy had lacked the will to deploy it against the wishes of Kaiser Wilhelm II and used the latter's hesitancy as an invalid excuse for their own lack of initiative. Its most serious iniquity in Hitler's eyes, however, was that it had remained idle in its ports while the

[149] Williamson Murray, *War in the Air, 1914-45* (London, 1999), pp. 98, 100.

[150] This is the view of the American military strategist Bernard Brodie, cited in MacIsaac, 'Voices from the Central Blue', pp. 635-6. The debate over the merits or otherwise of strategic bombing during the war is ongoing. William (Billy) Mitchell is regarded as the father of the United States Air Force. He served in the army until 1917, when he transferred to the air arm. By the end of the First World War he was in charge of its operations on the Western Front. Douhet, a general and airman who was a more original theorist than Mitchell, commanded the first air unit of the Italian Army, which later earned the distinction of practising the first aerial bombardment in history (during the Italo-Turkish War of 1911-12 in Libya). He is most famous for his work entitled *The Command of the Air*, first published in 1921.

[151] Adolf Hitler, 'Schreiben an Magnus von Levetzow' (25 June 1931), in *idem*, *RSA*, vol. IV, part 1, p. 413. Rear Admiral Magnus von Levetzow was Chief of Staff of the newly formed Naval Warfare Command (*Seekriegsleitung*) from 28 August 1918 until the end of the war. He later served as a member of parliament for the NSDAP in 1932-3.

Army was being bled to death on the Western Front. Now, almost thirty years later, the larger ships of the Navy were once again proving to be a disappointment; only the submarines were demonstrating any decisiveness. He believed that the battleship in the navy had gone the way of the cavalry in the army. It was time to dismantle them, he urged, and use their guns as shore batteries.[152]

Both Wilhelm II and Hitler were devotees of naval technology, had extensive knowledge of vessels of national and international provenance, and emphatically developed plans for future warships. This is known for the former, but less so for the latter.[153] For example, Hitler drew attention to what he deemed to be the general mistake in German warship design: namely, that the forecastle (forward part of the ship) was being constructed so low that it would often cut below the waves. When he pointed this out to his naval adjutant, Lieutenant-Commander Karl-Jesko von Puttkamer, on being given a model of the battleship *Scharnhorst* by the Navy on the occasion of his forty-eighth birthday, this had to be redesigned.[154]

He was capable of disconcerting even experienced naval officers with his knowledge. In August 1931, for instance, he challenged Levetzow as to why German small cruisers had nine 15cm guns as their main armament and not six 21cm guns as the Japanese had on their *Aoba*-class vessels. The nonplussed seaman was obliged to seek the answer from Raeder. Such enquiries evinced an issue which had always been of concern to Hitler: since the early 1920s he had spoken of the need to build ships with the strongest possible main artillery in order to be able to outclass any potential enemy during battle. In essence, he promoted the construction of the largest and most powerful battleships for any expanded navy of the future.[155]

This was later manifest in his decision to prioritize the construction of battleships as part of the overall projected increase in naval strength announced on 27 January 1939 known

---

[152] Holger H. Herwig, 'The Failure of German Sea Power, 1914-1945: Mahan, Tirpitz, and Raeder Reconsidered', *The International History Review*, 10 (1) (Feb., 1988), p. 68. Mahan's most famous book, *The Influence of Sea Power Upon History, 1660–1783* (1890), was a seminal study of maritime power and strategy. Wilhelm II was German Emperor and King of Prussia from 15 June 1888 until his abdication on 9 November 1918.

[153] Jost Dülffer, 'Wilhelm II. und Adolf Hitler: Ein Vergleich ihrer Marinekonzeption', in Jürgen Elvert, Jürgen Jensen and Michael Salewski (eds.), *Kiel, die Deutschen und die See* (Stuttgart, 1992), p. 52.

[154] Irving, *Hitler's War*, p. 266. Future Rear Admiral Puttkamer served as Hitler's adjutant from 1 July 1935 until 3 July 1938 and again from 1 October 1939 until 30 April 1945. He suffered minor injuries in the assassination attempt on Hitler on 20 July 1944.

[155] Dülffer, 'Wilhelm II. und Adolf Hitler', p. 53.

as the Z-Plan.[156] The results of studies in summer 1938 initiated by Raeder showed that most officers believed that the Kriegsmarine – like all contemporary navies – needed the heaviest ships for ocean warfare. The main battleship with its heavy artillery was viewed as the most important weapon which a naval power could possess, though the new dimension of maritime warfare emerging with the deployment of naval air forces was only inadequately understood.[157] Hitler's plan for the *H*-class battleship with a displacement of over 100,000 tonnes was no mere hobby. Behind the detailed knowledge on technical data for warships were naval-strategic and therefore political consequences.[158] However, although he always favoured strong battleships from a technological point of view, up to 1934 he preached restraint with respect to naval strategy so that Germany would not become embroiled in rivalry with Great Britain.[159]

Hitler was determined that the Kriegsmarine in the Russian theatre would not lie idle as its predecessor had done in the Great War. As German troops approached the Caucasus, he was informed by the Commander-in-Chief of Army Group A (Field Marshal Wilhelm List) of the enemy tonnage – often up to 30,000 tonnes – which continuously lay off the coast of Tuapse but which was not being engaged successfully enough by German E-boats. Hitler therefore demanded the ruthless deployment of all German combat capabilities against such targets.[160] He was also aware of the danger posed by the strong forces of the Red Navy in the region and the threat of enemy action directed behind German lines. On 6 January 1942, for instance, he ordered that 73rd Infantry Division (General Rudolf von Bünau) was to march in such a way so as to be able to counter any landing which might take place on the northern shore of the Sea of Azov. The following day Army Group South assured him that coastal protection by this division was guaranteed.[161] Even minor details did not escape his notice. On 31 May 1941 he issued an order expressly stating that life jackets had to be provided

---

[156] The Z-Plan envisioned the expansion of the Kriegsmarine to such an extent that it would eventually counterbalance the British Royal Navy by 1948. For a discussion of its origins and history, see Bernd Stegemann, 'Der zweite Anlauf zur Seemacht', in Klaus A. Maier et al., *DRZW*, vol. 2: *Die Errichtung der Hegemonie auf dem europäischen Kontinent* (Stuttgart, 1979), pp. 70-6.

[157] Werner Rahn, 'Strategische Optionen und Erfahrungen der deutschen Marineführung 1914 bis 1944: Zu den Chancen und Grenzen einer mitteleuropäischen Kontinentalmacht gegen Seemächte', in Thoß and Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg*, p. 230.

[158] Dülffer, 'Wilhelm II. und Adolf Hitler', pp. 53-4.

[159] Adolf Hitler, *RSA*, vol. V: *Von der Reichspräsidentenwahl bis zur Machtergreifung, April 1932 – Januar 1933*, part 2: *Oktober 1932 – Januar 1933*, eds. Christian Hartmann and Klaus A. Lankheit (Munich, 1998), p. 54 (note 64).

[160] 'Kriegstagebuch des Marine-Gruppenkommandos Süd für die Zeit vom 1.-15. September 1942' (1 September 1942), BA-MA RM 35-III/35, fol. 3. An E-boat ('enemy boat') was a fast attack craft of the Kriegsmarine. The Germans used the term *S-Boot* (from *Schnellboot*, 'fast boat').

[161] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 1.-15.1.42 (Anlagen)', BA-MA RH 19-I/235, fol. 81, 82. Bünau commanded this division from 1 November 1941 until 7 September 1943.

where available for all troop transports by sea or on aircraft which had to fly over stretches of water.[162]

The creator of the German High Seas Fleet, Grand Admiral Alfred von Tirpitz, always favoured the concept of the 'battlefleet encounter' as envisaged by Mahan, and was dismissive of the significance of *guerre de course* (maritime commercial warfare). He generally refused to support the construction of submarines, which could have had a devastating impact on the economy of Great Britain had they been available in greater numbers. Raeder – a pupil of Tirpitz – committed the same errors as his predecessor. Furthermore, neither attempted to challenge their concepts of strategy and operations and to align them with the actual conditions of the wars which they fought. Given the unpredictability of war, this should have been essential if the national policies of the time were to have any success.[163] Hitler, on the other hand, was firmly convinced of the decisiveness of submarines for the successful outcome of the Second World War.[164]

Even with the occupation of Norway and the subsequent use of its ports, the situation which the Kriegsmarine found itself in did not inspire much optimism. According to Mahan, effective sea power could only ever be achieved with a combination of a strong fleet *and* a good position: the latter alone was not sufficient. However, a nation like Germany which was effectively a land power would always devote more resources to its army and air force. In the struggle for what the political geographers Halford Mackinder and Karl Haushofer termed the 'Heartland' of Eurasia, the influence of sea power was therefore negligible.[165] Mahan also noted that a nation whose geographical position did not force it to defend borders or to seek to expand its territory via land (e.g. Britain) had a distinct advantage in terms of the projection of sea power over a country which had at least one continental boundary (e.g. France or the Netherlands).[166] The theorists had decreed that it would be extremely difficult –

---

[162] 'Fernschreiben', BA-MA RH 19-III/770, fol. 15.

[163] Paul Kennedy, 'The Influence and the Limitations of Sea Power', *The International History Review*, 10 (1) (Feb., 1988), pp. 13, 14. Tirpitz served as Secretary of State of the Imperial Naval Office (*Reichsmarineamt*) from 15 June 1897 until his resignation on 15 March 1916. Raeder was head of the Kriegsmarine from 1 October 1928 until 31 January 1943.

[164] 'Niederschrift über die Besprechung beim Führer in der Reichskanzlei am Montag dem 28.9.1942 1630 bis 1830 Uhr' (28 September 1942), BA-MA RM 7/96, fol. 174.

[165] Kennedy, 'Influence and Limitations', pp. 13-14. Mackinder was an English geographer who, in a paper entitled 'The Geographical Pivot of History' published in 1904, expounded the theory that control of the plains stretching from western Russia to Asia would eventually lead to world hegemony. Haushofer, a general and geopolitician, asserted that an alliance between Germany, Russia and Japan would be unbeatable in the face of maritime powers and was therefore opposed to the German invasion of the Soviet Union in 1941: John R. Brinkerhoff, 'Military Geography', in Franklin D. Margiotta (ed.), *Brassey's Encyclopedia of Land Forces and Warfare* (London, 2000 [1996]), p. 438.

[166] From *Influence of Sea Power*, in David Jablonsky (ed.), *Roots of Strategy*, vol. 4 (Mechanicsburg, PA, 1999), p. 82.

if not outright impossible – for Germany to wage a successful war on both land and sea. Thus, whereas Wilhelm II had represented the quest for the status of a maritime world power for his country, Hitler eschewed the colonial seaborne ambitions of old in favour of using his army to acquire land and *Lebensraum* to the detriment of Germany's eastern neighbours.[167]

Hitler had a profound interest in every aspect of military life – from the commanders of antiquity and their historical importance to the psychology of the front-line infantryman serving in Russia during the Second World War. It has often been suggested that his reading habits were generally haphazard and adapted to his own needs and prejudices.[168] Yet it is indisputable that his interest in military affairs was genuine and that his conclusions relating to historical events were often shared by many of his contemporaries. His assumptions were often idiosyncratic, but were usually based on either a sound understanding of episodes of historical significance or on his own personal experience of war.[169] His interest in technological matters was pronounced, and he insisted that his commanders should educate themselves about the potential of the weapons at their disposal and other important details as he did himself.

Once Hitler became Commander-in-Chief of the Army he immersed himself in the operational command of the formations fighting in the Soviet Union. It was at this juncture that he began to put his own ideas into practice in earnest, but it was only later in the war that he finally attempted to rid the officer corps of its conservative attitudes and instil it with National Socialist virtues.[170]

---

[167] Dülffer, 'Wilhelm II. und Adolf Hitler', p. 49.
[168] See, for example, Ian Kershaw, *Hitler*, vol. 1: *1889-1936: Hubris* (London, 1998), p. 84.
[169] One exception was his unwavering acceptance and promulgation of the 'stab-in-the-back' legend, which postulated that Germany had not been defeated militarily at the end of the First World War but as a result of civil unrest fomented by Jews and Social Democrats (the so-called 'November Criminals'). In this view, however, he was far from alone.
[170] For the establishment by Hitler of the *Nationalsozialistischer Führungsstab* (National Socialist Leadership Staff) in the OKW on 22 December 1943 and the subsequent work of its officers to indoctrinate the Wehrmacht with the political principles of Nazism, see Gerhard L. Weinberg, 'Adolf Hitler und der NS-Führungsoffizier (NSFO)', *Vierteljahrshefte für Zeitgeschichte*, 12 (4) (Oct., 1964), pp. 443-56.

Chapter 3: The Wehrmacht and Its Allies

Germany should never hope to be able to make world history through alliances with peoples whose military worth is inferior...

Adolf Hitler[1]

Introduction

Germany's geographical position in central Europe meant that it had always owed its status – indeed, its very existence – to the nation's Army.[2] During the first two years of the Second World War Hitler had continued the policy of his predecessors by resting the fate of the nation primarily on the shoulders of his land forces. Barely three weeks into the campaign in Russia, however, he decreed that there would soon be an increase in armament production in favour of the Luftwaffe and Kriegsmarine once the Soviet Union had been eliminated as a continental threat. This decision was then overturned the following January with the campaign in the east destined to enter a second year.[3] At about the same time Hitler ordered the commander of the *Ersatzheer* (Replacement Army), Colonel-General Friedrich Fromm, to build up a passable operational army of mobile troops consisting of 10-12 panzer divisions. Similarly, the infantry divisions of Army Group South were to be brought up to full establishment with respect to personnel and *matériel*. A four-month stock of general provisions was to be guaranteed by 1 May, including ammunition supplies equivalent to six times the total consumption for August 1941 on top of one basic issue.[4] He also initiated a diplomatic campaign in the capital cities of Germany's Eastern Front allies in the hope of persuading these governments to strengthen their commitment to the common cause by increasing troop contingents for the coming offensive.[5]

---

[1] Hitler, *Second Book*, p. 154 (1928).
[2] Dennis E. Showalter, 'Total War for Limited Objectives: An Interpretation of German Grand Strategy', in Paul Kennedy (ed.), *Grand Strategies in War and Peace* (New Haven, CT, 1991), p. 106.
[3] Both decrees – 'Richtlinien für die personelle und materielle Rüstung in Verbindung mit Weisung Nr. 32' (14 July 1941) and 'Rüstung 1942' (10 January 1942) – are cited in Hitler, *'Führer-Erlasse'*, pp. 183-5, 219-21.
[4] Ziemke and Bauer, *Moscow to Stalingrad*, p. 284; 'Denkschrift über materielle und personelle Rüstungslage 1942' (30 January 1942), BA-MA RH 2/429, fol. 172. Fromm held the position of *Chef der Heeresrüstung und Befehlshaber des Ersatzheeres* (Head of Army Armament and Commander of the Replacement Army) from 31 August 1939 until the attempt on Hitler's life on 20 July 1944, when he was arrested and later executed. He was succeeded by Himmler.
[5] For the generally positive effects of this drive (spearheaded by Keitel and Foreign Minister Joachim von Ribbentrop), see Wegner, 'Krieg gegen die Sowjetunion', pp. 816-39. This survey includes Bulgaria (a friendly

On 15 April 1942 Hitler issued a *Führerbefehl* (Führer Order) addressing the theme of the satellite forces which were about to join their German comrades at the front. He suggested that though the allies would be fighting for their own countries and peoples, they would also ultimately be fighting for a German victory. It was important that these troops should be handled with tact as well as political and psychological understanding; however, toughness and strict orders with an appeal to their sense of honour and national pride was also to be used if necessary. The best solution with respect to the order of battle would be to have the satellite formations led by their own commanders, if necessary supported by Wehrmacht troops. German leaders therefore had to deploy all foreign units as far as possible in armies, or at least in corps, and dismemberment of individual divisions was forbidden. As experience had shown, he continued, such formations became over-used while simultaneously receiving fewer and fewer provisions. Supply difficulties, discord, and an abating propensity for battle were the inevitable results. Poor handling, he concluded, could even lead to a situation where the readiness of the satellite armies to take part in the common struggle would be seriously damaged.[6]

On 24 July Hitler noted that the initial issue of *matériel* to the allied armies was fundamentally complete, with remaining items to be delivered on an ongoing basis later on. More demands would be made in due course because of losses during fighting, the arrival of new units, and through unit reorganization. However, Germany's own fraught armaments situation meant that there would be certain preconditions before the allies could be supplied. For the moment the distribution of material was to be urgently adapted to the tasks which had been assigned to the satellite units. The deployment of equipment was then to be monitored accordingly, while the extent and expediency of future requests were to be properly examined. Proposals and recommendations from experiences in the allied armies were to be given due consideration, and double orders and deliveries were to be eliminated. Hitler also ordered an early inquiry into the possibility of supplying the allies with equipment, spare parts and ammunition which had been manufactured to order, or if it was advisable to reorganize the formations with German equipment or booty so that an equalization among the different armies could be realized. Finally, he ordered that reports and proposals from liaison

---

nation with no ground troops on the Eastern Front) and the efforts to recruit volunteers from occupied western European countries.

[6] BA-MA RH 19-III/770, fol. 28-9.

staffs, especially their appraisal of the exigency of requests, would form the basis for any future agreements with the allies for deliveries of *matériel*.[7]

Supply of armaments to the allied and friendly nations continued throughout 1942 and beyond. Towards the end of the year Hitler made it explicitly clear that the Axis armies were to get more deliveries from the Germans, but with certain stipulations. Their requests had to be in line with tactical demands and operational intentions, while neutral countries would only get arms if they were prepared to use them on the side of the Axis powers in the event of an Allied attack. He now ordered that captured stocks were to be used by satellite formations in order to relieve the growing pressure on Germany's own supply, and specified the order in which these goods were to be delivered. The Italian forces on the Dodecanese Islands, on Crete, and on mainland Greece were to be given priority; then came the Bulgarian formations on the Turkish border, along the Thracian coast (in present-day northern Greece), and in Serbia; the Romanian forces on the Don and on the Crimean Peninsula; Italian security forces on the Mediterranean islands of Corsica, Sardinia and Sicily, as well as their 4th Army in southern France; neutral Spain; and, finally, the Hungarian forces on the river Don.[8]

The above information gives some indication of the difficulties which the Wehrmacht faced in terms of shuffling what little resources were available between different allies and theatres. This chapter will examine the state of the German armed forces up to summer 1942 (with emphasis predominantly on the Army) in addition to the military and economic support initiated by Hitler for Germany's principal Axis partners and other friendly nations.

Economic Mobilization for War

The Treaty of Versailles, which had restricted the *Reichswehr* to 100,000 men and prohibited the use of armoured fighting vehicles, demoted the armed forces of post-First World War Germany to little more than the status of a police force. However, the authoritarian governments headed by Heinrich Brüning, Franz von Papen and General Kurt von Schleicher eventually began initiatives towards rearmament, which subsequently became the main priority of the National Socialists as soon as they in turn came to power.[9]

---

[7] 'Materielle Ausstattung der Verbündeten – Erhaltung der Kampfkraft', BA-MA RH 19-III/770, fol. 72, 73.
[8] 'Kriegsgerätlieferungen an die verbündeten und neutralen Staaten' (15 December 1942), BA-MA RM 7/96, fol. 17, 18.
[9] J. Adam Tooze, *Statistics and the German State, 1900-1945: The Making of Modern Economic Knowledge* (Cambridge, 2001), pp. 191-2. Brüning was Chancellor from 28 March 1930 until 30 May 1932. He was

On 1 February 1933, in his first radio broadcast to the nation, Hitler suggested that a worldwide restriction of arms would be welcome as it would enable Germany to forego an increase in its own stockpiles of weaponry. Two days later, however, before a private gathering of military leaders, his attitude was altogether different. He suggested that the nation – particularly its youth – had to be indoctrinated with the notion of struggle if rearmament was to be of any value, and that the rebuilding of the armed forces was to begin at once. Though his idea of aggressive territorial expansion was uncomfortable listening for some present, there is no doubt that they approved of his intention to restore power to the Army, to place it beyond party politics, and to make it a pillar of a remilitarized society. One week later he told his cabinet colleagues that every economic decision in the following five years was to have the restoration of a broad military capability (*Wiederwehrhaftmachung*) as its overriding basis.[10]

Hitler had welcomed advice on financial and economic matters during the initial period of his premiership; some months later, however, this situation had changed.[11] By the time he appointed Göring as Special Commissioner for Foreign Exchange and Raw Materials on 4 April 1936 his instructions were absolutely clear: the future deputy leader was not to concern himself with striking a balance between military and civilian needs, but was to ensure sustained preparation for potential war.[12] Hitler was adamant that Germany would not be unprepared for war as it had been in 1914, despite the reservations of the Minister for Economics, Hjalmar Schacht. Indeed, the latter's objections actually encouraged Hitler to bring the economy further under the influence of the Party.[13]

By May 1936 it was evident that the most problematic obstacle facing the German economy was its access to raw materials, which depended on increasing exports. Only the gold-bloc states, headed by France, were still in recession, which was good from a German perspective because most of the other important economies had fully recovered from the stock market crash of 1929 that had affected the industrialized nations of the West so severely. At this juncture Hitler was determined to acquire land at the expense of Germany's eastern neighbours, even if this meant war (possibly early in the following decade). He

---

succeeded by Papen, a former lieutenant-general, who held the post until succeeded by Schleicher on 3 December.

[10] Cited in Kershaw, *Hitler*, vol. 1, pp. 441-2, 444.

[11] Ibid., p. 437.

[12] Adam Tooze, *The Wages of Destruction: The Making and Breaking of the Nazi Economy* (London, 2006), p. 210.

[13] R. J. Overy, *Goering: The 'Iron Man'* (London, 1984), p. 40. Schacht held this position from 2 August 1934 until 26 November 1937. He also served two terms as President of the Reichsbank.

intended to maximize the chances of victory over any potential enemies through regulated military-economic preparations in conjunction with opportunistic diplomacy.[14] From this point onwards rearmament was therefore sponsored by Hitler personally as state policy, and was fully supported by the political and military leadership of the country.[15]

The main thrust in this direction came three months later when Hitler announced the second Four-Year Plan to the leadership of the country. He was not convinced that the state apparatus bequeathed by the Weimar Republic was capable of preparing Germany for war economically, so the Plan intervened as much in the affairs of the German state as it did in private German business. The programme was driven by a disparate group of military personnel, engineers, corporate executives (mainly from the IG Farben company), Party members and Göring loyalists.[16]

The principal aim of the new economic blueprint was to increase the production of synthetic rubber, oil and iron ore under the auspices of the large state-owned concern created by Hitler known as the Reichswerke Hermann Göring, which had become the third largest corporation in Germany within eighteen months and formed the core of German rearmament and supply of the armed forces in times of peace and conflict. Up to the outbreak of war it expanded its influence to all major areas of policy-making in the economy, which ultimately led to Schacht's resignation. His successor was the malleable Walther Funk, which effectively meant that Göring became the 'dictator' of the German economy from 1938 onwards.[17] Hitler argued that rearmament could be neither too extensive nor too fast, as any failure to bring the armed forces up to parity with its enemies would mean the end of Germany as a political entity and nation. (The economy, he noted, must serve the people, not vice versa.) The memorandum outlining the Four-Year Plan concluded with two mission statements demanding that the Army and economy were to be prepared for war within four years.[18] Whereas Schacht had advocated an increase in consumer demand and exports – the

---

[14] Tooze, *Wages of Destruction*, pp. 205, 206.
[15] R. J. Overy, 'Hitler's War Plans and the German Economy, 1933-1939', in *idem*, *War and Economy in the Third Reich* (Oxford, 1994), p. 188.
[16] Tooze, *Statistics*, p. 221. The Plan was officially made public by Hitler in a speech on 9 September. IG Farben (in full Interessengemeinschaft Farbenindustrie AG) was a cartel comprised of eight chemical manufacturers established on 2 December 1925, which became the biggest concern in Nazi Germany. It was infamous as the patent owner of the pesticide and disinfectant known as Zyklon B, which was later used as a poison gas in certain extermination camps, most notably Auschwitz.
[17] Overy, 'Hitler's War Plans', pp. 186, 187. Funk served as Minister for Economics from 26 November 1937 until the end of the war.
[18] Cited in Tooze, *Wages of Destruction*, pp. 220, 221.

economically sensible option – Göring now demanded preparations for war which would be supported by greater government investment at their expense.[19]

In what later became known as the Hoßbach Conference, Hitler stated before a gathering of the top military leaders and the Foreign Minister of the Reich (Konstantin Freiherr von Neurath) on 5 November 1937 that, *inter alia*, Germany was to be in a position by 1943-5 to increase its territory by force if necessary. He also noted around this time that the completion of the Luftwaffe expansion programme was envisioned for 1942 at the earliest, the naval programme was to be carried out in the decade from 1939 to 1949, and the Army was to have its motorization and training schedules completed by 1943. This would suggest that Hitler did not seek the general conflagration which ultimately erupted in Europe in 1939: on 21 August he ordered a limited economic mobilization due to the imminent war against Poland, but it was only when the Western Allies declared war on 3 September that he initiated the total mobilization of the German economy.[20] He was determined to settle the question of *Lebensraum* by the mid-1940s because he believed that Germany's relative advantage in the arms race would begin to decrease from this point. The Hoßbach Memorandum thus shows his full understanding of the problems inherent in the timetable of rearmament, but also that his ultimate decision for war would depend on the unpredictable evolution of the international political situation.[21]

Previous governments had been responsible for laying the groundwork for the astonishing improvement in the German economy from summer 1933, but the real breakthrough was affected thanks to the manifold economic measures introduced by Hitler, particularly the Four-Year Plan, its emphasis on self-sufficiency in terms of the raw materials needed for armaments, and the notion that an expansionist war was the solution to economic problems.[22] He has often been portrayed as a politician who was removed from the routine workings of the economy and military, but this assumption is inaccurate. He played a pivotal role in the details of individual programmes as well as in the broad policy outlines.[23] From November 1937 until the end of the war, for example, there was not a single time when the allocation of steel was altered significantly without Hitler's consent. The fact that he asserted his authority

---

[19] Overy, *Goering*, pp. 54-5.
[20] Cited in Overy, 'Hitler's War Plans', pp. 195, 196. Hitler's Wehrmacht adjutant, Colonel Friedrich Hoßbach, wrote the minutes of the meeting five days later from his notes, which later became known as the Hoßbach Memorandum (or Protocol). Neurath served as Foreign Minister from 1 June 1932 until 4 February 1938.
[21] Tooze, *Wages of Destruction*, pp. 240-1.
[22] Wilhelm Deist, *The Wehrmacht and German Rearmament* (London, 1981), pp. 109-10, 111.
[23] Overy, 'Hitler's War Plans', p. 193.

over economic policy was a principal feature of his exercise of power, but this has been generally overlooked. His control of the diplomatic, military and industrial aspects of German strategy led to a situation where he could ultimately unhinge the balance of power in Europe by 1939.[24] Neither he nor Göring were perturbed by the cost of programmes of autarky and *ersatz* raw materials or the long-term economic consequences deriving from them. But even Schacht conceded that Hitler had a 'genius for invention', whose often astonishingly simple solutions to ostensibly intractable economic problems were frequently brutal, but nearly always effective.[25]

The available evidence from 1938 onwards convincingly suggests that Hitler built up the armed forces for total war, and not, as many historians suggest, simply for short, limited wars in the hope of reversing the territorial clauses of the Treaty of Versailles and of minimizing the effect of rearmament on the civilian economy. It often goes unnoticed by historians that Hitler was intent on total economic mobilization in the event of war with another great power, irrespective of whether such a conflict would turn out to be short or protracted.[26]

Replacements

A report from Fromm dated 25 January 1942 noted that at the end of the previous year there was a total deficit of 650,000 men in the Wehrmacht (including 300,000 for the Army, 157,000 for the Luftwaffe and 51,000 for the Kriegsmarine). However, the number for the Army alone had soon risen to 935,000 by the time of his memorandum. Fromm noted that these men simply could not be replaced if most of the class of 1922 was not conscripted from February onwards. Notwithstanding this measure, however, there would still be a shortfall of just over 100,000 men (or an average of 500 per division on the Eastern Front). Nevertheless, the OKH was confident that these additional conscripts could be gained from tapping the unskilled industry sector. By 1 August a total of just under 570,000 men could be expected to fill the ranks of the Replacement Army with the inclusion of the class of 1923. In addition, an average of 25,000 convalescents a month would return to service over the course of time. (Approximately one third would arrive immediately, with a total of 285,600 expected back by

[24] Tooze, *Wages of Destruction*, p. 243.
[25] Cited in Alan Bullock, *Hitler: A Study in Tyranny* (London, 1972 [1952]), pp. 359, 381.
[26] Overy, 'Hitler's War Plans', pp. 189-90.

the end of April.[27]) In the short term, the report concluded, the personnel problem could indeed be solved; the long-term situation, however, was as bleak as the current problems regarding equipment.[28] Nevertheless, the military leadership was confident that the rehabilitation of Army Group South in terms of personnel, weapons and equipment (excluding motor vehicles) would be secured by summer.[29]

Additional measures were initiated in order to cover the losses which had resulted from the particularly costly winter battles. At the beginning of the new year the following official expedients were approved by Hitler personally: conscription age was reduced to eighteen and volunteer age to seventeen; Germans living in the occupied areas were brought into the armed forces; reservists who had been released from service after the French campaign were recalled; non-essential personnel in the rearward services were now to be used at the front; personnel over the age of thirty-five (originally exempt from front-line service) would now be called up under certain circumstances; and units in training would be obliged to do sentry duty. Unofficially, units in the east accepted ever-increasing numbers of volunteers from the indigenous population into their employ. The home front also played its part by releasing 370,000 workers who were originally regarded as essential to the war effort at home. Their place was taken by slave labour.[30]

On 22 March the Organization Department of the OKH (OA) informed the Quartermaster-General that approximately 488,000 replacements had been sent to the Eastern Front since the beginning of the year (171,500 to Army Group South). However, even the infantry divisions destined to take part in the coming offensive still had a deficit of 1,000 to 2,000 men (below 1,000 for the motorized divisions). From May an additional 550,000 men would become available from the remainder of the class of 1922, all of the class of 1923, unskilled workers, persons regarded as invaluable to the war effort (*Uk-gestellte*), and ethnic Germans who were citizens of countries other than the Reich (*Volksdeutsche*). All the above would have completed their three-month training regime by the end of July. To this number would be added a further 30,000 convalescents a month, beginning in the same month. The only hindrance was that these men would also be needed in other theatres, with

---

[27] 'Anlagenmappe zur Denkschrift über materielle und personelle Rüstungslage 1942', BA-MA RH 2/429, fol. 233.
[28] 'Denkschrift über materielle und personelle Rüstungslage 1942', BA-MA RH 2/429, fol. 197-9, 202.
[29] 'Auffüllen der Inf.Div. der Heeresgruppe Süd (ohne 2. Armee) auf volle personelle und materielle Stärke: Anlagenmappe zur Denkschrift über materielle und personelle Rüstungslage 1942 (Anlage 25)', BA-MA RH 2/429, fol. 241.
[30] Ready, *Forgotten Axis*, p. 193.

approximately 60,000 intended for units stationed in the west.[31] However, additional officers would be gleaned from the formations there thanks to an OKH directive issued on the same date which ordered a considerable reduction in personnel on army staffs, particularly in the intelligence and quartermaster departments.[32]

At the beginning of April the OA noted that even with a reduction in strength of all infantry divisions in Army Group North and Centre – which would involve reducing each division from nine to six battalions – the *Ostheer* would still have an overall deficit of 280,000 men by October. Nevertheless, the situation permitted the full replacement of personnel in Army Group South, to arrive in a staggered manner according to operational intentions.[33] Later that month the OKH suggested that despite the need to increase the originally intended number of replacements for the other formations further north, Army Group South would still have an estimated 80% of its authorized strength until at least the beginning of October. Indeed, if the present minimum allocations were to be equalized with additional allocations during July, there could be an increase in replacements on the original plan for October.[34]

With a month to go before Blau finally began the OA gave the following indication of the state of Army Group South: each old division would receive approximately 1,000 troops who had undergone two months of training (instead of the usual three, though these new recruits would quickly learn from the experienced veterans); new divisions would not be up to the same standard as the previous year; and approximately 50-60% of the motorized divisions would be fully mobile, with a further 20% being made mobile by the temporary use of logistics vehicles. The majority of units in Army Group South would be capable of wide-ranging offensive operations when finally called upon (albeit with limited mobility). The report concluded that the recent operations at Khar'kov would not have a negative effect on the combat power and mobility of the troops as long as any losses could be kept within 'normal' limits because there would be a continuous supply of replacements to cover them.[35]

By mid-June the OKH reported that the total deficit in terms of personnel at the beginning of the month was 25,000 more than anticipated. Nevertheless, most units in Army Group South were generally only just below authorized strength – notwithstanding the recent

---

[31] 'Beitrag zur Vortragsnotiz über die Auffrischung des Ostheeres', BA-MA RH 2/931b, fol. 136-7.
[32] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 126.
[33] Wegner, 'Krieg gegen die Sowjetunion', p. 779; 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 133.
[34] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 156.
[35] 'Gliederung und Kampfkraft der Verbände und Truppen der H.Gr. Süd bei Beginn der Sommeroperationen 1942' (27 May 1942), BA-MA RH 2/431, fol. 111-12, 116.

spring battles – while 2nd and 6th Army had made 'good progress' with respect to rehabilitation.[36] When Blau finally began two weeks later the Wehrmacht had 2,635,000 men on the Eastern Front (excluding German units serving in Finland or the formations of the satellite nations) compared to 3,300,000 when Barbarossa began a year earlier.[37] However, altogether there were eighty-nine German and Axis divisions in the crucial southern sector – including nine armoured divisions – with a total of almost two million men.[38]

Trucks and Tanks

Supply columns were used to bring ammunition, provisions, weapons, clothing and war material of all types to the front-line troops as well as to take away weapons and equipment, booty, and – in special circumstances – sick or wounded men and animals. Vehicle columns were either small (with a 30-tonne load capacity on ten medium or heavy trucks) or large (60 tonnes on twenty trucks). Columns drawn by animals generally comprised of 40 one- or two-horse field wagons or *panje* carts with a load capacity of 30 tonnes. However, vehicles with no off-road capabilities could only be used on good, firm tracks. Animal-drawn columns, on the other hand, were up to five times faster (25-30 km/h), had an operating radius five to six times wider (150 or more kilometres a day), and needed far fewer personnel. Horse-drawn columns were crucial because of their ability to reach areas which trucks could not. Draught oxen were also used when there was a shortage of horses or in favourable terrain.[39]

At the end of January 1942 Fromm reported that there were 50,000 motor vehicles ready for use in the homeland – a figure which he believed would be enough to fully equip the 15 motorized units, 14 infantry divisions, and the mountain and light divisions which were intended as the operational force in the southern sector.[40] Hitler therefore decreed a short time later that Army Group South should at least have all of its motorized units and most of its infantry formations brought up to authorized strength. The other units would simply have to make do with internal restructuring, meaning that a dearth of certain types of equipment would simply have to be accepted. He also warned that past material losses made

[36] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 217.
[37] 'Überschlägige Kräfteberechnung für das Jahr 1943 und ihre Auswirkung auf die Kampfkraft der Ostfront', BA-MA RH 2/932, fol. 160.
[38] Geoffrey Roberts, *Stalin's Wars: From World War to Cold War, 1939-1953* (New Haven, CT; London, 2006), p. 121.
[39] Frank, *Lastkraftwagen*, pp. 13, 14.
[40] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 77.

it imperative on the honour of each individual soldier never to give up a weapon or piece of equipment without compelling cause and never to lose hardware simply through complacency.[41]

On 28 February the Inspector-General of Motor Vehicles (Jakob Werlin) wrote to Keitel to inform him of a suggestion which he had a recently put forward to Hitler. Werlin had argued that repair workshops in Germany which could not be operated at full capacity because of distances and transport difficulties were to be brought closer to the front. Three places were envisaged at the beginning, each with 500 workers, which would later rise to 5,000. Hitler agreed and empowered Werlin to take whatever measures were necessary to realize the plan as promptly as possible. Four days later Keitel replied with a promise that everything within reason would be done by the Army to assist with these efforts.[42]

By March the mobility of the *Ostheer* had been severely hampered due to the loss of 40,000 trucks, a similar number of motorcycles, approximately 30,000 motorcars, and 2,000 tanks and assault guns since the beginning of the campaign.[43] In order to offset such huge losses the OA soon ordered that units not involved in offensive operations would be equipped with captured guns as well as motorcycles instead of trucks.[44] Some weeks later Hitler acceded to a proposal to produce far fewer types of trucks, thereby relieving pressure on repair workshops. This plan proposed to simplify everything on the vehicles right down to the smallest details (and not just simply the motors).[45]

A reorganization of the armoured and mechanized units along the entire front was deemed necessary if the attack formations were to be at authorized strength for the coming campaign. Each panzer division in Army Group South was to have three tank battalions, while the motorized infantry divisions would have one. In contrast, the armoured divisions in the other two army groups would only have one tank battalion each.[46]

By the end of April the nine panzer divisions in the southern sector as well as the tank battalion in the *Großdeutschland* and *Leibstandarte-SS Adolf Hitler* motorized infantry divisions had their full complement of motor vehicles. Of the remaining ten panzer divisions in the east roughly 50% could be brought up to full strength, though Hitler ordered that all of

---

[41] 'Weisung für die Kampfführung im Osten nach Abschluß des Winters (Anlage 3)' (12 February 1942), BA-MA RH 2/929, fol. 272, 273, 276.
[42] 'Einsatz von Kraftfahrzeug-Reparaturwerkstätten von Industrie und Handwerk an der Front', BA-MA RW 19/2292, fol. 156, 165-6. Hitler had recently made Werlin Generalinspektor des Führers für das Kraftfahrwesen on 16 January.
[43] Roberts, *Stalin's Wars*, p. 118; Wegner, 'Krieg gegen die Sowjetunion', p. 786.
[44] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 105.
[45] Hitler, *Deutschlands Rüstung*, p. 92 (4 April 1942).
[46] Blau, *German Campaign*, p. 136.

these divisions only needed to be capable of carrying out tactical (and not operational) tasks in order to be able to control localized attacks. In emergency situations the tank reserve allocated to the North African theatre was also available. Demands for motor vehicles seemed likely to be met – at least for certain light types, motorcars and heavy motorcycles. The only shortage was with respect to heavy trucks, though any deficits could be offset with the other vehicles which were still available in abundance.[47]

By early May the Operations Department could report that the overall situation with regard to the state of the infantry divisions in the northern sector of Army Group South was more favourable than had been previously anticipated, especially in terms of motor vehicles.[48] It was further noted that, generally speaking, the divisions and GHQ troops of Army Group South would have their full complement of weapons and equipment. The army group would also receive its full complement of armoured fighting vehicles with the exception of considerable shortages of Panzer II light tanks. However, deficits would be negated by supplying all motorized units with Panzer III and IV medium tanks (which were better armed than the Panzer II) and with assault guns. The *Ostheer* would start this campaign with 3,300 tanks as opposed to 3,660 for the start of Barbarossa the previous year; however, better armament would help to offset this slight reduction.[49] A few days later the OA noted that despite the enemy offensive at Khar'kov, the proposed delivery of tanks for Army Group South could still broadly proceed as planned. First-echelon units could be fully replenished, while some of the second wave could be given partial allocations for training purposes. Heavy anti-tank guns could also be delivered in a similar fashion.[50]

An OKW report noted that the Army had suffered a loss of 75,000 motor vehicles between 1 November 1941 and 15 March 1942, while only 7,000 had been replaced. Nevertheless, by the beginning of May a further 38,000 had been sent to the front, with more expected to follow once Blau had begun.[51] Deficits would be further offset by the fact that

---

[47] 'Anlagenmappe zur Denkschrift über materielle und personelle Rüstungslage 1942', BA-MA RH 2/429, fol. 220, 222-3, 242. *Großdeutschland*, upgraded to armoured infantry division status in May 1943, was the elite formation of the Army and was commanded by General Walter Hörnlein until 4 March, followed by General Hermann Balck. Hörnlein took command once again from 30 June. The SS-*AH* division (later known as SS Panzer Grenadier Division *Leibstandarte-SS Adolf Hitler* and finally 1st SS Panzer Division *Leibstandarte-SS Adolf Hitler*) was Hitler's personal bodyguard. It was commanded by future SS-Oberst-Gruppenführer (Colonel-General) Josef (Sepp) Dietrich from its inception as SS-*Stabswache Berlin* on 17 March 1933 until 4 July 1943.
[48] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 165.
[49] Wegner, 'Krieg gegen die Sowjetunion', p. 790; 'Wehrkraft der Wehrmacht im Frühjahr 1942' (12 May 1942), BA-MA RH 2/931b, fol. 155, 156.
[50] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 183.
[51] 'Wehrkraft der Wehrmacht im Frühjahr 1942' (6 June 1942), BA-MA RM 7/395, fol. 10-11.

army groups North and Centre would yield practically all of their motor vehicles to the southern theatre for the summer offensive.[52]

By June, with Rommel making headway in North Africa, Hitler recalled a number of tanks, motor vehicles and artillery pieces which had been held in reserve for the rehabilitation of two divisions on the Eastern Front.[53] The *Ostheer* was further furnished with considerable amounts of *matériel* which had been taken from the Red Army. From the beginning of the campaign up to 31 July 1942 the Germans captured a total of 33,242 guns of all types, 59,019 trucks and 17,910 tanks.[54] That same month Army Group South agreed to distribute equipment which had been bagged during the operations at Khar'kov to the Romanian forces. However, trucks would not be relinquished, as they were needed instead for the Wehrmacht.[55]

On 6 June 1942 the Chief of Staff of 1st Panzer Army (Major-General Ernst-Felix Faeckenstedt) wrote to his counterparts in its subordinate corps that supply conditions would become even more strained once the river Donets had been crossed. With respect to vehicles, it could not be certain if those originally allotted to the army after overhaul would even be returned to it. There was an average actual strength of 50% of wheeled vehicles, though promised replacements were to bring this figure up to 75%. Nevertheless, the army command was not convinced that this would happen and held the view that only half of the establishment of vehicles would be available. Sections of higher staffs which were not essential for combat operations and supply (such as the economic organization of the army or the chaplain departments of the corps and divisions) would be left behind. Russian tanks were to be used as tractors, if necessary with Russian drivers. On a more positive note, motorized fighting vehicles such as tanks and tank destroyers would arrive on a continual basis. Even if they only reached the troops somewhat later the army command could promise with absolute certainty that they would arrive. It had also noted that the divisions had readily supplied themselves with captured Russian vehicles during the battle at Khar'kov, though these would not be available for the static divisions. The supply situation in general was good, with units expecting to receive on average up to 90% of their authorized allotment of equipment in the next four weeks. The motorized units were informed that their infantry regiments would not be fully motorized; instead, they would have to be set up as columns of *panje* wagons. This,

---

[52] Murray, *Strategy for Defeat*, p. 120.
[53] Blau, *German Campaign*, p. 132.
[54] 'Beute im Osten an Waffen, Gerät, Kfz., Pferden, Flugzeugen, Bekleidung und Ausrüstung sowie sonst. Gerät in der Zeit vom 1.-31.7.42' (n.d.), BA-MA RH 2/2621, fol. 27, 28.
[55] BA-MA RH 31-I/93.

however, would mean that other formations would be fully motorized, which in turn would create a reserve of vehicles.[56]

German medium tank and assault gun production numbered 2,875 in 1941, 5,500 (including self-propelled guns) in 1942, 6,700 in 1943 (plus 2,500 heavy tanks and 2,600 self-propelled guns), and 17,800 medium and heavy tanks plus assault guns in 1944.[57] However, the sixfold increase in tank production between the beginning of 1942 and the end of 1944 was achieved primarily at the cost of shipbuilding, vehicle production and other weapons. Additionally, during this period equipment for the Luftwaffe (excluding anti-aircraft guns) accounted for approximately 35-50% of armament expenditure.[58]

Horses and Tractors

The German Army which invaded the Soviet Union in June 1941 brought with it approximately 600-750,000 horses. During the winter battles of 1941-2, however, their numbers were depleted significantly, with Army Group Centre alone losing on average 1,000 horses per day (excluding animals which had been lost due to exposure).[59] From the beginning of the campaign until 31 January 1942 the Wehrmacht suffered a total of 183,688 horses killed, with the overwhelming majority of the casualties – 179,132 – coming in Russia. On that date there was a total of 34,272 sick animals throughout the three services in all theatres (27,811 in the east).[60] Between 1 November 1941 and 15 March 1942 the *Ostheer* had lost approximately 180,000 horses, with only 20,000 being replaced in the same period. However, by the beginning of May a total of 109,000 animals had arrived at the front, to be complemented later on by a further 118,000 or so which were in the process of being rounded up in the occupied territories. This last figure did not include those which the troops had captured themselves and put directly into service. These lighter animals were not as efficient as the troop horses which they were replacing, however, and the total number of new horses

---

[56] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/450, fol. 64, 65-6, 68, 70. Faeckenstedt served in this position from 24 April 1942 until 15 March 1943. A *panje* wagon was a horse-drawn peasant cart used locally throughout the Soviet Union as the principal means of conveyance. It was usually drawn by one or two of the small tough native horses of the same name.

[57] Anthony Tucker-Jones, *Hitler's Great Panzer Heist: Germany's Foreign Armour in Action, 1939-45* (Barnsley, 2007), p. 127.

[58] Hitler, *Deutschlands Rüstung*, p. 13.

[59] DiNardo, *Mechanized Juggernaut*, pp. 39, 50, 142 (notes 35-7).

[60] Wegner, 'Krieg gegen die Sowjetunion', p. 788; 'Pferdeverluste', BA-MA RW 19/1393, fol. 70.

would not be enough to replace losses completely.[61] Nevertheless, there was one piece of positive news in what seemed like a particularly strained situation. Up to the end of August 1942 the *Ostheer* reported the capture of 227,342 horses in total (24,776 in the last month alone).[62]

On 6 June the chief of staff of 1st Panzer Army noted that from a purely numerical point of view the draught horse situation was good. The attack divisions would have a reserve available from captured animals and – in emergency situations – the army would be able to supply some heavy horses. Delivery of fodder would prove to be difficult because of the transport situation, so the troops were instructed to send their horses out to pasture. If feed did arrive via the supply network it was only to be given to horses when they could no longer graze on the arid steppe (which the *panje* horse would still be able to do).[63] The situation in 17th Army – which reported a ration strength of 303,000 men and 58,000 horses six days later – was likewise deemed to be good at this time.[64]

Despite the satisfactory numbers of horses in Army Group South, the *Ostheer* could not depend on draught animals alone for mobility. In the second week of May Hitler ordered the immediate testing of all German-made agricultural tractors at the front in order to determine their suitability for towing heavy anti-tank guns and artillery pieces. If the assessments proved positive, all vehicles which were accumulated in the coming months for use in the agriculture sector would instead be pressed into service by the Army. In order to increase the mobility of the new anti-tank guns to be sent east all foreign tractors were also to be used. As a result of this measure the OA concluded that full mobility would be attained in Army Group South for the coming offensive.[65]

The following month a memorandum from Economics Staff East (*Wirtschaftsstab Ost*, WiStabOst) confirmed that there were approximately 12,000 tractors in use throughout the occupied region, which in itself was a totally inadequate number considering that during Soviet times there had been 480,000 in the Ukraine alone.[66] In order to combat these shortages Hitler issued an order to the Army either to buy or to appropriate all newly built

---

[61] 'Wehrkraft der Wehrmacht im Frühjahr 1942' (6 June 1942), BA-MA RM 7/395, fol. 10, 11.
[62] 'Beute im Osten an Waffen, Gerät, Kfz., Pferden, Flugzeugen, Bekleidung und Ausrüstung sowie sonstiges Gerät vom 1.-31.8.1942', BA-MA RW 19/1393, fol. 35. It was also noted in this report that seven camels had been captured up to that point.
[63] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/450, fol. 66-7.
[64] 'Kriegstagebuch Nr. 3 der Oberquartiermeister Abt./AOK 17' (12 June 1942), BA-MA RH 20-17/580, fol. 48.
[65] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 168.
[66] 'Schlepperanforderung Wi Stab Ost – Sondergruppe Forst und Holz' (6 June 1942), BA-MA RW 19/2290, fol. 51.

tractors.[67] He also decreed that all new caterpillar tractors were to be confiscated up to September, including those produced for agricultural purposes.[68] The OA reported at the beginning of the month that wheeled tractors had proven to be fully suitable for towing all artillery pieces (including light field howitzers).[69] The troops at the front also found their own ways to overcome equipment shortages once the new offensive was under way. 2nd Army noted that many artillery units were substituting *panje* carts or captured Russian ammunition wagons for the heavy German types, which were unsuited to conditions in the east. Similarly, the quartermaster of 1st Panzer Army noted on the same day that the men were using large numbers of captured tractors, which was also helping to ease the burden on the horses.[70]

On 16 June the *Abwehr* drafted a memorandum on the difficulties which the German troops were likely to face when they advanced into the Caucasus region. In the northern areas the kolkhoz buildings such as sturdy sheds and barns would offer suitable accommodation for the troops. There was also expected to be sufficient forage and straw for the animals. One important obstacle, however, was that it would be difficult to procure drinking water once the eastern part of the region was reached, as even water from wells was too salty for consumption.[71]

Fuel

The most significant shortcoming of the Wehrmacht during the Second World War was its unremittingly precarious stocks of fuel. In 1933, for example, a mere 233,000 tons of crude oil were produced in Germany compared to 7.377 million in Romania and 21.489 million in the Soviet Union. However, on coming to power Hitler salvaged and subsequently expanded synthetic oil production, though by 1938 this still only amounted to a total of 1.6 million

---

[67] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 208.
[68] 'Vermerk über die Besprechung im Reichsernährungsministerium: Beschaffung von Schleppern' (12 June 1942), BA-MA RW 19/2290, fol. 15. These vehicles had a top speed of 4-5 km/h and were preferentially given to infantry divisions as makeshift tractors for light and heavy artillery pieces as well as for heavy anti-tank guns.
[69] 'Ackerradschlepper' (3 July 1942), BA-MA RH 20-2/29.
[70] 'Russ. Beute-Munitionswagen' (23 July 1942), BA-MA RH 20-2/29; 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/449, fol. 48.
[71] 'Probleme des Vormarsches im Kaukasus-Gebiet (Quartier, Verpflegung, Futter, Trinkwasser, Straßen, Sprache)', BA-MA RW 4/256, fol. 159. The *Abwehr* (in full *Amt Ausland/Abwehr*) was the intelligence department of the German Armed Forces. It was headed by Admiral Wilhelm Canaris from January 1935 until Hitler formally abolished it by decree on 12 February 1944, when it came under the control of the security service of the SS (*Sicherheitsdienst*, SD). A kolkhoz (from the Russian *kollektivnoe khozjajstvo*, 'collective farm') was a state-run farm in the former Soviet Union.

tons.[72] Germany's oil reserves were already quite modest when hostilities finally broke out in September 1939, but this significant predicament was further exacerbated by Italy's entry into the war some months later (10 June 1940). Germany's most important ally at the time did not produce its own oil and consequently became almost completely dependent on Hitler for its supply.[73]

Deliveries of oil from Romania – Germany's principal supplier – reached their maximum extent by 1941. However, fearing the exhaustion of their own stocks the Romanians soon slowed production while simultaneously reducing exports to Germany. This situation ultimately played a role in Hitler's decision to look to the Caucasus as a potential alternative source of fuel for the Wehrmacht, though, for the moment at least, Romanian oil was still as important to his plans as it had been up to that point.[74] Nevertheless, Hitler's long-term goals in this connection were shared by many of his advisers. As early as mid-August 1941 Jodl's deputy (Warlimont) produced a concise overview of the German strategic situation for the OKW, which argued that the precondition for any continuation of the war in the Mediterranean was access to the oilfields of the Caucasus. If the Army failed to overrun the area that year he urged that every effort should be made to resume the advance in this direction at the earliest possible opportunity. Any success there would have the further advantage of creating a point of departure from which to continue the potentially decisive operations in the Near and Middle East. Naval operations, he pronounced, should therefore begin in the eastern Mediterranean only once Transcaucasia had been reached.[75]

Even when victory over the Red Army seemed within reach towards the end of the year the military leadership was still acutely aware of the hazardous oil situation. As early as October 1941 Keitel noted that fuel for use in industry would have to be curtailed as a consequence, while motorcar traffic would have to be restricted to the absolute minimum.[76] Two months later this was put into practice with a decree which stipulated that further extreme restrictions on the usage of motor vehicles in industry were necessary in order to meet fuel demands as well as to secure more of them for the war effort.[77] Hitler's decree of 16 January 1942 further noted that the use of passenger vehicles in the public sector and in

---

[72] DiNardo, *Mechanized Juggernaut*, pp. 3, 4.
[73] Hayward, *Stopped at Stalingrad*, p. 5.
[74] Dennis Deletant, 'German-Romanian Relations, 1941-1944', in Adelman (ed.), *Hitler and his Allies*, p. 171.
[75] 'Kurzer strategischer Überblick über die Fortführung des Krieges nach dem Ostfeldzug', BA-MA RM 7/258, fol. 15.
[76] 'Kraftfahrzeugbestand der Rüstungsindustrie – Einsparung von Betriebsstoff', BA-MA RW 19/2230, fol. 195.
[77] 'Stillegung von im Werkverkehr eingesetzten Kraftfahrzeugen' (15 December 1941), BA-MA RW 19/2231, fol. 2-3.

industry and commerce was only permissible for tasks deemed necessary for the war effort or for essential tasks. However, such usage was even forbidden if the destination could be reached using public transport and without jeopardizing the assignment. Saving time alone was not enough justification for vehicle usage, which applied particularly to long-distance journeys.[78]

The amount of fuel being consumed by the Army was truly staggering. An OKW report dated 31 March showed that an average daily total of 4,448 cbm (the equivalent of eleven trainloads) had been used up during the winter battles alone.[79] By spring the amount had decreased somewhat, though it was still significant. In the month from 12 April to 12 May, for example, 1st Panzer Army received 9 trainloads of fuel (a daily average of 0.3), 11½ of ammunition (0.4), 20½ of provisions (0.7), 24½ of fodder (0.8) and 30½ of equipment (1.0) in the lead-up to Blau.[80]

Attempts to minimize fuel usage were even more pronounced in the countries under German occupation. As a result of measures aimed at reducing the number of cars in industry, the Armament Inspectorate in Belgium reported on 16 May that the effort to reduce the number of passenger vehicles permitted in the country had been so complete that only 5.5% of the peacetime number was still on the roads. It was further noted that there were 54.2 inhabitants per automobile before the war, whereas now the number was 965 (compared to 224 in Germany). Furthermore, all motorcars with an engine displacement above 2.4 litres had been taken out of circulation.[81] On 13 June Keitel ordered that the use of motor vehicles was also to be sharply restricted in the eastern territories to what was absolutely necessary for the war effort, including measures such as stopping motorists and enquiring into the reasons for journeys. This task would fall to special teams which would conduct inspections along main roads.[82] At the end of the month, however, Hitler stated that despite all orders which had been issued concerning the use of motor vehicles, increasing numbers of reports were being received of breaches against the regulations, which were on occasion especially severe. Thoughtless habit and scant consideration for the consequences of such negligence abounded. He suggested that it was therefore important for all commanders to monitor the vehicles in

---

[78] 'Anordnung des Führers über die Benutzung von Personenkraftwagen. Vom 16. Januar 1942', in Hitler, *'Führer-Erlasse'*, pp. 226-7.
[79] 'Darstellung der Wehrkraft der Wehrmacht für 1942 durch OKW', BA-MA RH 2/931b, fol. 123.
[80] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/450, fol. 40.
[81] 'Verminderung des PKW-Bestandes der W.-Betriebe (W)', BA-MA RW 19/2230, fol. 277.
[82] 'Unberechtigte Benutzen von Kfz.', BA-MA RW 19/2292, fol. 140.

their units and to sternly reprimand all transgressors. They were also to ensure that vehicle traffic was to be adapted to the fuel situation within the shortest possible time.[83]

As Blau approached, an OKH report suggested that there would be 31,500 cbm of fuel instead of the planned 41,500 in dumps by 20 June. The grouping at Kursk (i.e. the initial breakthrough force) would have an ample supply of fuel to last for 500 kilometres (5 VS) in addition to the initial issue. For the formations at Khar'kov further south there would be enough for 400-500 kilometres. The report suggested that there would be no problems with respect to supply.[84] Indeed, at the beginning of Blau it was calculated that enough fuel had been provided to last until mid-September.[85] However, the Army was careful to ensure that units were aware of the potentially tenuous situation. Where possible, special teams were to be put in place by each corps from reconnaissance troops, which would bring fuel from captured dumps to the formations moving up behind.[86]

Weapons and Ammunition

At the end of January 1942 Fromm reported on the possibilities for artillery rehabilitation for the coming spring. He suggested that a replenishment of weapons would be fundamentally possible with the deployment of captured weapons and the use of the 10.5cm lFH 16 light field howitzer. He also noted that it would be possible to replenish the panzer divisions with tanks within the framework of the scheduled reorganization (i.e. operational armoured divisions to have three tank battalions, with only one each for the remainder).[87] It would be possible to supply the fighting troops with artillery weapons with the sole exception of light and heavy field howitzers: in a battalion of three batteries, one battery would now have three guns instead of the usual four (i.e. eleven in total per battalion instead of twelve). However,

---

[83] 'Verstösse bei Benutzung von Kraftfahrzeugen' (29 June 1942), BA-MA RW 19/2292, fol. 145.
[84] 'Beurteilung der Versorgungslage für Aufmarsch „Blau", Stand 10.6.42', BA-MA RH 2/431, fol. 88. A figure of 1 VS (*Verbrauchssatz*, 'consumption rate') represented the quantity of oil, petrol or lubricants which a given unit needed in order to travel a distance of 100 kilometres: 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42', BA-MA RH 21-1/409, fol. 71.
[85] Carl Wagener, *Heeresgruppe Süd: Der Kampf im Süden der Ostfront, 1941-1945* (Bad Nauheim; Dorheim, 1967), p. 129. Lieutenant-Colonel (later Major-General) Carl Wagener served as Chief of Staff of XXXX Panzer Corps (6th Army, later 1st Panzer Army) from 1 June 1942 until 15 March 1944.
[86] 'Besondere Anordnungen für die Versorgung bei Durchführung der Operation "Blau"', BA-MA RH 20-6/173, fol. 93.
[87] Wegner, 'Krieg gegen die Sowjetunion', p. 789; 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 77.

any deficiencies still appeared to be tolerable for army groups North and Centre.[88] There would not be sufficient stocks for a large operation and a complete campaign according to previous conceptions, though a lot would depend on how the enemy would react.[89]

In the second week of March the Operations Department noted that the winter battles had shown that German anti-tank guns were generally inadequate against the new Russian heavy tanks. It was therefore deemed necessary to concentrate on weapons with the highest penetrating power for the coming summer. One such gun – the light Pak 41 anti-tank gun – was produced in relatively small amounts during the winter, though there were presently only 160 available due to a shortage of tungsten. For the same reason there were only 150 heavier 7.5cm Pak 41 guns available to the Army, though captured Soviet 7.62cm anti-tank guns would also be used.[90] Despite such problems, however, throughout 1942 German industry produced 6,651 light anti-tank guns up to a calibre of 7.5cm and 2,112 heavy 7.5cm Pak 40 types.[91]

Nevertheless, the operational army would be brought up to establishment to the detriment of the other units. At the end of March the OA noted that the large amounts of weapons manufactured since the beginning of 1942 would be used in their entirety by the units to be involved in the coming operations in the south. This subsequently meant that all losses throughout the Army could not be fully covered.[92] Though there had been considerable losses of 3.7 and 5cm light anti-tank guns, the delivery of heavier types through the summer would overcome the shortages in this area too. Indeed, the report suggested that heavy anti-tank guns, shaped-charge rounds (including stick hand grenades) and heavy anti-tank rifles used by experienced crews would actually increase the overall defensive strength of the Army on the previous year.[93]

On 13 April a report from the Quartermaster General stated that the northern and western theatres did not need an appreciable supply of ammunition. The troops in Norway had enough stocks to defend against an attack for three months, while in the west there was enough for one-and-a-half months. The report concluded that the Army could expect strains

---

[88] 'Denkschrift über materielle und personelle Rüstungslage 1942', BA-MA RH 2/429, fol. 178-9, 181.
[89] Wegner, 'Krieg gegen die Sowjetunion', pp. 788, 790; 'Denkschrift über materielle und personelle Rüstungslage 1942', BA-MA RH 2/429, fol. 188.
[90] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 104. The Soviet 7.62cm gun was used by the German Army in large numbers under the name Pak 36(r), which proved to be a very effective weapon.
[91] Hitler, *Deutschlands Rüstung*, p. 23.
[92] 'Darstellung der Wehrkraft der Wehrmacht für 1942 durch OKW' (31 March 1942), BA-MA RH 2/931b, fol. 121.
[93] 'Wehrkraft der Wehrmacht im Frühjahr 1942', BA-MA RH 2/931b, fol. 155, 156.

with respect to ammunition levels by August at the latest, which could possibly affect tactical leadership. This risk could only be minimized if allocations could be maintained in the defensive sectors during the summer too, which the Army would strive to achieve.[94]

Just over two weeks before the beginning of the new offensive an OKH report noted that ammunition stockpiling for units involved in the initial phase of the operation was on schedule for 2nd Army, while for 6th Army it was generally progressing as planned. Shortages were being covered by supplies coming in as well as from internal adjustments at the front. Procurement for the second phase had already just begun, with the first trains due in five days. All the stocks were ready in Germany, including a reserve of at least 15 trains for supply purposes.[95]

Luftwaffe and Kriegsmarine

In the first four months of the campaign in Russia the Luftwaffe lost 36% of its Bf 109 fighter pilots and 56% of its bomber crews.[96] With Hitler's order of 10 January 1942 the Air Force could now expect to be further weakened in terms of equipment in certain areas.

Around this time, bombers were being used to support the Army because there was a lack of close-support aircraft, which consequently meant that the Luftwaffe missed the potential to create a strategic air arm.[97] However, this would seem to have been the least pressing of its problems as even tactical assistance was proving difficult because of the shortage in fuel.[98] In order to alleviate this problem the Luftwaffe undertook exhaustive efforts in May and June to stockpile significant quantities of fuel and ammunition in the southern sector.[99] The paucity of much needed fighter aircraft was also addressed in the time leading up to Blau. For the first six months of 1942 output of bombers decreased by 2% (to 329 a month), whereas production of fighters rose by 60% (to 391 a month).[100]

The operational ready rates for the Luftwaffe as a whole began to climb after the winter of 1941-2. The in-commission rate reached a low of 39% for all aircraft in late January (44%

---

[94] 'Munitionsbereitstellung für die Operationen im Sommer 1942', BA-MA RH 2/429, fol. 32, 38.
[95] 'Beurteilung der Versorgungslage für Aufmarsch „Blau", Stand 10.6.42', BA-MA RH 2/431, fol. 87.
[96] Williamson Murray, *War in the Air, 1914-45* (London, 1999), p. 136.
[97] Plocher, *German Air Force*, p. 13.
[98] 'Versuch einer Darlegung der Gesamtproblematik unserer Treibstoffversorgung im Kriege unter Verzicht auf die Darstellung der Einzelheiten' (16 February 1942), BA-MA RW 19/202, fol. 36.
[99] Anon., *German Air Force*, p. 178.
[100] Green, *Warplanes*, p. 12.

for fighters and 31% for bombers), but by the beginning of the summer offensive it had risen to 69% (75% for fighters and 66% for bombers).[101] At this point the Luftwaffe had 2,750 aircraft along the entire Eastern Front, down slightly from the 2,770 which had been available for Barbarossa. However, over half of the machines (1,500) were assigned to Army Group South.[102] Additionally, many of these aircraft had been newly equipped in the last six months and numbers were increased thanks to reinforcements brought over from Malta.[103] Finally, though there had been a discernible improvement in the aircraft employed by the Red Air Force (VVS) from the previous year, its pilots still did not have the same quality of training as their German opponents and suffered qualitatively as a consequence, thus ensuring that the Luftwaffe usually dominated the skies where it appeared in numbers.[104]

In general, however, there was little opportunity of getting Luftwaffe formations from the Mediterranean for Blau. Nor could units be got from the western theatre, as this had already been done for Army Group Centre in winter 1941-2 and for the northern front in order to combat Allied convoys to Russia. Units might well have been available from Luftwaffenkommando Ost (despite heavy fighting in the sector Jukhnov–Rzhev–Toropets), even if only temporarily, but experience had shown that units transferred this way usually stayed longer than was originally intended (simply for selfish or tactical reasons), were weakened during their time with another unit, or were even worn down merely during transit.[105]

Hitler believed that the only strategically effectual branch of the Navy in both the Great War and the present conflict was the U-boat arm.[106] Even when war against the Soviet Union had begun, only a relatively small naval force had been sent to the Black Sea. Once it became clear that the war in Russia was going to last longer than anticipated, however, the German high command moved a number of warships to the Black Sea. Together with the other Axis forces it was possible to at least use the sea to a certain degree as a supply and transport way.[107]

---

[101] Murray, *Strategy for Defeat*, p. 138.
[102] Ziemke and Bauer, *Moscow to Stalingrad*, p. 296.
[103] Anon., *German Air Force*, p. 178.
[104] Murray, *War in the Air*, pp. 136-7. The acronym VVS (*Voenno-vozdushnye sily*, literally 'military air forces') will be used throughout the present work.
[105] Plocher, *German Air Force*, pp. 336-7. Luftwaffenkommando Ost was formed from V Fliegerkorps (Air Corps) in March 1942. It was responsible for the air support of Army Group Centre and was commanded by Field Marshal Robert Ritter von Greim until May 1943.
[106] Cajus Bekker, *Hitler's Naval War* (London, 1974), p. 295.
[107] Ruge, *Sowjetflotte*, pp. 96, 97.

On 23 February 1942, 1. Skl. suggested to Marinegruppenkommando Süd (Admiral Karlgeorg Schuster) that though it only had modest forces in the theatre, it was hoped that through the most active exploitation of the means to hand and all-round improvisation it would be possible to at least wrest some initiative from the enemy.[108] Nevertheless, an independent offensive naval campaign in its truest sense was never a realistic option. On 27 March the Navy reported that there was a tonnage shortage everywhere, especially in the Mediterranean and in the Black Sea. To this was added a paucity of fuel and a high demand for assistance from the other services.[109] Schuster also had to contend with the defence of the Adriatic and Aegean seas, securing lines of communication to Crete and the other Greek islands, and protecting the sea lanes between Italy and Romania. Thus, there were few resources available to the naval command in this theatre.[110] Despite obvious weaknesses and disadvantages, however, the main task of the Kriegsmarine in the Black Sea of supplying Army Group South was largely achieved (see Chapter 4 below).

Romania

In the years leading up to the outbreak of the Second World War Germany and its rivals in western Europe vied with one another for influence over the economies of eastern and south-eastern Europe. The treaty signed between Germany and Romania on 23 March 1939 effectively bound the economy of the latter to the German *Großraumwirtschaft* (greater economic area). In effect, this agreement stipulated that the Romanians would get military hardware in return for oil.[111] Later, in October 1940, assistance also came from Germany in the form of teams of specialized personnel when the Wehrmacht began its work to improve standards in the Romanian Army. This included training which was combat-orientated and particularly concentrated on anti-tank measures and small-unit leadership.[112]

---

[108] 'Operationen im Schwarzen Meer', BA-MA RM 7/2188, fol. 178, 179, 180. The *1. Abteilung Seekriegsleitung* (1. Skl.) was the Operations Department of the Naval War Command (*Seekriegsleitung*, Skl.). The Skl. was responsible for coordination and decision making in all matters pertaining to the war at sea. Marinegruppenkommando Süd was the naval command responsible for the Black Sea and the Balkan Peninsula, headed by Schuster from 30 June 1941 until 20 March 1943.
[109] 'Beitrag für zusammenfassende Darstellung der Wehrkraft der Wehrmacht im Frühjahr 1942', BA-MA RW 19/2200, fol. 126.
[110] Edward J. Marolda, 'The Failure of German World War II Strategy in the Black Sea', *Naval War College Review* (summer, 1975), p. 42.
[111] Deletant, 'German-Romanian Relations', p. 168.
[112] Abbott and Thomas, *Eastern Front Allies*, p. 20.

A further accord signed at the end of that same year (4 December) held various benefits for the Romanians, including wide-ranging German credits available at reasonable rates, agricultural machinery, chemical fertilizers, and others. The main objective for the Germans, on the other hand, was to bolster the branches of Romanian industry and agriculture which, it was planned, would eventually dovetail with Germany's own economy. They were not particularly interested at this stage in the development of industry, seeing Romania instead as a potential producer of the agricultural products and raw materials which Germany lacked. The Germans also sent specialists in the fields of agriculture, industry and other sectors in order to assist Romanian enterprises and government ministries with their progress. They subsequently came to have an important influence on the direction of the Romanian economy in general, especially over the more important areas.[113]

Armaments continued to arrive in Romania even after the disruption caused by the campaigns prior to 1942. The Germans donated approximately 50 Renault UE armoured supply vehicles from captured French stocks in the first half of 1941; later, when certain Czech orders fell through, they sold the Romanians 26 Panzer 38(t) medium tanks, which arrived just in time for Blau in June and July 1942. That September they sold 12 each of the medium tank types PzKpfw III Ausf K and PzKpfw IV. When events on the Eastern Front began to take a considerable turn for the worse the Germans sold 31 Panzer IVs to the Romanian Army in November and December 1943, with a further 83 arriving in the first six months of 1944. They also delivered 4 StuG III assault guns in December 1943 and another 104 in the first half of the following year.[114]

A report on the state of the Romanian Army after almost seven months of campaigning in Russia suggested that German commanders were unimpressed that it persistently retained its rigid adherence to methodical French ideas and that its communications networks were not fit for purpose. Supply, which was hardly suitable even for a war inside Romania, had to be constantly improvised. The reasons for the high casualty rates up to that point were infantry clustering, no centre of gravity with respect to artillery and machine-gun fire, poor knowledge of how to use terrain effectively, and poor close-combat fighting skills. One reason given for these inadequacies was that the amount of time which German instructors had had with the Romanians up to that point had been insufficient to produce many positive

[113] Keith Hitchins, *Rumania, 1866-1947* (Oxford, 1994), p. 460.

[114] Leland Ness, *Jane's World War II Tanks and Fighting Vehicles: The Complete Guide* (London, 2002), p. 224. PzKpfw (*Panzerkampfwagen*) is usually abbreviated to Panzer or simply Pz. Ausf is the abbreviation for *Ausführung* ('model'). The StuG (Sturmgeschütz) III mounted a 7.5cm cannon on the chassis of a Panzer III. It was a highly effective weapon, especially in defensive operations, and was used by the Wehrmacht and its allies up to the end of the war.

results. There was, however, some optimism. It was assumed that the Romanian Army would once again be ready for action by summer, especially if certain measures such as shifting emphasis from technical to tactical leadership with respect to artillery and the creation of a long-term supply system were implemented.[115]

On 28 January the German Military Mission (*Deutsche Heeresmission*, DHM) in Bucharest informed the OKW that Romanian participation in the summer campaign would not be dependent on complete German fulfilment of demands for *matériel*. However, the Romanian head of government and tacit dictator, Marshal Ion Antonescu, did expect the strongest possible support in this respect. He particularly wanted ammunition and the raw materials which Romania lacked for its production so that indigenous factories could be fully employed (at that time they were only being utilized to one third of their capacity). With respect to the supply problem, the report added, the Romanians could only look after their troops as far as the river Bug.[116] The following month the Commander-in-Chief of Army Group South (Field Marshal Fedor von Bock) addressed this problem in response to a letter which he had received from Antonescu. He confirmed that everything possible was being done to improve the situation, which even included supplying linen from German stocks. He also clarified that Romanian wounded were being transported away from the combat zone as speedily as their German comrades.[117] This was confirmed in an addendum sent two days later by the head of the DHM (Major-General Arthur Hauffe), in which he informed Antonescu that of the approximately 18,000 Germans wounded in the Crimea during January and February, roughly 15,000 (= 83.3%) had been removed from the area of operations; of the 3,377 Romanians wounded, 2,860 (= 84.6%) had been evacuated.[118]

The German Army created a position in Bucharest – as well as in the capital cities of other friendly nations – to address important military-economic issues. In Romania it was known as the WO (*Wirtschaftsoffizier*) Rumänien. The remit of this economics officer was to brief the OKH regularly on the state and development of the Romanian economy, as well as

---

[115] 'Aufbau und Einsatz des rumänischen Heeres seit Bestehen der Deutschen Heeresmission' (18 January 1942), BA-MA RH 19-I/238, fol. 202, 204-6, 209.

[116] Telex, pp. 1, 3, 4, BA-MA RH 31-I/93. Antonescu, the self-styled Conducător ('leader') of Romania, held office from 5 September 1940 until he was ousted in a coup led by King Michael on 23 August 1944. The (Southern) Bug formed the eastern border of Greater Romania after the area subsequently known as Guvernământul Transnistriei (Governorate of Transnistria) came under civilian administration on 19 August 1941. It remained under Romanian control (though was never formally annexed) until it was overrun by the Red Army in early 1944. It is divided between present-day Ukraine and (in the extreme west) Moldova/Transnistria.

[117] BA-MA RH 19-I/238, fol. 141-3 (25 February 1942). Bock commanded Army Group South/B from 18 January to 15 July 1942. He was succeeded by the commander of 2nd Army, Colonel-General (later Field Marshal) Maximilian Freiherr von Weichs.

[118] 'Stellungnahme Hr.Gr. Süd zu Beschwerde Marsch. Antonescu', BA-MA RH 31-I/104. Hauffe held this post from 1 June 1941 until 20 January 1943.

to liaise with all pertinent German and Romanian authorities and personalities.[119] On 1 March this department noted that all Romanian factories involved in the new, increased armaments programme for the period from October 1941 to December 1942 (with the exception of the German orders which had been relocated to Romania) were being fully utilized. The report suggested, however, that current production since the end of November could only be regarded as unsatisfactory, possibly because there was a shortage of materials which were still to be obtained from Germany. This was evidently down to the fact that Hitler had not yet decided to what extent Romanian demands for raw materials were to be met.[120] Nevertheless, certain important armaments types were being manufactured in reasonable quantities. According to this plan, up to mid-February 1942 the Romanians had produced 106.6% of the projected number of 7.5cm anti-aircraft guns and 95.8% of the 4.7cm anti-tank guns. Artillery munitions, however, had only been manufactured at an average of roughly 35% of targets.[121]

Hitler was keen at this time to remain on good terms with his allies from an economic point of view, and on 3 April he ordered that the 'greatest loyalty' should be afforded the Romanians with respect to trade relations.[122]

Certain elements of the Romanian Army in the lead-up to Blau were, according to the Germans, in a relatively tolerable state. Later that month the liaison staff at the headquarters of the Romanian Mountain Corps suggested that with a 19% deficit in the authorized strength of the units concerned the personnel situation of its divisions was 'satisfactory'. Weapons and equipment were available in the requisite numbers for each unit (with the exception of 18th Infantry Division) and everything was fit for action. The vehicle situation was generally good, and their condition too was deemed acceptable.[123]

A report from the DHM about Antonescu's recent trip to the front written two weeks before Blau commenced suggested that the Romanian formations there had made a good impression on him. The bearing, clothing and mood of the troops were excellent, weapons and equipment had been partially replenished from captured stocks and were in good condition, and the divisions of VI Corps (which would later serve under 4th Panzer Army to

---

[119] 'Kriegstagebuch für Monat Februar 1942', Anlage 2 ('Arbeitsplan des WO Rumänien'), BA-MA RW 29/58 (1 March 1942).
[120] 'Wehrwirtschaftlicher Lagebericht Nr. 1, Februar 1942', pp. 1, 2, BA-MA RW 29/57.
[121] 'Wehrwirtschaftlicher Lagebericht Nr. 1, Februar 1942', addendum 1 and 2 ('Rumänische Produktion an Kriegsgerät und Munition für Eigenbedarf'), BA-MA RW 29/57.
[122] *KTB OKW*, vol. 2, p. 315.
[123] 'Zustandsbericht über die auf der Krim eingesetzten rum. Verbände ausser der 19. Inf. Div.' (20 April 1942), BA-MA RH 31-I/98, fol. 77-8.

the south of Stalingrad) were each being provided with six 7.5cm Pak 40 anti-tank guns.[124] This gun, only recently brought into service in February of that year, had proven its worth in combat and was effective against Soviet T-34 medium and KV heavy tanks.

On 1 August Armeegruppe Ruoff (Colonel-General Richard Ruoff) reported that the subordinate Romanian 3rd Army was in good spirits because of German successes, so much so that the divisions of the cavalry corps even bemoaned the fact that they had not yet seen offensive action. The Romanians were also optimistic that taking the Caucasus would end the war in Russia. However, anti-tank guns and communications equipment were still inadequate.[125] In order to try to alleviate this problem the OKH ordered a reorganization of fourteen divisions in the west in order to free up ammunition for the lFH 14/19(t) light field howitzer for the Romanian Army the following month.[126]

However, frustration in the German Army at what was perceived to be a lack of professionalism on the part of its most important ally on the Eastern Front was never far away. Towards the end of September, 17th Army noted its 'grave disappointment' (*erhebliche Enttäuschung*) in the Romanian forces during the previous few days. The Soviets had succeeded with a small landing operation to the west of Novorossijsk, which could have been prevented were it not for security lapses along the coast. Despite the presence of German advisers the Romanians were still making mistakes, such as not using the pre-assigned air support, complete lack of cooperation between different arms (especially the infantry and artillery), and even a case where the commander of 3rd Romanian Mountain Division had attempted to influence the commander of their 6th Cavalry Division into refusing to carry out an attack order from Gruppe Wetzel (V German Corps and Romanian Cavalry Corps).[127]

1st Romanian Armoured Division, which comprised of badly worn vehicles following the drive on the Caucasus, received 11 Panzer III Ausf N and 11 Panzer IV medium tanks in September. (After this formation was practically wiped out later at Stalingrad the Germans promptly replaced all of its destroyed Škoda LT-35 light tanks with 50 Panzer 38(t) medium tanks and some Panzer IVs.) Throughout 1942 the tank factory at Braşov began to modify

---

[124] 'Bericht über die Frontreise des Marschalls Antonescu' (14 June 1942), p. 3, BA-MA RH 31-I/93.

[125] 'Wochenmeldung über Stimmung Verbündeter', BA-MA RH 20-17/125, fol. 29. Armeegruppe Ruoff was the name given to 17th Army and 3rd Romanian Army in August and September 1942. Ruoff commanded 17th Army from 1 June 1942 until 24 June 1943.

[126] 'KTB OKH/Organisationsabteilung vom 1.8.42-31.12.42' (9 September 1942), BA-MA RH 2/824, fol. 102. This was a 10cm artillery piece which was built by Škoda. It was used widely by the German Army in its artillery units right up to the end of the war.

[127] 'A.O.K. 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (21 September 1942), BA-MA RH 20-17/132, fol. 83.

some surviving R-2 light tanks (Panzer 35(t) in Romanian service) with captured Soviet 7.6cm ZiS-3 field cannon. The Germans also provided the Romanians with a few dozen captured Soviet T-60 light tanks, which were armed with F-22 7.62cm divisional guns. The Romanians used them as tank destroyers and designated them TACAM R-2 (or T-60). Later, some of these R-2s were fitted with the 7.5cm Reşiţa Model 1943 Romanian anti-tank gun. This was basically a Soviet ZiS-3 field gun which had been rechambered to accept German 7.5cm ammunition. From November 1943 the Germans also began to provide more Panzer IVs and StuG IIIs.[128]

Shortages were often not simply down to availability or logistics problems. On 21 October, 17th Army noted that the paucity of Romanian artillery ammunition was, according to the Chief of Staff of Gruppe Wetzel (Colonel Helmuth Voelter), mainly down to the mindless barrage fire which the Romanians usually initiated even when only Russian reconnaissance patrols were approaching.[129] At the end of the month the WiRüAmt noted that the commander of VI Romanian Corps and the DHM had discussed in mid-July demands with respect to supply of ammunition as well as the necessary raw materials and steel cores for the manufacture of weapons, machinery and ammunition in Romania itself. A plan had been set up as a result which had fixed the monthly ammunition requirements of the Romanian forces serving on the Eastern Front. This amount was to be taken from German reserves if it could not be covered by Romanian manufacture, ongoing export orders, or captured stocks, and would be largely achieved at the expense of production which was intended for the Wehrmacht. However, previous discussions had shown that even though the Romanians knew the extent and type of troop contingents to be sent east in 1942, the responsible authorities had given no thought to the continuous supply of ammunition or to weapons replacements. Only with the intervention of the DHM did these issues finally come to be discussed. It was further noted that at the end of certain battles (such as at Kerch', Khar'kov and Sevastopol') captured Soviet equipment had been relinquished to Romanian troops.[130]

Germany's allies were intent on looking after their own interests where appropriate. On 11 November it was reported that Antonescu had told his advisers that Romanian requirements of crude oil and oil derivatives were to be given preferential treatment over

---

[128] Steven J. Zaloga and James Grandsen, *The Eastern Front: Armour Camouflage and Markings, 1941 to 1945* (London, 1993 [1983]), p. 90; Tucker-Jones, *Panzer Heist*, p. 110. The acronym TACAM stands for *Tun Anticar pe Afet Mobil* ('self-propelled anti-tank gun').
[129] 'A.O.K. 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 172.
[130] BA-MA RW 19/442, fol. 12-13.

exports. The planned figure for domestic use would reach 242,600 tonnes for the following month (compared to, for example, only 147,000 during the previous November). It was also noted by the German authorities that certain deliveries which had been promised had not arrived.[131] The Romanians could hardly complain about weapons being withheld when they themselves knew that their oil reserves were the single most important source for Germany.

Military aid was not confined to the Romanian Army. A deal worth between 13 and 15 million Reichsmark (RM) was to be included in the proposed treaty of March 1939 in order to develop the Royal Romanian Air Force (*Forţele Aeriene Regale ale României*, FARR) with German technical assistance.[132] Before the outbreak of war, for example, Germany had already supplied 30 He 112 fighters to Romania. This aircraft had lost out to the famous Messerschmitt Bf 109 in trials, but the Luftwaffe later urged its manufacturer, Dr Ernst Heinkel, to sell it to countries like Turkey, Japan and Romania. It subsequently proved its worth with the FARR in operations over the Black Sea and at the Ukrainian port of Odessa. Also, once the campaign in the west had begun, Germany provided 50 Bf 109E-3/-4 fighters and 32 He 111H-3 medium bombers (to supplement the SM 79Bs which had already been purchased from Italy). Assistance also came from the Germans in the form of specialized personnel when, in autumn 1940, a Luftwaffe mission was sent to Bucharest in order to help with the restructuring of the FARR.[133]

The indigenous Romanian aircraft industry reached its peak output in 1942 when it produced 314 machines of all types. Nevertheless, until better aircraft arrived from Germany the contribution of the FARR on the Eastern Front remained moderate. When Blau began, however, its activities increased somewhat on the previous year. The Combat Air Group (*Grupul Aerian de Luptă*, GAL), which had been formed at the beginning of the eastern campaign in order to support the two Romanian armies in Army Group South, now had more modern aircraft than when Barbarossa began. Logistics, however, remained inadequate. Nevertheless, from 1943 a process of modernization began with the aid of local industry and further imports. Germany began to deliver Bf 109G (fighter), Ju 87 (dive-bomber), Hs 129 (ground-attack) and Ju 88 (bomber/fighter) aircraft. However, because of a fear that they would be used against the Hungarians these machines were loaned instead of donated. Romania would later also obtain Ju 52/3m transporters and 12 Bf 110C night fighters as

---

[131] 'Unfreundliche Maßnahmen Rumäniens auf dem Wirtschaftsgebiet', BA-MA RW 5/29, fol. 224.
[132] Haynes, *Romanian Policy*, p. 74. In January 1939 RM 1 = US$ 0.41; RM 15 million would be approximately US$ 78 million in today's prices (using the GDP deflator).
[133] Neulen, *Skies of Europe*, p. 93; Green, *Warplanes*, p. 296.

purchases. The following table shows the aircraft which the Romanian Air Force received from Germany during the campaign in the east up to the end of 1942[134]:

Table 1: German Aircraft Deliveries to the FARR, 1941-2

Period of Delivery	Type	Roll	Number
September 1941	Hawker Hurricane	fighter	3
January-March 1942	He 111H-6	medium bomber	10
January-March 1942	Bf 109E-7	fighter	15
April 1942	He 114	reconnaissance	10
April 1942	Fi 156C-3	reconnaissance	14
April/May 1942	Do 17M	light bomber	10
September 1942	Bristol Blenheim	light bomber/fighter	3
1942	Ju 52/3m	transporter	18

Hitler was very keen to send experienced personnel in important different fields to Romania. By summer 1942, for example, the Germans were in the process of deploying thirty liaison staffs and expanding a further eight which were already in place at Romanian army, corps and divisional headquarters.[135] Similarly, it is generally considered that it was the Germans who set out the terms for economic collaboration between the two countries before the outbreak of the Second World War. However, the documentary evidence suggests that it was the Romanians who drafted the terms on which Helmuth Wohlthat (Göring's chief negotiator) expanded. Romanian authorities were doubtless aware that Germany would become predominant in their economy under the outline plan drawn up by various government ministers under the supervision of King Carol, but they felt that this was in the best interests of the country. Germany ultimately effected the joint exploitation of Romania's mineral resources and forests, the expansion of its industry, and adapted its agricultural sector

[134] Neulen, *Skies of Europe*, pp. 93, 98, 99, 103, 104.
[135] 'Grundsätzliche Weisung Nr. 5 für das Lehrpersonal D.H.M.' (26 May 1942), BA-MA RH 31-I/149, fol. 78.

to German needs. It also helped to develop the communications infrastructure, armaments industry and air force according to German practices.[136] These specialists helped to improve not just the armed forces but also the internal structures of the country.

There is no question that the Romanian Army suffered shortages at certain times during 1942, though so too did the Wehrmacht. However, the Germans were often angered at what they perceived to be gross incompetence on the part of their ally and were therefore loath to part with valuable equipment of the most modern kind. They found the Romanians in general to be unpunctual, inattentive and extremely corrupt, while officers had little regard for the plight of their men and did not associate with them on grounds of class differences.[137] Enlisted men were generally held in even less regard by Wehrmacht commanders. It was certainly true that the Germans felt that the Romanian soldier could be tough, brave and willing to make sacrifices when he had confidence in his officers.[138] Nevertheless, he also had his shortcomings in the view of his German comrades. A report on the Romanian Mountain Corps in early August suggested that the handling and care of horses in the unit was – with few exceptions – still completely 'uncomprehending and improper' (*verständnislos und unsachgemäß*).[139] This was unfortunate given that the Romanians depended largely on horses for mobility. Indeed, the majority of the troops were unfamiliar with motor vehicles in general, never mind tanks. It therefore proved difficult even to prepare them for anti-tank warfare.[140] The Germans were further exacerbated by the fact that the Romanians often did not seem to be heeding important instructions. On 19 February 1942 the liaison staff at the headquarters of 8th Romanian Cavalry Brigade in the Crimea wrote to the chief of staff of 11th Army and suggested that the chronic shortage of ammunition experienced by the unit was only down to poor fire discipline resulting from the Romanians' need to discharge their weapons simply to calm themselves (*zu ihrer Beruhigung*).[141] Despite all this, however, deliveries from Germany took on their biggest magnitude after the Romanians had suffered their greatest material losses in battle.[142]

The Germans decided that it would be preferable to send vehicle parts directly to the Romanian troops at the front for a number of reasons, especially because the transport system

---

[136] Haynes, *Romanian Policy*, p. 74. Carol II ruled Romania from 8 June 1930 until he was overthrown by Antonescu in favour of his (Carol's) son, Michael, on 6 September 1940.
[137] Abbott and Thomas, *Eastern Front Allies*, pp. 22-3.
[138] Gosztony, *Hitlers Fremde Heere*, p. 251.
[139] 'Erfahrungsbericht über den Einsatz der rumänischen Verbände während der Kämpfe um Sewastopol in der Zeit vom 2.6-1.7.1942' (3 August 1942), p. 9, BA-MA RH 31-I/131.
[140] Deletant, *Hitler's Forgotten Ally*, pp. 94-5.
[141] BA-MA RH 31-I/131.
[142] Thomas, *Geschichte*, p. 342.

in south-eastern Europe was too slow. From September the Wehrmacht elected only to send spare parts for the repair of vehicles which were already in Romania.[143] Indeed, Keitel reassured his ally earlier in the year that, as in 1941, the German Army would once again take responsibility for the supply of Romanian troops for the new offensive, with all facilities to be put at their disposal in the same way that they would be for German units.[144]

Hungary

Preparations by successive Hungarian governments for any potential conflict had been ongoing long before the outbreak of the Second World War, driven by the need to be strong militarily if irredentist ambitions of amending the post-First World War Treaty of Trianon were to be eventually realized. This settlement, imposed by the victorious Allies on 4 June 1920, had forced the Kingdom of Hungary to cede approximately 72% of its pre-war territory to its neighbours (Romania, Czechoslovakia, Yugoslavia and Austria). On 5 March 1938 Prime Minister Kálmán Darányi announced the new rearmament plan known as the Győr Programme, which envisaged an expansion of the armed forces during the next five years to begin at once, with national conscription being introduced the following year.[145] By 1939 Hungary had a full-blown war economy with – according to German sources – an efficient munitions and armaments industry.[146] One year later, thanks to a significant increase in trade with Germany coupled with domestic production of war material, the Hungarian economy was booming, leading one British observer to call the country an 'island of plenty'.[147]

Whereas Romania's effort in the war against the Soviet Union was complete in the hope of recovering the territories which had been lost as part of the Second Vienna Award – Northern Transylvania and the Hungarian-speaking Székelyföld (Szeklerland) – Hungary's fidelity was, from the very outset, only a symbolic gesture. General Henrik Werth, the pro-German Chief of Staff, had wanted half of the total military strength of the country to be sent

[143] 'Wehrwirtschaftlicher Lagebericht Nr. 7, August 1942', attachment 14 ('Aktennotiz über die Besprechungen wegen Versorgung der rum. Wehrmacht mit Kfz.-Ersatzteilen'), BA-MA RW 29/66 (1 September 1942).
[144] Cited in a letter from the head of the DHM (Hauffe) to the Romanian Chief of Staff, Lieutenant-General Ilie Şteflea (20 June 1942), BA-MA RH 31-I/149, fol. 6. Şteflea held this appointment from 20 January 1942 until 23 August 1944, when he took command of 4th Romanian Army.
[145] Nigel Thomas and László Pál Szábó, *The Royal Hungarian Army in World War II* (Oxford, 2008), p. 5. Darányi served as prime minister from 12 October 1936 until his resignation on 11 May 1938.
[146] Berend and Ránki, *Hungary*, p. 167; 'Lagebericht über die ungarische Wirtschaft', p. 15, BA-MA RW 19/3626 (27 May 1939).
[147] Cited in Thomas Sakmyster, *Hungary's Admiral on Horseback: Miklós Horthy, 1918-1944* (New York, 1994), p. 243.

to Russia as early as the end of August 1941 as a sign of its commitment to the Axis cause. He accused politicians of harming Hungary's national interests by obstructing its military efforts in this theatre. However, Lieutenant-General Ferenc Szombathelyi, the commander of Hungarian forces already serving in the Soviet Union (the so-called Carpathian Group comprising VIII and Rapid Corps), was by this time warning the political leadership that all troops should be withdrawn from a war whose outcome, he claimed, was far from certain. The Regent, Admiral Miklós Horthy, duly dismissed Werth and replaced him with Szombathelyi.[148] Towards the end of the year the new Chief of Staff suggested that the primary goal of the Hungarian government should now be to preserve whatever forces remained so that they would be available to defend the country once the war was over, and he even intimated that Hungary might have to engage in hostilities with its neighbours during the present conflict.[149] These attitudes led Hitler to become disenchanted with Hungary and to the conclusion that the country was keen to get as much as possible from its alliance with Germany at minimal cost to itself.[150]

As with Romania, German assistance to the Hungarian Army came in a number of different forms. On 13 March 1942 a list of instructions was sent to the German liaison staff at the Hungarian high command with the summer offensive in mind. To begin with, the Hungarians were to be helped with the initial organization and training of the units which would take part in Blau. Later, the staff would help the Hungarians with respect to operations.[151] Army Group South was the main point of contact for the Hungarian troops actually serving in the east. That same month Colonel Friedrich-August Weinknecht (quartermaster of the army group and later German representative at the headquarters of 2nd Hungarian Army) was sent to Budapest in order to discuss readiness with respect to arms and equipment. The Wehrmacht finally agreed to assume responsibility for supply to its partner, which assistance would be compensated for by deliveries of foodstuffs.[152]

---

[148] Nándor Dreisziger, 'Hungary Enters the War, March-December 1941', in *idem* (ed.), *Hungary in the Age of Total War*, pp. 67-8. The Second Vienna Award, signed on 30 August 1940 with Germany and Italy as arbiters, forced Romania to return large areas which had originally been ceded by Hungary as part of the Treaty of Trianon. Horthy became Regent on 1 March 1920 when the Kingdom of Hungary was re-established and reigned until 15 October 1944, when he was taken prisoner by the Germans having attempted and failed to take his country out of the war. Szombathelyi became Chief of Staff on 6 September 1941, a post he held until the German Army occupied Hungary on 19 March 1944 (Operation Margarethe I).

[149] Dombrády, *Army and Politics*, pp. 363-4.

[150] Abbott and Thomas, *Eastern Front Allies*, p. 15.

[151] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 109.

[152] Dombrády, *Army and Politics*, pp. 393-4. Weinknecht was quartermaster of Army Group South/B from 1 April 1941 until 31 October 1942. 2nd Hungarian Army was commanded by Vezérezredes (Colonel-General) Gusztáv Jány from its creation on 1 March 1940 until 5 August 1943.

On 9 March Count Miklós Kállay became the new prime minister of Hungary. He at once received instructions from Horthy to reverse the policy of benevolence towards Germany which his immediate predecessor, Dr László Bárdossy, had pursued.[153] Sometime later Kállay met Hitler at the Führer Headquarters (*Führerhauptquartier*, FHQu) in East Prussia. The most important aspect of the meeting as far as the Hungarian premier was concerned was that Hitler did not mention the need for any more *Honvéd* troops at the front for the moment.[154] This was yet another indication that the Hungarian government and military were only lukewarm at best about the war in Russia.

As Blau approached the Germans were working hard to prepare 2nd Hungarian Army for its future role. That spring they sold 108 Panzer 38(t) Ausf G and 22 Panzer IV Ausf F1 medium tanks plus 2 Panzer I command tanks to the Hungarian Army, which eventually made up the core of 30th Armoured Regiment.[155] On 2 April Hitler once again ordered that the Hungarians – who would soon be in position to the south of Voronezh – were to be fully equipped with the necessary anti-tank guns 'at all costs', including some mobile units.[156]

By summer 1942 the Hungarian Army was confident that its regiments had an offensive strength approaching that of their German counterparts, though the lack of assault guns would be especially noticeable once offensive operations were resumed. The armoured division was also coming to the end of its training, which was being conducted under German supervision. The Hungarians further revealed that they wished for their formations to be deployed as a single formation under one command, both for the morale of the troops at the front and of those elements remaining at home. There was the further practical consideration of logistics to take into account, as Hungarian munitions types were different from those used by the Germans. Supply, however, was only deemed a potential problem if the Hungarians were asked to operate at considerable distances from railheads.[157] This situation, however, never materialized, as the sector on the Don which they ultimately took over in July was no more

---

[153] György Ránki, ''Unwilling Satellite' or 'Last Satellite' – Some Problems of Hungarian-German Relations', in *idem* (ed.), *Hungarian History – World History: Indiana University Studies on Hungary* (Budapest, 1984), p. 275. Bárdossy served as prime minister from 3 April 1941 to 7 March 1942. Kállay then served as premier until he was ousted three days after the German occupation.

[154] Dombrády, *Army and Politics*, pp. 399-400. *Honvéd* was the general term for the Hungarian armed forces from 1920 to 1949. The land forces were known as the *Magyar Királyi Honvédség* (Royal Hungarian Army) from 1922 to 1945.

[155] Csaba Becze, *Magyar Steel: Hungarian Armour in WWII* (Sandomierz; Redbourn, 2006), p. 3; Ness, *Jane's World War II Tanks*, p. 118.

[156] 'Chef H.Stb./OKW Nr.13/42 gK.Chefsache vom 2.4.42', BA-MA RH 2/931a, fol. 82.

[157] 'Bericht des Oberkommandos der 2. ungarischen Armee an das Heeresgruppenkommando B über die Kriegsgliederung und den Zustand der 2. ungarischen Armee, wahrscheinlich vom Mai 1942', pp. 1, 2, 3, BA-MA RH 19-I/270.

than 200 kilometres from the initial jumping-off point, with a railway line running parallel behind it.

On 23 June the German military attaché in Budapest (Colonel Friedrich-Carl Rabe von Pappenheim) reported to the OKH that despite numerous attempts, he could still not get any information on the two additional security divisions which had been promised by the Hungarians. He had approached the Hungarian general staff 'umpteen times' (*x-mal*) for information with the same response on each occasion: namely, that it would only be sure of the complete order of battle once replacement formations had been activated. The attaché complained that factual and precise information could not even be gleaned from a country which was ostensibly one of Germany's closest allies. In the long term, however, he hoped to be able to provide a clearer picture, especially once he had received more information from Romanian and Slovakian intelligence reports.[158] Six days later the Abwehr noted that a high-ranking Hungarian general had suggested that the number of men to be sent to Russia could not exceed 500,000 because troops were now also needed to remain in Hungary in order to face down the threat from Croatia as well as Romania, which was, according to the report, a new excuse. The Germans, however, felt that this had little to do with fear of an actual confrontation with Croatia and was instead a pretext for the hitherto sluggish preparations of the Hungarian authorities.[159]

2nd Hungarian Army was in position along the river Don by late July and was no longer involved in offensive operations. Nevertheless, in September it received 10 Panzer III and 10 Panzer IV Ausf F2 medium tanks, plus 10 StuG 40 assault guns.[160] Hungary fielded more armour than any of Germany's other allies on the Eastern Front and, excepting Italy, was the only one which built its own tanks in significant numbers. Initially, however, there were delays in production of its new medium tank (Turán I) and assault gun (Zrínyi II), which resulted in the Hungarian Army purchasing Panzer IV and StuG III vehicles from Germany as a temporary solution. Later, when the indigenous tanks failed against the T-34, the Germans agreed to sell better machines, including several Panzer V (Panther) medium and Panzer VI (Tiger) heavy tanks in spring 1944.[161] The following table lists the different

---

[158] BA-MA RH 2/2925, fol. 27, 28-9. Rabe von Pappenheim was German military attaché to Hungary from 1 November 1941 until 8 October 1943.
[159] 'Ungarn' (29 June 1942), BA-MA RW 4/334, fol. 118.
[160] Ness, *Jane's World War II Tanks*, p. 118. The Panzer IV Ausf F2 mounted the new significantly improved long-barrelled 7.5cm KwK 40 L/43 gun, which was capable of knocking out Soviet T-34s and KVs. The StuG 40 was an upgunned StuG III, mounting a 7.5cm StuK 40 L/43 cannon (the assault-gun equivalent of the KwK 40 L/43).
[161] Zaloga and Grandsen, *Eastern Front*, p. 78; Tucker-Jones, *Panzer Heist*, p. 106.

types of armoured fighting vehicles which the Hungarian Army received from 1941 to 1944, both from indigenous production and procurements from Germany[162]:

[162] *Note*: Yearly allocations are estimates: Ness, *Jane's World War II Tanks*, p. 117.

Table 2: Hungarian Armoured Fighting Vehicles Deliveries, 1941-1944					
Type	Role	1941	1942	1943	1944
Production					
Csaba	armoured car	32	50	-	-
Toldi	light tank	110	-	-	-
Turán I	medium tank	-	190	65	24
Turán II	medium tank	-	-	120	60
Nimród	AA tank	-	46	71	18
Zrínyi II	assault gun	-	-	30	36
Conversions					
Toldi I, II and IIa	light tank	-	-	80	-
Imports					
Hotchkiss H-35/39	light tank	-	15	-	-
Somua S-35	medium tank	-	2	-	-
Pz I Ausf B	light tank	-	8	-	-
Pz II Ausf F	light tank	-	6	-	-
Pz 38(t)	medium tank	-	108	-	-
Pz III M	medium tank	-	10	-	10
Pz IV F1	medium tank	-	22	-	-
Pz IV F2	medium tank	-	10	-	-
Pz IV H	medium tank	-	-	-	12
Pz V (Panther)	medium tank	-	-	-	8
Pz VI E (Tiger)	heavy tank	-	-	-	12
StuG 40	assault gun	-	10	-	-
StuG 40 G	assault gun	-	-	-	40
Marder II	tank destroyer	-	5	-	-
Hetzer	tank destroyer	-	-	-	50

2nd Hungarian Army received modest air support during Blau and later operations from 1st Air Division (known as 2nd Air Brigade from 15 October) of the Royal Hungarian Air Force (*Magyar Királyi Honvéd Légierő*, MKHL). This formation began with approximately 5,500 men and 90 aircraft (45 of which were combat types) and continually received replacements throughout summer and autumn 1942. Between July and September, for example, Luftflotte 4 supplied the MKHL with 3 He 111P-6 medium bombers and 4 Do 215B-4 light bombers after considerable losses had been incurred in the upper Don sector. Hitler, however, was not impressed with either the combat record of Hungary's pilots or the persistently bellicose attitude of its government towards Romania. These factors had a significant influence on the number of aircraft that the Hungarian Air Force ultimately received from Germany. Nevertheless, in the eighteen months or so between summer 1942 and the beginning of March 1944 the following machines were supplied[163]:

Table 3: German Aircraft Deliveries to the MKHL, Summer 1942 to Spring 1944

Type	Role	Number
Do 215B-4	long-range reconnaissance	8
Ju 88A-4, Ju 88C-6, Ju 88D	bomber and reconnaissance	51
Bf 109F, Bf 109G-2/-6	fighter	66
Ju 87D-3/-5	dive bomber	13
Fw 189A	tactical reconnaissance	16
He 111P	medium bomber	10

German economic policy towards Hungary changed from 1941 because of the needs of rearmament. In the 1930s Germany had not been keen to promote any further expansion of the country's already substantial heavy industry. However, from 1941 Hungarian firms gradually began to receive increasingly larger orders from Germany.[164] By the end of 1942 the War Economy Department at the OKW (*Wehrwirtschaftsamt*, WWA) noted that factories

[163] Neulen, *Skies of Europe*, pp. 126, 127, 131.
[164] Iván T. Berend and György Ránki, *The Hungarian Economy in the Twentieth Century* (London, 1985), p. 165.

in Hungary were manufacturing weapons and equipment at full capacity thanks to a combination of both German and local orders.[165] However, while Germany was the principal benefactor of certain areas of Hungarian industry in 1942 and 1943, there was no truth to the rumour that up to 85% of armament production was intended for the Wehrmacht.[166] For example, during the war the Hungarians built a total of 270 Me 210Ca-1 heavy fighter/ground-attack aircraft under licence, 160 of which went to the MKHL.[167]

As with Romania, Hungary maintained its independence throughout most of the war and often had no misgivings about prioritizing its own needs when necessary. One significant consequence of such action was that food exports to Germany fell by 25% between 1940 and 1943 simply because the authorities were keen to provide for their own citizens first.[168] Furthermore, Hungary's economy actually performed better in the early years of the conflict than it had done in the pre-war years, especially with respect to industrial development, which experienced a 63% increase in actual production between 1938 and 1943.[169]

The Hungarian Army initially used its demands for ammunition, machinery, weapons, raw materials and equipment for its troops at home instead of for improving the conditions of its troops in Russia.[170] Its lacklustre commitment to the common Axis cause was the principal reason why it did not get much of the most modern weaponry which it certainly needed. (Even the Finns were displeased with the efforts of their 'cousins', leading the military attaché in Berlin to promise the Germans early in 1942 that Finland would approach the Hungarians directly on the matter.[171]) Hitler's refusal to equip an unreliable army more interested in settling scores with ostensible allies than in fighting the Soviets made sense both politically and militarily.

---

[165] 'Freie Kapazität (Waffen) in Ungarn' (15 October 1942), BA-MA RW 29/8, fol. 19, 20.
[166] Berend and Ránki, *Hungarian Economy*, p. 165.
[167] Neulen, *Skies of Europe*, p. 134.
[168] Bryan Cartledge, *The Will to Survive: A History of Hungary* (London, 2011 [2006]), p. 388.
[169] Berend and Ránki, *Hungarian Economy*, pp. 163, 167.
[170] Thomas, *Geschichte*, p. 344.
[171] 'Unterredung mit dem finnischen Militärattaché' (6 February 1942), BA-MA RW 4/325, fol. 56.

Italy

The armaments wish list which the Italian government presented to the Germans in August 1939 was described by Foreign Minister Count Galeazzo Ciano as 'enough to kill a bull'. A second list of demands in December of the following year was even more audacious. It included a request for, *inter alia*, 800 medium tanks, 675 anti-tank guns, 900 8.8cm anti-aircraft guns (including carriages and munitions), and approximately 8,000 trucks.[172] These demands could never be fulfilled, though the Germans did agree to direct military assistance, relatively large amounts of raw materials, and to supply certain types and quantities of arms (if somewhat reluctantly). Direct help came two months later when, on Hitler's insistence, a Luftwaffe force was sent to Sicily in February 1941. The following month the German Africa Corps (*Deutsches Afrikakorps*, DAK) under Lieutenant-General Erwin Rommel arrived in North Africa to bolster the flagging Italian forces. Then, in April, German offensive operations in the Balkans finally extricated Italy from the debacle that was its involvement in Greece.[173] This conflict, coupled with Italy's poor showing in 1940 against a defeated French Army on the Alpine front, had been a considerable source of embarrassment for the country's armed forces.

Despite the reversal experienced by the Germans in Russia at the end of 1941 they continued to try to galvanize Mussolini's effort in the Mediterranean theatre with German troops rather than attempt to increase the effectiveness of the Italian Army. This constituted a drain on the German war economy, though from a strategic and propagandistic point of view it was important for the mutual conduct of the war. German aid to Italy throughout the whole year was substantial, with shipments of armaments bridging the gap while Italian industry was being brought up to the requisite level of production.[174] This too was carried out in large part thanks to German assistance. A WiRüAmt report dated 10 February 1942 showed that coal deliveries to Italy for the year 1941 totalled 11.8 million tonnes, which amounted to 95%

---

[172] R.J.B. Bosworth, *Mussolini's Italy: Life under the Dictatorship* (London, 2006 [2005]), p. 466. Ciano, who married Mussolini's eldest daughter in 1930, served as foreign minister from 1936 to 1943. He was executed on 11 January 1944. The German 8.8cm anti-aircraft gun was one of the most famous of the war, first entering service with the Wehrmacht in 1933. During the war it attained its legendary status not in its intended role but as an anti-tank weapon.

[173] Raspin, *Italian War Economy*, p. 219. Rommel, promoted to Field Marshal on 22 June 1942 after the fall of Tobruk in Libya, commanded the DAK from 14 February until 15 August 1941. On 1 September he took command of Panzergruppe (later Panzerarmee) Afrika, which he commanded until 22 September 1942 (with one brief interlude).

[174] Ibid., pp. 221, 391.

of the target of 12.6 million tonnes. This was achieved despite manifold difficulties.[175] Later that summer Speer wanted to ruthlessly restrict all exports from Germany in favour of indigenous armament production. Hitler, however, had already instructed that Italian requests were to be addressed.[176]

By the time 8th Italian Army (also known as *Armata Italiana in Russia*, ARMIR) was in place in the Ukraine it was equipped the way the Germans wanted it to be, especially with respect to anti-tank weapons. Its inventory included 36 good Italian 7.5cm 75/32 field guns, 54 German 7.5cm Pak 97/38 anti-tank guns, and 25,000 draught animals. It also had approximately 600 different artillery pieces ranging from a calibre of 7.5 to 21cm and was equipped with a considerable number of the latest types of indigenous guns available to the Italians. With the sole exception of tanks (which were reserved for North Africa), the ARMIR was given preferential treatment in terms of equipment in comparison to Italian troops serving in other theatres. It is simply incorrect, therefore, to regard this force as expendable or of little worth.[177] Furthermore, it received much of the motorized transportation which was available in the Italian Army – a commodity which was already in short supply throughout the armed forces.[178]

Unfortunately for Army Group South, however, it had no influence over who would command this force. Lieutenant-General (later Marshal) Giovanni Messe, the commander of the Italian Expeditionary Corps in Russia (*Corpo di Spedizione Italiano in Russia*, CSIR), which had been fighting alongside the Wehrmacht since the beginning of the campaign, was not given command of the ARMIR even though he was respected by the Germans. Instead, the position went to General Italo Gariboldi, who had been waiting longer than Messe for an army command.[179]

The Germans would soon come to rue what they perceived as inefficiency in the Italian war industry. In January 1942 the Royal Italian Air Force (*Regia Aeronautica*, RA) turned to Germany for help with strengthening aerial defences against a possible Anglo-American invasion. 200 aircraft were delivered, including 18 night fighters, 3 Bf 110 multi-purpose

---

[175] 'Die wirtschaftliche Lage des Auslandes (Dezember 1941/Januar 1942)', BA-MA RW 19/1568, fol. 136.
[176] 'KTB WiRüAmt/Stab' (11 May 1942), BA-MA RW 19/1864, fol. 7.
[177] Schlemmer, *Italiener an der Ostfront*, pp. 29-30.
[178] Brian R. Sullivan, 'The Path Marked Out by History: The German-Italian Alliance, 1939-1943', in Adelman (ed.), *Hitler and his Allies*, p. 134.
[179] Gosztony, *Hitlers Fremde Heere*, pp. 214-15. Generale di Corpo d'Armata Messe took over command of the CSIR on 17 July 1941 after its original commander, Lieutenant-General Francesco Zingales, became ill. He kept this position when it became (as XXXV Corps) part of 8th Army on 10 July 1942 until 1 November 1942, when Zingales took command once again. Generale d'Armata Gariboldi commanded the ARMIR from 10 July 1942 until its remnants were withdrawn from the Eastern Front in late January 1943.

machines and 15 Do 217J night fighter/bomber aircraft.[180] The following spring Bf 109s began arriving from the Luftwaffe. Initially, 50 were given up by German formations stationed in the Mediterranean area, but by the armistice in September later that year over 100 machines had been delivered to the RA.[181] Between 1939 and 1943 the Italians received 12 Do 217J night fighters, 110 Ju 87R-2 and 49 Ju 87D-3 dive bombers, 50 Ju 88A-4 bombers, and 80 Bf 109G and 3 Bf 110C fighters. They were also supplied with a number of planes from Vichy France.[182]

Soon after Blau began the head of the German liaison staff with the ARMIR (Major Reinhold Fellmer) reported that the Italians were fully prepared for action and were at authorized strength in terms of both men and material. He noted, however, that this army would only be suitable for defence against light to medium attacks, and that it would only be able to go on the offensive with the help of German units. Hitler placed three German divisions (including one armoured) behind the front of 8th Italian Army as he was fearful of a Soviet breakthrough in this sector. The Germans had therefore located a significant number of their own divisions here. Indeed, he had even contemplated taking units out of the Stalingrad front in order to bolster the defences in this area.[183]

On 30 October the economics liaison staff in Rome, WO Italien, noted that for the most recent quarter Italian demands for deliveries of *matériel* from Germany had taken the form of small-scale individual requests of various types. During 1941, the report continued, considerable amounts of material had been given to the Italians from both captured stocks and Wehrmacht reserves (partly from the company Ageka GmbH and to some extent directly from German armaments firms). However, despite repeated protests from these firms and reminders from the OKW, Italy had only paid a small part of the invoices up to that point. The outstanding debits of Ageka GmbH amounted to approximately RM 34 million, while those for the armaments companies stood at RM 27 million. Addtionally, there were unpaid bills for lubricant oil to the tune of roughly RM 44.5 million. There had also been trouble with Italian requests for machine tools. It obviously affected the Wehrmacht detrimentally whenever anything had to be given up, but it had been noted that in many cases the Italian requests for such hardware had not been for urgent use related to the war effort but for

[180] Neulen, *Skies of Europe*, p. 71.
[181] Ibid., pp. 67-8.
[182] Chris Dunning, *Courage Alone: The Italian Air Force, 1940-1943* (Ottringham, 2009), pp. 274, 275, 276.
[183] Schlemmer, *Italiener an der Ostfront*, pp. 31-2, 60. Fellmer held this post until November 1942.

civilian purposes. The WO Italien had therefore been informed to check for the urgency of these types of requests in the future.[184]

Italy's military expenditure stood at 23% of GDP in 1941 – a 'derisory figure' for such a relatively weak economy.[185] The pitiful productive capacity of its industry was never optimized during the war, and businesses and the Italian people in general eventually began to move away from their collaboration with Mussolini's regime for the war effort.[186] It is undoubtedly true that Italy did not get the same amount of material support from Germany between 1940 and 1943 as it did from its allies in the First World War, which obviously precipitated additional problems.[187] However, Germany simply did not have the resources to fully equip the Italian Army with modern weaponry despite its best efforts. Nevertheless, economic assistance was substantial. In 1942, for example, approximately 10% of German oil supplies went to Italy. (Romanian deliveries to Germany were, in effect, loans, so the 331,316 tons of oil which Italy received from Germany in that year and the 852,672 tons from Romania amounted to a loss for Germany.) Also, thanks to German exports Italy had more coal and steel in 1942 than it had had in 1939. In fact, three quarters of Germany's crude steel exports for that year went to Italy.[188]

Italian military leaders simply never learned that 'machine warfare' had been the way forward since the middle of the First World War. Instead, they preferred to believe that willpower and superior numbers alone would be the arbiters of success on the battlefield. In fact, the quondam chief of the Italian general staff, Marshal Pietro Badoglio, was so disinterested in modern battlefield tactics that he declared that an Italian analysis of German methods from July 1940 was only to be studied more carefully once the war was over.[189]

Italy's military record ensured that Germany always gave its junior partner just enough equipment (often French or Czech booty) to prevent a collapse in the Mediterranean until the Wehrmacht was ready to deal with Britain after the fall of the Soviet Union. This was particularly true with respect to supplying the German-Italian army in North Africa.[190] As with the other Axis armies, German support increased significantly as the war progressed. Hitler agreed to send up to 30 tanks to North Africa in early 1943, but these were held up in

---

[184] BA-MA RW 19/442, fol. 7-8.
[185] Bosworth, *Mussolini's Italy*, p. 466.
[186] Vera Zamagni, *The Economic History of Italy, 1860-1990* (Oxford, 1997 [1993]), p. 290.
[187] Ibid., p. 271.
[188] Raspin, *Italian War Economy*, pp. 270, 378.
[189] Knox, *Common Destiny*, pp. 151-2, 156-7. Badoglio served as Chief of Staff from 2 December 1919 until 3 February 1921 and then again from 4 May 1925 until 4 December 1940. He later headed the Italian Royalist government from 25 July 1943 until 8 June 1944 following the overthrow of Mussolini.
[190] *Idem*, *Hitler's Italian Allies*, p. 102.

Sicily and ended up being used by Panzer Division *Hermann Göring* instead. The first tanks to be given to the Italians arrived that summer and went to the Blackshirts. This delivery comprised of 12 Panzer IIIN and 12 Panzer IVG medium tanks, plus 12 StuG IIIs.[191] Unfortunately for the Italian Army, however, it was let down most by the people responsible for its welfare. The multiplicity of vehicle types issued to the troops in the east meant that there were constant problems with respect to drivers, technicians and replacements. The high command also failed to provide low-temperature lubricants – something which was necessary even for winters in northern Italy – thereby exacerbating the existing problems of immobility and operational paralysis.[192]

Italy received 209,000 tons of fuel from Kriegsmarine stocks in 1942. The German Navy also relinquished its imports of fuel oil from Romania in favour of Italy. As a consequence, its stocks fell from 521,000 tons to 136,000 tons in the two years from the beginning of 1941 until the end of 1942. The table below shows the dramatic rise in German oil exports to Italy in the first three full years of the war[193]:

Table 4: Italian Oil Imports from Germany, 1940-1942 (in tons)

	1940	1941	1942
Aviation Fuel	-	57,189	109,739
Naval Naphtha	-	43,940	209,000
All Oil	**9,661**	**194,295**	**331,316**

The fact that Italy had enough fuel stocks by the time of its leaving the war was to the credit of the German authorities alone. Though Italian requirements of raw materials were small in comparison to those of Germany, they still had a detrimental effect on the combined war effort because they were essentials which the Germans lacked themselves. The Italians also refused German assistance in trying to get a better insight into – and therefore ultimately improve – their war economy. Problems were further compounded by the fact that Mussolini

[191] Ness, *Jane's World War II Tanks*, p. 127. Division *Hermann Göring* was an elite formation, which fought as part of the DAK in North Africa until its surrender in May 1943. It was later reformed as Panzer Division *Hermann Göring* and fought in Sicily and Italy. The Blackshirts were the paramilitary wing of the Fascist Party.
[192] Knox, *Common Destiny*, p. 169.
[193] Raspin, *Italian War Economy*, pp. 243-4, 411.

himself was often not told the truth about the overall economic situation of the country.[194] Indeed, the state in general must bear the burden of blame for the poor performance of industry and, consequently, the armed forces. For the duration of the conflict the Italian war economy was riven with inefficiency and corruption, and was underdeveloped and lacking coherent direction.[195] Neither unquestionable bravery in the field nor considerable direct and indirect German assistance could ultimately compensate for political and military mismanagement.

Japan

Hitler had always been of the opinion that the Tripartite Pact signed on 27 September 1940 between Germany, Italy and Japan was fundamentally directed against the United States. The Japanese, he contended, would keep the Americans tied down in the Pacific theatre and prevent them from interfering in Europe once Barbarossa was under way. This analysis was supported by Warlimont, who suggested that the OKW was adamant that the Japanese Army would only attack the Soviet Union once the Red Army had been effectively defeated – an argument which, according to Warlimont, therefore eliminated the need for an initial coordinated strategy.[196] Contrariwise, the Japanese viewed the accord as a deterrent to British or American involvement in the Pacific, and they too had little enthusiasm for a synchronized war effort. However, both geographical distance and the naval superiority of the combined navies of Great Britain and the United States worked in any case against any collaboration which might have been envisaged between the Axis partners.[197] Moreover, Japan was in a strong position both militarily and geographically to pursue its own separate strategy. The non-aggression pact which had been signed with the Soviet Union on 13 April 1941 meant that the Japanese could now concentrate on fulfilling their ambitions of southward expansion without having to worry about a two-front war.[198]

---

[194] Thomas, *Geschichte*, p. 341.
[195] Sullivan, 'German-Italian Alliance', p. 148.
[196] Cited in DiNardo, *Germany and the Axis Powers*, p. 94. The Tripartite Pact created the alliance of countries which came to be known as the Axis. Subsequent signatories were (in order of accession) Hungary, Romania, Slovakia, Bulgaria, Yugoslavia and Croatia.
[197] Marius B. Jansen, *The Making of Modern Japan* (Cambridge, MA, 2000), pp. 625, 626.
[198] Jon Halliday, 'From the Washington Conference to the Pacific War (1922-41)', in Tim Megarry (ed.), *The Making of Modern Japan: A Reader* (Dartford, 1995), p. 268.

The line of longitude 70° east proposed as a demarcation line between Japan on one side and Germany and Italy on the other was rejected by the OKW and the Kriegsmarine because they believed that it amounted to a political division of spheres of interest between Africa and Asia. Hitler, on the other hand, was particularly receptive to the notion of separate theatres as he had no desire to see German soldiers fighting shoulder to shoulder with 'Asiatics'. This agreement was formally countenanced on 18 January 1942.[199] However, a section in the protocol stipulated that signatories did not necessarily have to adhere strictly to this somewhat arbitrary boundary. On 30 June the Seekriegsleitung noted the meeting held with the Japanese military attaché the previous day during which he expressed the desire of the Imperial Japanese Navy (IJN) to extend proposed submarine operations along the east coast of Africa against merchant shipping until the end of the year. This would mean crossing the demarcation line, though the German Navy had welcomed such an action as being of the greatest benefit for the joint conduct of the war, especially as submarines were necessary in this region in consideration of the operations currently being conducted by Rommel in Libya. The attaché further noted unofficially that he was very pleased with German amenability, noting that during the First World War the British Royal Navy had been resolute in its demand for strict adherence to the agreed zones of operations. Two days later the German naval attaché in Tokyo (Vice Admiral Paul Wenneker) noted that the Japanese were to rapidly increase the number of submarines operating along the East African littoral and in the Arabian Sea to twenty in order to disrupt Allied supplies to Egypt.[200]

The Axis partners were at least realistic about how they could cooperate effectively with one another. The main points of military collaboration were to be:

---

[199] Bernd Martin, 'Der Schein des Bündnisses: Deutschland und Japan im Krieg (1941-1945)', in Krebs and Martin (eds.), *Formierung und Fall*, pp. 41-2. For the content of the military agreements of 11 December 1941 and 18 January 1942, see Krug et al., *Reluctant Allies*, pp. 258-61.

[200] BA-MA RH 2/1252, fol. 46-7. Wenneker held this post from 28 December 1933 to 23 August 1937 and again from 21 March 1940 to 8 May 1945.

1. mutual liaison concerning the important points of operational planning
2. cooperation within the framework of economic warfare, including:
   a) mutual liaison with regard to planning of economic warfare
   b) mutual liaison with regard to the development of economic warfare...
   c) in the event that one partner wants to operate outside its designated zone of operations, it will inform the others in advance so that cooperation and mutual support can be ensured with respect to the use of operational bases, logistics, rest for crews, repairs, etc.
3. cooperation with regard to the gathering and exchange of information important for operations
4. cooperation with respect to subversion (*Zersetzungsarbeit*)
5. cooperation to safeguard the mutual exchange of military information
6. cooperation with the purpose of establishing a military air link between Germany, Italy and Japan (as long as the technical preconditions are available), as well as the opening of the maritime route and of transport by sea via the Indian Ocean[201]

Distrust was not the sole preserve of the Germans. The idea of cooperating strategically and militarily with a distant and unfamiliar ally was inconceivable to Japanese officers. They were also not able to recognize the interdependence of a land-bound and maritime strategy because of innate rivalries.[202] On 26 July 1941 Rear Admiral Oka Takazumi (head of the Naval Affairs Bureau) wrote to the Japanese naval attaché in Berlin, Rear Admiral Yokoi Tadao, to inform him that the naval command in particular was against any operations as part of a joint war effort which would overstretch resources and weaken the country (such as an attack on Singapore or the Soviet Union) and then ultimately leave Japan to contend with the Anglo-Saxon powers alone without German assistance while still embroiled in China. Japan, Takazumi insisted, must conduct its own strategy within its own sphere of influence, just as Germany did. Cooperation between the Axis nations should concentrate largely on the broader issues of joint warfare; only if a situation arose where direct mutual military support was necessary should a new *modus operandi* be considered.[203]

---

[201] 'Militärische Vereinbarung zwischen Deutschland, Italien und Japan', BA-MA RH 2/1252, fol. 27-8; Krug et al., *Reluctant Allies*, p. 261.
[202] Martin, 'Schein des Bündnisses', p. 42.
[203] Cited in Sander-Nagashima, *Marinebeziehungen*, pp. 497-9. Yokoi served as the Japanese naval attaché to Germany from 1940 to 1943.

Jodl met with Japanese representatives in early August 1942 and reported with satisfaction that the main objective of the German summer offensive – cutting the Red Army off from its oil supplies – had been achieved. He did not mention that meeting the Japanese in the Indian Ocean was only a subsidiary aim, though the Skl. had hoped that both navies would converge here and disrupt Allied maritime lines of communication. However, the Japanese leaders would never have entertained any German requests to isolate the Soviets from the Indian Ocean as the IJN had endeavoured since the mid-1930s to avoid any conflict with the Red Fleet. German hopes of naval cooperation in this region were further dashed by the fact that no state of war existed between Japan and the Soviet Union at this time.[204]

Commercial cooperation between Germany and Japan was rather limited, though not entirely absent. In late October 1939 a department known as Sonderstab HWK was set up in order to explore questions pertaining to economic warfare. Hitler ordered that this staff was to be directly subordinate to the OKW in order to avoid overlapping of responsibilities.[205] There was a direct and close connection between its chief and Vice Admiral Naokuni Nomura (the principal naval attaché in Europe), which was of particular importance given the separation of the theatres and the special economic conditions of the Far East.[206]

Cooperation in terms of military expertise and experiences was less complicated. On 4 March 1942, for example, the Germans promised that Army Group D in France would assist the Japanese with information on Allied landings along the Channel coast.[207] However, it was usually the Wehrmacht which was more prepared to share secret information than vice versa.[208] The following month the Japanese introduced strict guidelines for German diplomatic personnel, including even the ambassador, which strictly restricted their movements. Japanese military personnel in Germany, on the other hand, had the freedom to travel around German-occupied areas as they pleased. It was only after intervention on the part of the Germans and Italians at the Gaimu-shō (Japanese foreign ministry) that these restrictions were gradually reversed over time. There remained, however, a general mistrust of all things Western and Caucasian, especially because of Japan's enemies in the war and

---

[204] Ibid., pp. 507-8.
[205] Ger van Roon, 'Graf Moltke als Völkerrechtler im OKW', *Vierteljahrshefte für Zeitgeschichte*, 18 (1) (1970), p. 25. The chiefs of *Sonderstab für Handelskrieg und Wirtschaftliche Kampfmaßnahmen* (Special Staff for Economic Warfare and Military-Economic Measures) were Vice Admiral Karlgeorg Schuster (to May 1940), Vice Admiral Dr Otto Groos (to 30 June 1944 and again from September until May 1945) and Admiral Wilhelm Canaris (1-21 July 1944).
[206] BA-MA RH 2/1252, fol. 5 (29 October 1941). Nomura served as naval attaché to Germany from 1922 to 1924 and as the Japanese representative to the Axis Tripartite Commission in Berlin from 1940 to 1943.
[207] BA-MA RH 2/1252, fol. 33.
[208] Jonathan R. Adelman, 'German-Japanese Relations, 1941-1945', in *idem* (ed.), *Hitler and his Allies*, p. 44.

anti-American propaganda. Nor was it only the Germans who felt a certain sense of pre-eminence over their ally: both sides had a latent superiority complex towards one another, which manifested itself in 'arrogance and clichés'.[209]

On 11 September 1942 the accord on intelligence-sharing between the Kriegsmarine and the IJN was signed. Admiral Kurt Fricke, the Chief of Staff of the Skl., suggested that it signified a momentous step in the cooperation between both nations. It was, he claimed, a treaty which helped to provide an insight into the finer details of naval warfare. He also noted that the Kriegsmarine saw it as its duty to provide the Japanese with wide-ranging and honest assessments of its experiences with respect to the sharing of intelligence on the common foe.[210]

On 30 October the WiRüAmt reported that it had been concentrating in the third quarter on Japanese demands for armaments. Apart from the list of approximately 220 items already received from the Japanese on 2 July, there were now further requests for many additional commodities, primarily raw materials such as steel and chemicals. The total value of the items which had been cleared for sale up to that point amounted to approximately RM 250 million. It also noted that a Japanese submarine had left the French port of Lorient at the beginning of September with four tonnes of high-quality goods (especially naval equipment such as radar, sonar, and sonar decoy devices known as *Bolde*) to the value of approximately RM 10 million.[211] The Japanese also acquired the knowledge of modern industrial techniques such as hydrogenation of coal, synthetic fuel production, and others. According to a directive from Hitler, Japanese wishes were to be fulfilled to the greatest possible extent. The transport situation, however, meant that this was never realized.[212]

---

[209] Martin, 'Schein des Bündnisses', pp. 33, 49.
[210] BA-MA RM 7/96, fol. 278, 279. Fricke held this post from 13 June 1941 until 20 February 1943.
[211] BA-MA RW 19/442, fol. 9. A *Bold* was a canister which was fired away from a U-boat that was being hunted. It contained calcium hydride, which released large quantities of hydrogen bubbles when reacting with seawater, thereby creating an artificial sonar target.
[212] Thomas, *Geschichte*, p. 346.

Finland

Hitler expressed admiration for the Finns as a 'heroic people' (*Heldenvolk*) which had been at war for 100 of the previous 600 years of its history, thus making them a worthy ally of Germany in the present conflict and a future solution to the problem of its northern flank after the war.[213] He envisaged a Greater Finland as a confederate which would act as a counterweight to the Russian state in that region, and Germany had little interest in most of the regions in Russia which the Finnish leadership was keen to secure. One important exception, however, was the areas of the Kola Peninsula in the far north-west which had significant deposits of nickel. As early as summer 1940 Hitler had shown an interest in the Finns as potential collaborators for Barbarossa as he believed that their vehement desire for revenge following the harsh terms imposed by the victorious Soviets after the Russo-Finnish War of 1939-40 would make them ideal allies.[214]

A restructuring of the Finnish Army in May 1940 creating sixteen infantry divisions was achieved with the significant assistance of field and anti-tank artillery which had either been captured or which had arrived from Germany.[215] The Wehrmacht had generally adhered to the terms of the German-Soviet Non-Aggression Pact, which stipulated that Finland was in the Russian sphere of influence. By late August 1940, however, Hitler had decided to sell weapons clandestinely to the small and vulnerable Scandinavian nation. He ordered that the Finns were to be quickly supplied with arms as he did not want them to come completely under the control of the Soviet Union. Finland purchased significant quantities of *matériel*, while Germany released Finnish cargo that had been impounded on ships in Norwegian ports and paid for anything that had been taken away or used by the Wehrmacht. The Finns received 23 light and 40 heavy artillery batteries, 28 batteries of anti-aircraft guns, 150,000 mines, and placed an order for modern fighter aircraft. When Barbarossa was finally launched, all sixteen divisions were equipped with modern weaponry to a reasonable extent,

---

[213] Hitler, *Tischgespräche*, p. 269.
[214] Vehviläinen, *Finland in the Second World War*, pp. 103-4, 171. Nickel is alloyed with steel in the manufacture of armour plate to give strength as well as resistance to oxidization and corrosion. The Russo-Finnish conflict (also known as the Winter War) began on 30 November 1939 when the Red Army invaded Finland after it refused to kowtow to demands made by the Soviet Union. It ended on 12 March 1940 when the valiant but exhausted Finns signed the Moscow Peace Treaty, ceding several islands in the Gulf of Finland, eastern Karelia in the south-east, the area to the east of Salla in central Finland, and the western part of the Rybachi Peninsula in the far north-east. They also allowed the Soviets to build a naval base at Hanko (Hangö) and to lease the peninsula for thirty years.
[215] Abbott and Thomas, *Eastern Front Allies*, p. 10.

especially with respect to artillery and anti-tank guns. The country's air defence had also been considerably improved.[216]

Trade in general between Germany and Finland increased significantly during the period when military cooperation between the two countries was being strengthened (what would later be termed the *Waffenbrüderschaft*). On 10 February 1942 the WiRüAmt reported that exports to Finland had risen from RM 80 million in 1940 to RM 252 million for 1941. Apart from weapons deliveries, the Finns had been primarily supplied with grain and mineral oil. Deliveries in the opposite direction amounted to RM 145 million for the previous year.[217] Around the same time, economic talks between the two countries were concluded. In addition to the regular products such as grains and fats, Germany agreed to deliver primarily coal and coke (1.4 million tonnes), iron and steel (125,000 tonnes) and potash (60,000 tonnes), notwithstanding the fact that this would result in considerable reductions to its own supply in certain areas.[218] Later that summer Germany also agreed to deliver 35,000 tonnes of provisions for the Finnish armed forces up to the beginning of September.[219]

When Holland was overrun during the campaign in the west in May 1940 Germany assumed its role as a supplier of aircraft to the Finnish Air Force (*Suomen ilmavoimat*, SI). Up to 1942 the SI received 57 Morane MS 406 and MS 410 fighters from captured French stocks. Later deliveries included 29 American Curtiss Hawk 75A-3 and A-6 fighters, which had been captured by the Germans in France and Norway. These provided a favourable strengthening of the Finnish Air Force. At the beginning of 1942 Göring personally presented the Finns with 15 Do 17Z-2 bombers and, later that spring, they signed a contract with Junkers for 24 Ju 88A-4 bombers, the first of which were received the following April. A group of forty-one pilots also attended the training school at Tutow in Pomerania.[220]

As the war progressed and the Finnish position became more precarious, better aircraft began to arrive. Early in 1943 the Commander-in-Chief of the Finnish Air Force, Lieutenant-General Jarl Lundqvist, was promised modern aircraft by Göring during a visit to Germany.

---

[216] Anthony F. Upton, *Finland in Crisis, 1940-1941: A Study in Small-Power Politics* (London, 1964), pp. 85, 135. The German-Soviet Non-Aggression Pact, signed in Moscow by the foreign ministers of Germany and the Soviet Union, Joachim von Ribbentrop and Vjacheslav Molotov, came into effect on 23 August 1939.

[217] 'Die wirtschaftliche Lage des Auslandes (Dezember 1941/Januar 1942)', BA-MA RW 19/1568, fol. 134. The German word *Waffenbrüderschaft* ('comradeship-in-arms') was used to describe the relationship between the Wehrmacht and the Finnish armed forces in Russia. They treated each other as having a common enemy rather than as formal allies because the Finnish government never joined the Axis.

[218] 'Die wirtschaftliche Lage des Auslandes (Februar bis April 1942)' (23 April 1942), BA-MA RW 19/1568, fol. 116. Coke is used as a fuel or as a reducing agent in the smelting of iron ore. Potash is based on the compound potassium carbonate (K_2CO_3) or on other potassium salts and is principally used as a fertilizer.

[219] 'Die wirtschaftliche Lage des Auslandes (Mai bis Juni 1942)' (29 July 1942), BA-MA RW 19/1568, fol. 90.

[220] Neulen, *Skies of Europe*, pp. 203, 210.

According to the agreement the Finns would initially receive 30 Bf 109G-2s (16 of which were new, the remainder former Luftwaffe machines which had been completely overhauled), with the Germans also promising to replace any losses. As a result, up to 1 June 1944 the SI received a total of 48 Bf 109G-2s (and over 100 Bf 109s altogether) from Germany.[221]

Finland represented an indispensable linchpin of the Eastern Front in the eyes of the German military leadership. If the country were to leave the war, the Kriegsmarine would no longer be able to keep its Soviet opponent bottled up in the eastern part of the Gulf of Finland. This would have very serious repercussions for Swedish iron ore shipments and for supply of the troops fighting in Finland and the Baltic states. A Finnish withdrawal from the war would mean the loss of waters which were important training areas for submarine crews, while the position of 20th German Mountain Army in the far north of the country would also become unsustainable.[222] However, Hitler's faith in the Finns as a reliable and committed ally was well founded. In September 1942, 95% of the supporters of the conservative National Coalition Party and of the Agrarian League, in addition to 65% of Social Democrats, still believed in an ultimate German victory. Most adherents of the first two parties and of the nationalist Patriotic People's Movement, as well as the officer corps and the clergy, were against a separate peace with the Soviet Union because they believed that it would be impossible to secure reasonable terms.[223]

As a consequence of the overall war situation, Germany was Finland's only supplier of various types of armaments during the years of the *Waffenbrüderschaft*.[224] However, trade was not confined to weapons or equipment: in fact, from 1941 almost 56% of *all* Finnish imports came from Germany.[225] This included a significant amount of foodstuffs: Germany actually exported more grain to Finland after Barbarossa had begun than it imported for its own consumption from Hungary (one of its principal suppliers).[226]

Hitler was justifiably anxious to keep the Finns in the war, so he increased deliveries of better weapons and sent Wehrmacht formations to particularly threatened sectors of the Finnish front as the war progressed. In September 1943 obsolete Finnish BT-42 assault guns

---

[221] Ibid., p. 209; Tillotson, *Finland*, between pp. 210-11. Lundqvist commanded the SI from 8 September 1932 until 29 June 1945.
[222] Vehviläinen, *Finland in the Second World War*, pp. 125-6.
[223] Ibid., pp. 120, 125.
[224] Thomas, *Geschichte*, p. 346. The word *jatkosota* ('continuation war') was used by the Finns to denote this second struggle against the Soviet Union.
[225] D. G. Kirby, *Finland in the Twentieth Century* (London, 1979), p. 225.
[226] Vehviläinen, *Finland in the Second World War*, p. 112.

were replaced with the purchase of 30 StuG IIIs. The following year the Finns bought a further 29 in addition to 15 Panzer IVs and 3 captured Soviet T-34 tanks. From 1941 to 1944 Finland received a total of 463 German anti-tank guns (over half of which were 7.5cm Pak 97/38 or Pak 40 types) and 59 StuG III assault guns.[227] When the Red Army attacked III and IV Finnish Corps on the Karelian Isthmus on 9 June 1944 with half a million men and 800 tanks, the Finns received help from Germany when their country needed it most. By the end of the month the Germans had sent 41 Bf 109G fighters, with a further 18 following in July. They also sent a special Luftwaffe formation, the ad hoc Gefechtsverband (Combat Group) Kuhlmey, consisting of fighters, dive bombers and close-support aircraft, with a total of 46 planes landing at Immola airfield outside the town of Imatra in the south-east of the country on 16 June 1944. This unit received replacements throughout its mission until most of it was withdrawn on 21 July. By September 1944 the Finns had received 162 Bf 109Gs, which helped the SI to survive the heavy fighting of that summer.[228] The Germans also sent 122nd Infantry Division from the Narva front in northern Russia, while an assault-gun brigade was rushed south from Lapland. In addition to this air support the Finnish infantry received large numbers of *Panzerfaust* and *Panzerschreck* anti-tank weapons.[229]

Turkey

Though Turkey did not ultimately enter the war on the Axis side, it nevertheless had the potential to become an important instrument of the New Order envisaged by Hitler for Europe and beyond, particularly because of its strategic position as the gateway to the Middle East. This area represented the 'geopolitical dream' for the Axis because of its abundant oil resources.[230] As with Finland in the north, Hitler regarded Turkey as the ideal cornerstone of Germany's southern flank in the postbellum future.[231]

---

[227] Philip Jowett and Brent Snodgrass, *Finland at War, 1939-1945* (Oxford, 2006), pp. 32, 42, 51. The BT-42 was constructed using captured Soviet BT-7 light tanks armed with British 4.5-inch howitzers.
[228] Neulen, *Skies of Europe*, pp. 214, 215. Gefechtsverband Kuhlmey, named after the commander of Schlachtgeschwader (Ground-Attack Group) 3, Lieutenant-Colonel Kurt Kuhlmey, flew approximately 2,700 missions in aid of the Finnish Army during this period.
[229] Tillotson, *Finland*, p. 219; Abbott and Thomas, *Eastern Front Allies*, p. 11. The *Panzerfaust* ('tank fist') and the larger *Panzerschreck* ('tank frightener') were light, portable, effective weapons based on the American bazooka. They entered service in 1943.
[230] Overy, *Why the Allies Won*, p. 228.
[231] Hitler, *Tischgespräche*, p. 269. When Turkey joined NATO on 18 February 1952 the Western Allies effectively realized Hitler's own postwar intentions for the country.

As early as 5 July 1941 the German ambassador to Turkey, Franz von Papen, had written that the early German operational successes in the Soviet Union had precipitated an increase in support for Pan-Turanism in Turkey, a movement which believed that its aspirations could only be realized with German assistance and not British.[232] One of the aims of this faction was the outright annexation of the lands in the Soviet Union inhabited by Turkic-speaking peoples, or at least to secure their autonomy. This was seized upon by Germany, which supported Pan-Turanist propaganda in the hope of awakening in Turkish society a readiness to support the Axis cause.[233] This initiative met with considerable success as, by 1942, there were 180,000 men of various Turkic-speaking peoples fighting alongside the Germans in the Waffen-SS, while 162nd Infantry Division consisted almost entirely of volunteers from these nationalities.[234]

On 27 August 1941 the OKW issued an overview of the strategic situation to the heads of the three services and Ribbentrop which had been approved by Hitler personally. It stated, *inter alia*, that having Turkey on the Axis side would tie British and Soviet forces to its border while at the same time allowing the Germans to take the Caucasus area quicker and to advance the following year on Egypt from the east via Transjordan. The Germans would help the Turks with respect to ammunition and *matériel*, as Turkey's entry into the war on Germany's side would be militarily of great advantage – the earlier the better was the consensus. The country's armed forces were also believed to be strong enough to resist the British-Soviet forces on land, on the sea and in the air without German succour. Even an aggressive posture alone on Turkey's part would tie down British and Soviet forces, thereby alleviating the German position in southern Russia.[235]

Before Barbarossa Hitler had been keen to eschew any complications in relations with Turkey out of a desire to avoid anything that might impede preparations for the campaign against the Soviet Union. To his mind, any action against the Turks – whether violent or otherwise – would necessarily cost time, thereby allowing the Soviets to strengthen their

---

[232] Krecker, *Deutschland und die Türkei*, p. 210. Papen served briefly as Chancellor of Germany from 1 June to 17 November 1932 before acting as Hitler's deputy from 30 January 1933 until 7 August 1934. He was the German ambassador to Turkey from 1939 to 1944. Krecker highlights the fact that the term '*Pan*-Turanism' is tautological and therefore incorrect (p. 205). However, it is perhaps a more common designation for the movement in English-language studies than simply 'Turanism'.

[233] Klaus Schönherr, 'Die Türkei im Schatten Stalingrads: Von der 'aktiven Neutralität' zum Kriegseintritt', in Jürgen Förster (ed.), *Stalingrad: Ereignis, Wirkung, Symbol* (Munich, 1992), pp. 399-400.

[234] Önder, *Türkische Außenpolitik*, p. 149.

[235] 'Die strategische Lage im Spätsommer 1941 als Grundlage für die weiteren politischen und militärischen Absichten', BA-MA RM 7/258, fol. 34, 36-7.

position still further.[236] This peaceable approach on Germany's part was willingly reciprocated throughout the duration of the war. The principal aim of Turkey's foreign minister at the time, Numan Menemencioğlu, was to keep the country out of the conflict, and he saw nothing paradoxical in the fact that he wished to maintain cordial relations with both Germany and Great Britain. He conceived the idea of 'active neutrality', which was meant to safeguard Turkey's integrity while at the same time preventing either Germany or the Soviet Union from becoming too powerful in the region.[237] This modus operandi was evident in a German report dated 29 June which suggested that four Turkish divisions had been sent to the border with the Soviet Union.[238] Three weeks later, however, the Abwehr noted that these troops were not there to resist a German advance southward from the Caucasus should this ultimately materialize. According to the report, Turkey simply wanted to be strong where it felt that military decisions were beginning to loom.[239]

Leading figures in the Turkish military, however, had other aspirations. Earlier in the year the German military attaché (Vice Admiral Ralf von der Marwitz) had had a lengthy discussion with the Deputy Chief of the Turkish General Staff, Colonel-General Asım Gündüz, during which both sides agreed to share intelligence reports on the Soviet Union. The Turks declared that they were certain that they had nothing to fear from the Germans and, consequently, from the Italians or Bulgarians either. Indeed, Gündüz revealed that he prayed every day for a German victory because he saw the Soviet Union – and therefore Britain – as the greatest danger to his country. He also reassured Marwitz that the Germans had nothing to fear from the Turks either, who would not succumb to any threats from the Allied camp and, if necessary, would not hesitate to take up arms even against their British partner should the need arise. The Reich, he declared, need not be concerned about Turkey as it would continue to cover Germany's southern flank, even if the Soviet Union was not defeated that year. In fact, he reassured Marwitz that Germany could depend on Turkish goodwill even in the event of a military setback. However, the Turks were adamant that the strictest secrecy be upheld regarding the matter, as they did not want to jeopardize existing trade with Britain and the United States.[240]

---

[236] Önder, *Türkische Außenpolitik*, p. 109.
[237] Deringil, *Turkish Foreign Policy*, pp. 52-3. Menemencioğlu served as Secretary-General of the Turkish Foreign Ministry from 11 June 1933 and Foreign Minister in the government of Şükrü Saracoğlu from 13 August 1942 until 26 June 1944.
[238] 'Türkei', BA-MA RW 4/691, fol. 49.
[239] 'Kräfteverschiebungen in der Türkei' (20 July 1942), BA-MA RW 4/691, fol. 52.
[240] 'Unterredung mit dem stellvertretenden Chef des türk. Generalstabes' (21 February 1942), BA-MA RH 2/2917, fol. 42-3. Gündüz held this post from August 1937 until August 1945. Marwitz was simultaneously naval and military attaché in Ankara from May 1939 until August 1944.

The Axis nations were also well represented in Turkey's economy, with almost 50% of the country's trade being with Germany and its partners before the war.[241] Hitler was directly involved in trying to prevail on the Turks to join the Axis with certain concessions. For example, he was prepared to waive the ban on armament sales to non-aligned nations in certain favourable situations. On 1 April he suggested to Halder that Turkey would eventually join the Axis at some point, so he ordered that any requests for the purchase of weapons made by the Turkish government were to be accommodated to a considerable degree.[242] Such affable intentions were, however, constantly subject to revision. Four months later Hitler told Saffet Arıkan, the new ambassador in Berlin, that Turkey could have any goods it desired with the exception of weapons, as it was still allied to Germany's enemies.[243]

On 18 August the OKH reported that German victories in the Crimea and southern Russia had reduced Turkish fears of a Soviet attack on the Bosporus. However, the Turks would probably now feel threatened by either the Soviets or the Germans along their Black Sea coast and eastern border. According to the report, this would explain the relatively large troop movements (possibly 4-7 infantry divisions) since the beginning of July to the east.[244] In a meeting with Raeder eight days later Hitler acknowledged the value of the German submarines currently in the Black Sea as, from a political point of view, he was certain that their presence would have a particularly favourable effect.[245]

Turkey displayed a manifest and persistent interest in the fate of the Turkic peoples of the Caucasus area, though so too did the Germans and Soviets. They vied with one another for the allegiance of these groups, with the Moslems in particular being deemed especially useful by Berlin because of their fervent support and anti-Bolshevism. As a consequence, Stalin sent the head of state security, Lavrenti Beria, to the region later that month.[246] Conversely, the German high command insisted that the local inhabitants here were to be treated by German troops in a 'friendly' manner.[247]

---

[241] Erik J. Zürcher, *Turkey: A Modern History* (London, 1997 [1993]), p. 207.
[242] *KTB OKW*, vol. 2, p. 314.
[243] Önder, *Türkische Außenpolitik*, pp. 135-6 (14 August 1942). Arıkan served as minister for defence from April 1940 to November 1941 before becoming ambassador to Germany (1 August 1942 until 17 March 1944).
[244] 'Vortragsnotiz: Lage in den Staaten des Vorderen Orients', BA-MA RW 4/691, fol. 53-5. The Bosporus (or Bosphorus) is the name of the strait which connects the Black Sea to the Sea of Marmara. Further south is the Dardanelles, the channel which leads into the Aegean Sea and on to the Mediterranean.
[245] 'Vortrag Ob.d.M. beim Führer am 26.8.1942 in Werwolf' (26 August 1942), BA-MA RM 7/186, fol. 135.
[246] Erickson, *Road to Stalingrad*, p. 378. Beria served as chief of the NKVD (*Narodnyj komissariat vnutrennikh del*, People's Commissariat for Internal Affairs) from 25 November 1938 until 29 December 1945.
[247] Joachim Hoffmann, *Kaukasien 1942/43: Das deutsche Heer und die Orientvölker der Sowjetunion* (Freiburg, 1991), p. 15.

Certain intelligence reports gave the Germans some hope that Turkey might eventually enter the war on the Axis side. On 4 September the Abwehr signalled that the Turks were planning to blow up a railway line in the Soviet Union between Tbilisi (Georgia) and Erevan (Armenia). Fifty men had apparently already crossed the border nine days previously in order to carry out the mission.[248] Later that month the *Wehrmachtführungsstab* noted that an unchecked source suggested that the Turks were planning a further raid on Soviet territory, this time against tunnels and bridges between Adler and Poti on the Black Sea coast.[249]

The Germans hoped – not without reason according to the official Soviet history – to bring Turkey into the war on their side once they had crossed into Transcaucasia.[250] The prize was indeed enticing: if the Turkish government could be persuaded to join the Axis there would be nothing to prevent a German thrust into the Middle East region, an advance which could very well change the course of the war in North Africa.[251] Yet it was not to be. Hitler explained to the Bulgarian foreign minister at the end of 1941 that Turkey's continued refusal to join the Axis was down to the fact that Germany could not promise as much as Britain in terms of realizing geopolitical ambitions. Unknown to Hitler, however, was the fact that the British had persistently denied Turkish territorial aspirations.[252]

Peoples of the Occupied Territories

The matter of treating ethnic groups hostile to the Soviet regime propitiously had been tentatively approached by the Germans at the beginning of 1942 in the Crimea. On 4 January, 11th Army reported that, in agreement with Army Group South, it had ordered large numbers of Tatar volunteers to be sought out immediately, who would then be integrated into German divisions as riflemen in order to bolster the fighting strength of the infantry regiments. A proclamation to the effect that the Tatars were to be freed from Bolshevism was also planned. If successful, the army command hoped that personnel would be sent from Germany in order to take charge of the political and propaganda initiatives. The army also sought approval from

---

[248] 'Geplantes türkisches Unternehmen gegen Eisenbahnlinie Tiflis–Eriwan', BA-MA RW 4/691, fol. 64.
[249] BA-MA RW 4/691, fol. 69 (21 September 1942).
[250] A. A. Grechko (ed.), *Istorija Vtoroj mirovoj vojny 1939-1945 v dvenadtsati tomakh*, vol. 5: *Proval agressivnykh planov fashistskogo bloka*, ed. V. P. Morozov (Moscow, 1975), p. 120. Hereafter known as *IVMV*, vol. 5.
[251] Edward McCarthy, 'The Course of the Battle', in James F. Dunnigan (ed.), *The Russian Front: Germany's War in the East, 1941-45* (London, 1978), p. 37.
[252] Önder, *Türkische Außenpolitik*, p. 128.

the supreme command for its intended measures, which were officially endorsed by Hitler the following day.[253]

Two weeks later the chief of staff of Army Group South wrote to the OKH in relation to setting up large national anti-Bolshevik units. The number of captured stocks of weapons currently available would suffice to arm approximately 10,000 men, but the most pressing problem for the Germans lay in equipping these units with horses and vehicles, as the requirements of the agricultural sector and of their own formations would mean that there would be a limit to the numbers available. A further significant obstacle lay in the manning of these units with German troop leaders: front-line divisions, which were already below establishment strength, should not be expected to cope with further reductions to their leadership cadres.[254] However, the full use of the Ukrainian population in a military role and the concomitant subversive influence on large contingents of the Red Army which it was hoped would occur was only secondarily an organizational problem. It was primarily a political question, the army group argued, which had to be tackled with agitation and propaganda. If this was done correctly it could have a decisive significance for the war against the Soviet Union.[255] This, however, showed the political naivety of the Army leadership, which failed to understand the type of war that its political overlords intended to wage in certain areas of the Soviet Union.

In the second half of March, Hitler ordered that the activation of *Hundertschaften* (units of approximately 100 men) comprising Tatars, Cossacks and members of the Caucasian peoples could begin, though the OKW later ordered instead that existing units would be brought up to battalion strength.[256] These men had proven to be good soldiers and had also deserved recognition for their role in fighting partisans. They were not prisoners of war but volunteers in the crusade against Bolshevism and Russian oppression. The Army therefore ordered that they were to be treated according to the principle of soldierly honour.[257]

At the beginning of May Hitler made an exception to the ban on newly created formations so that these peoples could be used to make up new formations within Army Group South. The OKH anticipated considerable numbers of Turkic volunteers and had had

---

[253] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 1.-15.1.42 (Anlagen)', BA-MA RH 19-I/235, fol. 40, 41. The Tatars (or Tartars) are a group of different, predominantly Muslim and Turkic tribes inhabiting widely dispersed areas of the former Soviet Union, including the Crimea, Siberia, the North Caucasus, and along the Volga.

[254] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 16.-31.1.42 (Anlagen)' (17 January 1942), BA-MA RH 19-I/236, fol. 27.

[255] Ibid., fol. 29.

[256] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 121.

[257] 'Auszug aus dem Erfahrungsbericht der 299. Inf. Div.' (26 April 1942), BA-MA RH 20-2/29.

such positive experiences while setting up the *Ostlegionen* (Eastern Legions) that it decided to create a special organization within Army Group South to recruit and train these men and to form them into new battalions.[258]

With respect to the Caucasus region, Hitler had neither settlement nor racial-political aims for the region; his primary interest was control of the oilfields. As he was still unsure of the extent of independence to be bestowed and because the battle for the region was still ongoing, he decided to leave the territory under military administration in a directive dated 8 September, in which he gave full political responsibility to the commander-in-chief of Army Group A. In contrast to the other occupied areas, the use of words like 'freedom', 'independence' and 'cooperation' was encouraged.[259]

Friendly German attitudes towards the local population of the Caucasus soon paid dividends. By early August the soldiers of the Red Army had been ordered not to have any contact with the indigenous peoples of the region, who were now the object of distrust.[260] The Soviet authorities would be proved correct in their assessment of the situation. In the six weeks from the end of the month until 6 October, roughly 2,000 men deserted to the units of III Panzer Corps alone, mainly from the 392nd (Georgian) Rifle Division (Colonel Isidor Silagadze). During the same period, the majority of the roughly 1,600 deserters taken in by XXXX Panzer Corps were Armenians.[261] On 27 September alone, 14 officers and 523 men went over to this formation. By this time, members of the Caucasian peoples fighting in the ranks of the Red Army were taking every opportunity to defect to the enemy.[262]

In contrast, by May 1943 Hitler was siding with the Reich Commissar for the Ukraine, Erich Koch, over the *Ostministerium* (Ministry for Eastern Territories) under Alfred Rosenberg in an argument concerning potential postwar independence for the Ukraine, which was favoured by the latter. He suggested that the Minister should not issue decrees which could not be fulfilled and pointed to the similarity between Rosenberg's preferred policy and that of the German Empire between 1914 and 1918. Hitler was adamant that there would be no Ukrainian state in the same mould as the Polish polity that emerged after the First World

---

[258] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, pp. 162-3. The *Ostlegionen* were units of the Wehrmacht which were formed exclusively from the non-Russian minorities of the Soviet Union.

[259] Hoffmann, *Kaukasien*, pp. 36-7, 41.

[260] Alexander Dallin, 'The North Caucasus', in John A. Armstrong (ed.), *Soviet Partisans in World War II* (Madison, WI, 1964), p. 571.

[261] 'Propaganda in den Feind', BA-MA RW 4/257, fol. 249-50. Silagadze commanded this division from 4 March to 8 October 1942.

[262] Tieke, *Caucasus and the Oil*, p. 147.

War.[263] Rosenberg had wanted an independent Ukraine as a bulwark against Russia, but failed to realize that the majority of the political leadership supported incorporation of this territory into Germany at some future time. Indeed, by this time Hitler had already decreed that there would be just one 'master' in the occupied eastern territories – meaning no collaboration with the indigenous population – and that only Germans were permitted to bear arms.[264]

General German Assistance

After 1931 Great Britain and France stopped the flow of capital into the countries of eastern and south-eastern Europe. As a consequence, the economies of the area were starved of access to markets, resulting in an inability to fulfil commitments and to continue with the process of industrialization. This in turn forced these nations to trade on predominantly unequal terms with Germany.[265] Notwithstanding such disadvantages, however, the smaller states of south-eastern Europe were as inclined as Germany to enter into bilateral trade agreements because each party had a shortage of gold and foreign currency reserves, which produced a readiness on the part of all concerned to enter into clearing agreements.[266] Apart from arms and industrial equipment, the Germans exported technical expertise, particularly in the agriculture sector. However, Hitler's promotion of a *Großraumwirtschaft* in the region was certainly not a novel idea. It can be dated as far back as the early nineteenth century to the German economic theorist Friedrich List, who had argued that the free trade doctrine espoused by the Scottish philosopher, Adam Smith, favoured maritime powers over their continental rivals. In List's view, Germany's lack of colonies created the need for deliberate

[263] Cited in Timothy Patrick Mulligan, *The Politics of Illusion and Empire: German Occupation Policy in the Soviet Union, 1942-1943* (New York, 1988), pp. 67, 70. The Reich Ministry for the Occupied Eastern Territories (*Reichsministerium für die besetzten Ostgebiete*) was created by Hitler on 17 July 1941. It was responsible for the areas beyond the Reich and the Government-General of rump Poland in which military operations had ceased and which had been handed over to civilian administration. Rosenberg headed this ministry until the end of the war. He was hanged as a war criminal at Nuremberg on 16 October 1946. Koch served as *Gauleiter* (district leader) of East Prussia from 1928 until 1945. As head of the German civil administration in the Ukraine (*Reichskommissariat Ukraine*) from 1 September 1941 until it was completely overrun by Soviet troops within the first months of 1944, he was directly subordinate to Rosenberg.

[264] Alex J. Kay, *Exploitation, Resettlement, Mass Murder: Political and Economic Planning for German Occupation Policy in the Soviet Union, 1940-1941* (New York; Oxford, 2006), p. 130.

[265] Teichova, 'East-Central and South-East Europe', in Peter Mathias and Sidney Pollard (eds.), *The Cambridge Economic History of Europe*, vol. 8: *The Industrial Economies: The Development of Economic and Social Policies* (Cambridge, 1989), p. 982.

[266] Ivan T. Berend and György Ránki, 'Die deutsche wirtschaftliche Expansion und das ungarische Wirtschaftsleben zur Zeit des zweiten Weltkrieges', *Acta Historica*, 5 (3-4) (1958), p. 314.

economic planning which incorporated the surrounding areas in order to ensure both economic and military security. These areas would then serve as the agricultural counterpoint to Germany's industrial might.[267] Hitlerite Germany began its relations with the eastern European countries in just such a fashion, though later began to concentrate on their industrial capacity as the war progressed.

As the following table indicates, Germany's exports of military material in the four years prior to the outbreak of the Second World War increased significantly in comparison to the exports of its main European competitors:

Table 5: Value of Exported Arms and War Material, 1935-1938 (index numbers: 1934 = 100)[268]

	1935	1936	1937	1938
Germany	103	222	380	353
Italy	46	53	163	232
United Kingdom	118	118	146	211
France	82	146	139	198

Indeed, up to 1940 German deliveries of military vehicles to the Soviet Union, Italy, Yugoslavia, Finland and Romania actually caused a strain on the Wehrmacht's own resources. This meant that Germany became ever more reliant on vehicle and armament factories in the occupied territories.[269] The Wehrmacht also initiated a study to look into standardizing weapons in 1942-3, though generally speaking significant progress was never made. A similar case arose in 1943 with the ill-equipped French forces in Tunisia (Armée d'Afrique) led by General Henri Giraud, which were given mountainous sectors in the hope that they would not encounter enemy tanks. The Germans still broke through, however, so all units were subsequently equipped in such a way as to bring them up to British and American standards. This was made possible by the industrial might of the United States. The Germans,

[267] Radice, 'German Economic Programme', pp. 299-300, 303.
[268] Hauner, 'Military Budgets', p. 55. It should be noted that Germany started from a much lower base than Britain and France.
[269] Tucker-Jones, *Panzer Heist*, pp. 121-2.

on the other hand, could hardly supply their own needs, much less those of their allies.[270] For example, Germany built 117,881 aircraft of all types during the war, whereas its allies produced an approximate total of only 22,000 between them. On the Allied side, Britain produced 131,549, the Soviet Union 158,218, and the United States 324,750. The Luftwaffe was originally not particularly keen to send the best modern aircraft to its Axis partners, though it was later forced to do so in order to ensure that these countries could offer a modest defence against their opponents. Again, this was not a uniquely German practice: the United States acted in a similar fashion by giving the rather deficient Bell P-39 Airacobra to the Soviets, Free French and the Italian Co-Belligerent Air Force.[271]

On 10 May the quartermaster-general department noted that it was responsible for the logistics of both the German and Axis troops (as long as the latter were tactically under the direct control of the OKH).[272] Later that month 102 heavy 7.5cm FK(f) guns were delivered to Army Group South for use among the allied troops as anti-tank weapons.[273] This was an effective weapon taken from captured French and Polish stocks and was used by the Wehrmacht until the end of the war. As the war progressed, German 3.7cm and Belgian 4.7cm anti-tank guns in service with the Axis nations were replaced with heavier weapons.[274] The Germans did provide their allies with reliable anti-tank batteries during the conflict, though there were still overall deficiencies in artillery and anti-tank firepower.[275]

Armoured vehicles delivered to the satellite armies were also in service with the Wehrmacht. At one point during the battle for Khar'kov in spring 1943, for example, the three armoured infantry divisions of SS Panzer Corps (SS-Obergruppenführer Paul Hausser) fielded a total of 95 Panzer IV Ausf G tanks, while the elite *Großdeutschland* division retained 42 Ausf F2/Gs. In fact, as late as the beginning of 1945 the German Army still had more Panzer IVs than Panthers on the Eastern Front (736 compared to 707).[276] Even lesser foreign machines were in service with German armoured units. 6th Panzer Division, for example, was still using Panzer 35(t) light tanks in 1942, while 7th, 8th, 12th, 19th, 20th and

---

[270] Abbott and Thomas, *Eastern Front Allies*, pp. 6-7.
[271] Neulen, *Skies of Europe*, p. 10. The Italian Co-Belligerent Air Force (*Aviazione Cobelligerante Italiana*, ACI) was the air force of the Royalist Badoglio government, which fought against the Germans in southern Italy following the armistice with the Allies announced on 8 September 1943.
[272] 'Anordnungen für die Versorgung der 2. königl. ung. Armee und der kgl. ungarischen Verbände', BA-MA RW 7/1208, fol. 1.
[273] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 180.
[274] Abbott and Thomas, *Eastern Front Allies*, p. 14.
[275] Glantz and House, *Gates of Stalingrad*, p. 9.
[276] D. A. Taras, *Bronetankovaja tekhnika Vermakhta: tanki i SAU* (Moscow; Minsk, 2005), pp. 74, 78. Hausser commanded this formation (renamed II SS Panzer Corps later that summer) from its creation on 1 June 1942 until 28 June 1944.

22nd Panzer Divisions were equipped with Panzer 38(t) medium tanks.[277] The Panzer III, used by many Axis armies in large numbers, was armed with a 5cm L/42 gun, which could penetrate 47mm of armour at a distance of 450 metres and was highly effective against most types of Soviet tanks.[278]

The Germans found it difficult with respect to replacements as Blau progressed because the satellite armies only arrived piecemeal at the front. The Romanians, for example, had promised half a million men at the beginning of 1942, yet their troops only arrived tardily. Even by the end of November their 4th Army had still not completely arrived at its designated sector to the south of Stalingrad with its authorized establishment. Indeed, this was one of the principal reasons why Antonescu ultimately declined the command of a proposed Army Group Don, which would have held a sector from Stalingrad to Astrakhan' with a combined German-Romanian force, arguing that he would only do so when both Romanian armies were in situ at full strength.[279]

German armaments deliveries were not confined to the larger Axis nations. After Slovakia participated in the campaign against Poland in 1939 the Germans delivered 32 Panzer 38(t) Ausf S and 21 LT vz 40 light tanks in addition to the 30 ČKD vz 33 tankettes and 13 OA vz 30 armoured cars which it had already received, thus enabling the Slovaks to build up their Mobile Division, which would later serve in southern Russia. After this division was almost wiped out after Stalingrad the Germans supplied 37 Panzer 38(t), 7 Panzer III Ausf N and 16 Panzer II Ausf F tanks, plus 18 Marder III tank destroyers.[280] The following table shows the number and variety of armoured fighting vehicles which Germany supplied to friendly nations from 1940 to 1944:

---

[277] Tucker-Jones, *Panzer Heist*, pp. 174-5.
[278] Hart and Hart, *German Tanks*, p. 57.
[279] Gosztony, *Hitlers Fremde Heere*, pp. 236-7; Mark Axworthy, *The Romanian Army of World War 2* (London, 1991), p. 15. Antonescu's command would have consisted of the two Romanian armies plus 6th German Army. This plan had been proposed by Hitler during his visit to the headquarters of Army Group South at Poltava as early as 1 June: Wegner, 'Krieg gegen die Sowjetunion', p. 1002.
[280] Zaloga and Grandsen, *Eastern Front*, p. 92.

Table 6: German Sales of Tanks and Assault Guns to Selected Axis and Eastern European Countries, 1940-1944[281]

Year	Bulgaria	Finland	Hungary	Romania	Slovakia
1940	37 Pz 35(t)	-	-	-	-
1941	40 R-35	-	-	-	21 LT vz 40 32 Pz 38(t)
1942	-	-	8 Pz I Ausf B 6 PzBfWg 102 Pz 38(t) 32 Pz IV 10 Pz III	11 Pz III 11 Pz IV 26 Pz 35(t)	-
1943	10 Pz 38(t) 46 Pz IV 25 StuG III 10 Pz III 20 SdKfz 222 and 223	30 StuG III	-	50 Pz 38(t) 31 Pz IV 4 StuG III	7 Pz III 37 Pz 38(t) 16 Pz II 18 Marder II
1944	-	29 StuG III 15 Pz IV 3 T-34	62 Pz IV 5 Panther 3 Tiger I 40 StuG III 75 Hetzer	100 Pz IV 114 StuG III	-

Of the 1,414 Panzer 38(t) medium tanks produced by the Bohemian and Moravian Engineering Works (Böhmisch-Mährische Maschinenfabrik, BMM) between May 1939 and July 1942, for example, Germany delivered 231 to its Axis partners to augment what were only modest armoured forces.[282] Altogether it produced 25,897 tanks during the war, of which 1,250 went to its allies.[283] This is not an inconsiderable amount when the relative sizes of the different armies and the strains on Germany's own war economy are taken into account. In the final quarter before the outbreak of war the country was producing 375,000

[281] *Notes*: Hetzer ('Baiter', light tank destroyer); LT vz 40 (Czechoslovakian light tank manufactured by ČKD [Českomoravská-Kolben-Daněk], essentially an export version of the LT vz 38 originally intended for the Latvian Army); Panther (Pz V, medium tank); PzBfWg (Panzerbefehlswagen, command tank); Pz I Ausf B (light tank); Pz II (light tank); Pz 35(t) (Czechoslovakian light tank in German service designed by Škoda); Pz 38(t) (Czechoslovakian medium tank in German service manufactured by ČKD); Marder ('Marten') II (tank destroyer); R-35 (French light tank manufactured by Renault); SdKfz 222 and 223 (light armoured cars); Tiger I (Pz VI, heavy tank): Zaloga and Grandsen, *Eastern Front*, p. 28.
[282] Hart and Hart, *German Tanks*, p. 41. BMM was the name given to ČKD during the German occupation.
[283] Tucker-Jones, *Panzer Heist*, pp. 138-9.

tons of iron and steel a month for both direct and indirect export. It was also paying for foreign goods with industrial machinery, complete factories, armaments, and so on – in other words, items which were desperately needed for Germany's own war economy.[284]

The following figures highlight the significant overall increase in German exports of *matériel* to its partners both before and during the initial stages of the campaign in Russia:

Table 7: Exports of War Material to Selected Axis and Friendly Nations, 1941 and 1942 (in Reichsmark)

	Bulgaria	Finland	Hungary	Italy	Japan	Romania	Turkey
1941	58,836,392	12,157,025	14,668,016	227,251,884	9,927,696	162,824,969	190,724
1942	64,704,845	9,884,481	43,666,916	161,800,964	7,831,060	251,609,877	234,611
Diff.	**+5,868,453**	**-2,272,544**	**+28,998,900**	**-65,450,920**	**-2,096,636**	**+88,784,908**	**+43,887**

Total exports of war material to *all* countries in 1941 amounted to RM 576,114,421. The following year the figure was RM 630,753,915 – an increase of RM 54,639,494 (or almost 9.5%).[285]

The quote at the beginning of this chapter, which gives an insight into Hitler's opinion in 1928 on potential alliances for Germany in any future conflict, suggests a certain amount of overstatement. However, it was an honest assessment which ultimately proved to be a prescient observation, even if this was not yet apparent at the beginning of 1942. There is a wealth of evidence to show that the array of 'minor' states which would ultimately become Germany's allies in the Second World War was not what Hitler had envisaged as part of the foreign policy programme which he had set out almost twenty years previously. In *Mein Kampf* he had stressed the need for Germany to secure Britain and Italy as allies, who would act as a counterweight against French ambitions of continental hegemony.[286] Once in power, he tried on several occasions to placate the British in the hope of establishing closer relations, or at least to convince them to remain impartial towards his designs for eastern Europe. The Anglo-German Naval Agreement signed on 18 June 1935 and his peace overtures in speeches

[284] Raspin, *Italian War Economy*, p. 141.
[285] 'Übersicht über die K.G.-Ausfuhr im Jahre 1941', BA-MA RW 19/3195, fol. 16; 'Übersicht über die K.G.-Ausfuhr im Jahre 1942', BA-MA RW 19/3195, fol. 17. *Note*: All figures are current prices.
[286] Hitler, *Mein Kampf*, pp. 564-6.

before the Reichstag on 6 October 1939 and 19 July 1940 following the defeat of Poland and France respectively are testimony to a genuine – if perhaps naive – attempt to convince the British of his bona fide eagerness to avoid war initially and, later, to end the confrontation which he had inadvertently initiated.[287] When such attempts failed he concentrated instead on supporting the nations which were already in the Axis camp by that time and on trying to win over key neutrals such as Turkey and Sweden instead. Though German assistance might not have been as complete as what his partners ultimately demanded, it was as much as Hitler could offer under the circumstances without severely limiting the capacity of German industrial and military efforts.

The rapid, decisive German victories in the first two years of the Second World War were due in large part to the economic measures initiated by Hitler on his accession to power, which had been intended to prepare the Wehrmacht for any future conflict. However, the *Ostheer* of summer 1942 was significantly weaker than the force which had invaded the Soviet Union twelve months previously because of the inevitable attrition that such a campaign would produce. Hitler therefore took positive measures to ensure that at least the southern armies were sufficiently regenerated in terms of manpower and *matériel* to allow them to resume the offensive.

He further strove to ensure the more active participation of his Axis allies on the Eastern Front through political, economic and military means, and German aid in different forms allowed these nations to build up their armed forces to a level of proficiency which would otherwise have been impossible. Though they did not approach the standard of the Wehrmacht in terms of combat power, they were nevertheless in a position to carry out important missions when supported by their German colleagues. Hitler appreciated that these foreign formations undoubtedly needed to be bolstered, but was sure to keep material aid at a level which did not have a significant adverse effect on the efficiency of his own troops. He struck a balance which ultimately allowed militarily weak countries such as Finland, Romania and Hungary to fight alongside Germany almost to the very end of the war.

---

[287] For more details on the Anglo-German Naval Agreement, see Manfred Messerschmidt, 'Aussenpolitik und Kriegsvorbereitung', in Wilhelm Deist et al., *DRZW*, vol. 1: *Ursachen und Voraussetzungen der deutschen Kriegspolitik* (Stuttgart, 1979), pp. 584-93. Hitler described the day it was signed as the 'happiest day of his life': cited in Noakes and Pridham (eds.), *Nazism*, vol. 3, p. 667.

Chapter 4: Transport and Logistics

Victory is the beautiful, bright-coloured flower. Transport is the stem without which it could never have blossomed. Yet even the military student, in his zeal to master the fascinating combinations of the actual conflict, often forgets the far more intricate complications of supply.

Winston Churchill[1]

Introduction

The fundamental problem for the German high command during the initial stages of Operation Barbarossa in summer 1941 was the task of providing logistical support to a vast army with wide-ranging operational objectives along an extended front.[2] Indeed, the importance of logistics in the wide expanses of the Soviet Union became so evident as the campaign progressed that it overshadowed practically every other consideration.[3]

It has been suggested that Hitler's decision to invade the Soviet Union was based on several superficial and questionable presumptions, one of which was that problems of supply would be countered with willpower and improvisation.[4] While this might be partly true, his confidence in another smooth-running operation which would negate any troublesome considerations about logistics was shared by the overwhelming majority of his most senior commanders. Despite the fact that the theatre differed fundamentally in terms of geography, climate and infrastructure from central and western Europe, the German military leadership also expected a rapid victory over the Red Army. Consequently, the significance of factors such as topography and weather conditions – and the concomitant difficulties which came with them – had been viewed in the highest echelons of the Wehrmacht as wholly inconsequential.[5] Yet this ostensible disregard for problems of supply was prevalent in the history of all major European powers.

---

[1] Cited in Eliot A. Cohen, *Supreme Command: Soldiers, Statesmen and Leadership in Wartime* (New York; London, 2002), p. 107.
[2] Klaus Schüler, 'The Eastern Campaign as a Transportation and Supply Problem', in Bernd Wegner (ed.), *From Peace to War: Germany, Soviet Russia and the World, 1939-1941* (Providence, RI; Oxford, 1997), p. 205.
[3] Julian Thompson, *The Lifeblood of War: Logistics in Armed Combat* (London, 1991), p. 54.
[4] Williamson Murray, 'History and Strategic Planning', in *idem*, *War, Strategy, and Military Effectiveness* (Cambridge, 2011), p. 122.
[5] Schüler, 'Eastern Campaign', p. 208.

The crucial military function of logistics has never been afforded a high standing in the theory of war. This holds true even for the much vaunted and emulated Prussian-German model, which for two centuries gave a privileged position to operational art over problems of logistical viability.[6] Nevertheless, this method of making war had its roots in sound historical theory and practice. Clausewitz wrote in the first half of the nineteenth century that the modern type of warfare based on requisition and local sources of supply was far superior to the kind which relied on depots as a means of keeping an army in the field. As a consequence, he did not expect the former to be 'abandoned' in future conflicts. It had been used by the French since the Revolutionary Wars, he wrote, and had proved to be the most suitable system in terms of both the vigour with which a campaign could be carried out and the flexibility which it offered. He further added that war prefers to 'suck nourishment from main roads, populous towns, fertile valleys traversed by broad rivers, and busy coastal areas'.[7] Indeed, he suggested that armies fighting future wars would be solely reliant on requisitioning at the cost of their enemies and not fed from magazines at their own expense.[8]

As it happened, his prophecy proved to be only partially correct. The German Army of 1941, like that of other major powers, depended on a combination of both systems. With the advent of railways, a large army could now be supplied in the field at a considerable distance away from its homeland. However, logistics officers had still not become an equal partner on the same level as their counterparts in operations departments, so the railways had never become fully integrated into the planning of campaigns. The German state railway company (Reichsbahn) had not been involved in the initial stages of planning for Barbarossa and consequently found it very difficult to cope with the disaster which befell the Army in the Soviet Union during the winter of 1941-2.[9] Nevertheless, by the beginning of December Hitler had evidently become so aghast at the impending threat to the front that he threw himself into the logistics problems which were plaguing the Wehrmacht. He summoned ministers, state secretaries and other non-military specialists – principally from the area of transport – in order to question, indoctrinate or threaten them.[10]

The ruinous nature of the collapse of the German logistics system at the end of 1941 shed a light on a subject which, up to that point, had never received so much publicity. If military operations are successful because of a good logistics base, then military historians do

---

[6] Gray, *War, Peace and International Relations*, p. 28.
[7] Clausewitz, *On War*, pp. 336, 337, 338.
[8] Creveld, *Supplying War*, p. 76.
[9] Mierzejewski, *Hitler's Trains*, p. 116.
[10] Kreidler, *Eisenbahnen*, p. 135.

not need to focus their attention on the latter. If, however, operational or calculated risks are involved because of restraints or shortfalls in the logistics system, the topic will inevitably come under more intense scrutiny.[11] The German high command took a major gamble in its attack on the Soviet Union which did not pay off. Nevertheless, in order to maintain an element of surprise and flexibility, a certain amount of risk needs to be taken in just about any military operation, even in one of such a vast scale as Barbarossa.

Topography and weather would once again play a significant role in the course of operations in 1942, though not as much as in the previous year. The Germans had experienced at first hand the difficulties associated with operating in the difficult Russian terrain and climate, and both Hitler and the German military leadership would have been expected to act appropriately in order to ensure that there would be no repeat of the calamities of the previous year. However, the recent dreadful weather conditions did not augur well for operations in the New Year. An exceptionally severe winter in 1941-2 would ensure that the spring *rasputitsa* would be both full-blown and difficult to predict in the lead-up to the new summer offensive.[12] Nevertheless, once summer arrived the ground would have dried out sufficiently for the Wehrmacht to be in a position to complete the job which it had left unfinished the previous year.

The importance of a sound logistics system is evidenced by the fact that it can determine which belligerent will have the greatest number of strategic and operational options available to it (though not necessarily what these options will be). It is up to each commander-in-chief, however, to determine how effectively he can use a given option which his logistics system has created; in other words, logistics does not determine strategy, but it *can* make the decision-making process somewhat easier for the man in charge.[13] This chapter will examine the feasibility of German operations in southern Russia in 1942 in terms of the transport and logistics systems available to Hitler, as well as his own influence on them.

---

[11] J. H. Skinner, 'Logistics: A General Survey', in Trevor N. Dupuy (ed.), *International Military and Defense Encyclopedia*, vol. 3 (Washington; New York, 1993), p. 1496.
[12] Ziemke and Bauer, *Moscow to Stalingrad*, p. 177.
[13] Kane, *Military Logistics*, p. 9.

Railways

The importance of railways for modern warfare cannot be understated. Both before and during the war they were the most important means of transport on land for the Axis Powers.[14] As soon as Hitler became Chancellor he began to prepare the transport networks for war. In May 1933 he put the Reichsbahn in charge of building the motorways in order to ensure a fair division of labour between the two systems and to have both sufficiently prepared in the event of an outbreak of hostilities.[15] However, despite the fact that the military had repeatedly argued that the motorways (*Autobahnen*) were of less value to any war effort than the railways, Germany possessed fewer locomotives and less rolling stock than it did at the outbreak of the First World War. Indeed, in terms of raw materials and human resources priority lay with the creation of the new road network. It was only shortly before the outbreak of the campaign in Russia that specialized military railway sections (*Feldeisenbahn-Abteilungen*) were finally set up.[16]

Nevertheless, important work had been undertaken to ensure that the railway system would be ready for any future war with the Soviet Union. The Otto Programme – the build-up of the railways on Germany's eastern border from autumn 1940 – considerably increased the capacity of the lines in East Prussia and especially in the Government-General of rump Poland.[17] This programme represented by far the largest building project undertaken by the Wehrmacht throughout the war in order to expand or improve an existing network. Its aims were achieved through the tireless mobilization of all available human resources – including railway troops, German and Polish railway personnel, construction formations of the Army, and Organisation Todt (OT). Private German and Polish firms were also drafted in to bolster the enterprise.[18]

In November and December 1941 a massive initiative to convert broad-gauge lines to standard gauge allowed the Germans to increase Russian railways under their control capable of accommodating German trains from approximately 3,000 km to 15,000 km. However, the major crisis in wagon placement in the first few months of 1942 meant that numbers fell

---

[14] Kreidler, *Eisenbahnen*, p. 316.
[15] Mierzejewski, *Hitler's Trains*, p. 56.
[16] Hermann Teske, 'Die Eisenbahn als operatives Führungsmittel im Kriege gegen Rußland', *Wehrwissenschaftliche Rundschau*, vol. 9/10 (1951), p. 51.
[17] Rohde, *Wehrmachttransportwesen*, pp. 136-7. The Government-General was created by decree on 12 October 1939 from the areas of Poland which were not to be annexed by Germany. It passed to civilian administration two weeks later.
[18] Ibid., p. 173. Organisation Todt, officially founded in 1938, was a civil and military engineering concern which was a part of the Ministry for Armaments and Munitions. It was named after its founder, Fritz Todt.

below the figures for 1938 and 1939.[19] The head of transport at the OKH (*Chef des Transportwesens*, CdT) at the outbreak of the war against the Soviet Union was General Rudolf Gercke. It was he who was responsible for the Reichsbahn eventually increasing its number of locomotives and wagons throughout the war.[20] The importance of the railways was clear to Hitler and the high command and they acted to try to remedy this dangerous situation. On 27 December 1941 Keitel wrote to Gercke that it was Hitler's desire to increase the operational performance of the railways considerably, given that they were the 'backbone' of operations. Certain measures were to be put in place at once, including sending more German personnel to the east, speeding up the supply of *matériel*, and upgrading locomotives in Germany for winter conditions in Russia. It was also stressed that an ample supply of coal was of primary importance for the smooth running of operations.[21]

January's war economy report suggested that up till now the railway network had never been as hard pressed as it was at that moment.[22] At the beginning of the month another report concluded that, together with the production of regular armaments, there was now a considerable need for the manufacture of different means of transport, so much so that Hitler himself ordered that production be increased dramatically.[23] On 4 January the CdT made it explicitly clear that Hitler's wishes were to be put into effect. Gercke also insisted that railway lines immediately behind the front were to be improved in order to facilitate the lateral movement of troops from one sector to another. To ensure rapid progress Hitler personally ordered that strong elements of the OT and Baustab Speer were to be made available for carrying out the building programme for the coming year (which henceforth became known as Ostbau 1942).[24] All the important stretches of railway in the southern sector of the Eastern Front were to have their capacity increased and their track width converted to standard gauge. However, very few actually needed to be reconstructed.[25] The fact that these tracks were already in place was crucially important for the timeline of the coming offensive. It is also significant that the southern sector of the front (specifically

---

[19] Mierzejewski, *Hitler's Trains*, pp. 113-5.

[20] Rohde, *Wehrmachttransportwesen*, p. 118. The *Chef des Transportwesens* was head of the 5th Department of the General Staff and, from 1939, was directly subordinate to the Chief of Staff of the Army. Gercke held this post from August 1939 until the end of the war.

[21] 'Abschrift von Abschrift zu Chef Trspw. Pl. Abt. (I) Nr. 015/42 g.Kdos.', BA-MA RH 4/568, fol. 15.

[22] 'Kriegswirtschaftlicher Lagebericht Nr. 29, Januar 1942', BA-MA RW 19/99, fol. 68.

[23] 'Kriegswirtschaftlicher Lagebericht Nr. 28, Dezember 1941', BA-MA RW 19/99, fol. 62.

[24] 'Ausbau der Eisenbahnen im Osten (Sofortprogramm "Ostbau")', p. 2, BA-MA RH 4/568. Baustab Speer was originally a part of the Generalbauinspektor für die Reichshauptstadt, which was responsible for building work in Berlin. It took over extensive building projects in the east from January 1942. It was named after Albert Speer, who was Minister for Armaments and Munitions (later War Production) from February 1942 until the end of the war.

[25] 'Ausbau der Eisenbahnen im Osten (Sofortprogramm "Ostbau")', attachment 1, BA-MA RH 4/568, fol. 10.

between L'vov and the Donbass industrial region) was at least as well served by railway lines suitable for sustaining large-scale operations as the central sector.[26]

Efforts to improve the railway logistics system increased throughout the winter of 1941-2. Nevertheless, the situation had become so critical by February that both the oil and transport programmes now took precedence over the manufacture of all munitions. The operational capability of the Reichsbahn had certainly improved somewhat on the previous month, though it was still stretched to the limit.[27] However, from spring 1942 strong measures were being put in place to prepare the southern front for the coming offensive. By March the railways behind the line Kursk–Belgorod–Khar'kov (i.e. the deployment area for the first phase of Blau) were being restored, while there was also a standard-gauge two-way line running from Warsaw and L'vov as far as Kutejnikovo (120 kilometres north-west of Rostov) with only a slight interruption to the west of Stalino (Donetsk) between Sinel'nikovo and Krasnoarmejsk. The all-important increase in performance (*Leistungssteigerung*) due to improvements to the tracks or to loading facilities also applied to virtually the full length of this line.[28] Increases in the capacity of given stretches of railway were achieved in a number of ways. Crucially, the most extensive use of local labour was to be used in order to complete the goals set out in the Ostbau 1942 programme.[29] Even in the top echelons of authority everyone knew what this coercion implied. The head of railway troops at the OKH (Lieutenant-General Otto Will) had written to the planning department of the CdT at the beginning of the year explaining that more could be got out of workers 'with pistol in hand'.[30]

A daily average of 130,000 railway wagons were being sent eastward by May 1942, though Hitler's desire to increase locomotive numbers and goods transport had not yet been felt.[31] For three days in late May he met with Speer and several high-ranking personnel in the Reichsbahn. The transport problem, Hitler declared, was decisive. He argued that so-called experts had come to him time and again in the past to say that something was impossible, yet he firmly believed that good leadership could overcome any difficulty. There were problems

---

[26] Ibid., attachment 2 (map), fol. 12. The Donbass region (from Russian *Donetskij ugol'nyj bassejn*, 'Donets coal basin') in eastern Ukraine is a heavily industrialized area which was originally a major coal-mining centre. It was one of the most important industrial areas of the USSR, the loss of which constituted a considerable blow to Soviet armaments output at the time.

[27] 'Kriegswirtschaftlicher Lagebericht Nr. 30, Februar 1942', BA-MA RW 19/99, fol. 72, 73.

[28] 'Ostbau 1942', attachment 2 (map), BA-MA RH 4/568, fol. 109.

[29] 'Befehl für den weiteren Ausbau der Eisenbahnen im Osten ("Ostbau 1942")', BA-MA RH 4/568, fol. 25.

[30] BA-MA RH 4/503 (16 January 1942). Will, as *Befehlshaber* (from 1944 *General*) *der Eisenbahntruppen*, was directly subordinate to Gercke. He held this position for the entire duration of the war.

[31] 'Wehrwirtschaftlicher Lagebericht Nr. 33, Mai 1942', BA-MA RW 19/99, fol. 87.

that simply had to be mastered at all costs. If the supply problem was not solved, then Germany would perish. He thought it was ridiculous to speak of a shortage of railway facilities. Rolling stock figures were certainly a headache and there was, admittedly, a considerable shortage. However, this problem, he maintained, could be solved in a number of ways: turnaround times could be shortened if prisoners of war were used for loading and off-loading; all unnecessary traffic must be avoided (such as sending beer from Munich to Berlin during wartime); rolling stock must be ruthlessly taken from all occupied areas, meaning putting an end to the four express trains which travelled between Brussels and Paris each day; locomotives and wagons were to be manufactured more quickly and 'primitively'; and repairs were to be speeded up by making more skilled workers available. The increased manufacture of railway equipment was, in short, so critical that it was to be treated a close third behind coal and iron production. Only the 'little soldier' at the front – if anyone at all – had the right to deem something impossible, yet even there every task was being fulfilled. This war, he maintained, would not be lost because of the transport question.[32]

Hitler's suggestions were soon put into practice by the Wehrmacht. In a memorandum dated 28 June the OKW put in place the following guidelines:

[32] Cited in Hitler, *Deutschlands Rüstung*, pp. 126-30.

...II

1. Only goods which are required immediately or are important for the war effort at the time of sending are allowed to be loaded.

2. Only the number of wagons which can be made full use of and which can be loaded within the deadlines given by the railway service are to be requested.

3. Only those wagon types which are necessary for a particular load are to be requested, i.e. no stake wagons where flat or open wagons would suffice.

4. Wagons can only be requested if

a) the goods to be sent are ready for loading.

b) there are enough personnel and equipment available for loading.

c) transport follows immediately after loading.

5. Loading and unloading is to happen promptly within time limits, also on Saturdays, Sundays and public holidays, and if necessary also at night...

8. Empty wagons are to be returned at once to the Reichsbahn. It is forbidden to withhold empty wagons....

III

In order to relieve the Reichsbahn, goods are, where feasible, to be transported on the waterways.[33]

[33] 'Leistungssteigerung im Güterverkehr der Wehrmacht', BA-MA RH 4/20, fol. 1-2.

By the following month wagon placement had increased by an average of 12,000 per day to 142,000, while the target set by the newly formed centralized transport coordinator created by Speer (*Zentralverkehrsleitstelle*) was 180,000 units a day.[34] As the campaign continued the Germans tried more and more ways to overcome the shortage of wagons, to increase the capacity of trains or to use loading areas more economically. This included so-called 'overloading', where vehicles to be transported were placed over the buffers straddling two wagons in order to economize on space. This measure led to a considerable addition of 12-14% of original capacities.[35] From the end of June German freight cars with a load capacity between 10 and 15 tonnes were allowed to be overloaded by an extra 2 tonnes.[36]

Efforts were not confined to rolling stock alone. The previous month the Reichsbahn took up roughly 600 kilometres of unimportant railway tracks in Germany so that they could be used further east.[37] All initiatives, no matter how small, were slowly helping to ease the burden on the railways in the occupied territories.

By the end of June over 50,000 kilometres of railway track in the Soviet Union had been converted to standard gauge; five months later this figure had risen to 62,000. In the month leading up to Blau twice as many kilometres of railway tracks were converted to standard gauge in the area of Army Group South as in the other two army groups combined (1,107 and 586 respectively).[38] By July all backlogs caused by the previous winter's crisis had been cleared; the next one would only occur again towards the end of the year. Freight traffic in this period throughout Germany was moving well in general, with no suggestion of the disaster of the previous year.[39]

Hitler's Directive No. 45 of 23 July 1942 split the offensive on the southern wing of the Eastern Front in two. Army Group B (formerly South) would continue towards Stalingrad, while Army Group A would simultaneously advance towards the Caucasus. This decision has drawn the most derision from former soldiers and historians alike, not least because of the transport problems which it is presumed it was bound to cause. The head of the Army's intelligence service in the east, Major-General Reinhard Gehlen, wrote after the war that the fact that there was only one railway to the south of the river Don suggested that Blau (not to mention Edelweiß) should never have taken place.[40] Lieutenant-General Max Bork, who

---

[34] Wehrwirtschaftlicher Lagebericht Nr. 34, Juni 1942', BA-MA RW 19/99, fol. 91.
[35] Rohde, *Wehrmachttransportwesen*, pp. 148-9.
[36] Brandt, 'Germany's Vulnerable Spot', p. 231.
[37] Mierzejewski, *Hitler's Trains*, p. 171.
[38] Umgespurte Gleise in Rußland', attachment 5, BA-MA RH 4/708.
[39] Mierzejewski, *Hitler's Trains*, p. 152.
[40] Gehlen, *Dienst*, p. 20.

wrote extensively on the transport situation in the decade after the war, concluded that the notion of conducting two operations at once in southern Russia must be discarded if the Western Allies ever found themselves in the same position as the Germans did.[41] The OKH also felt that the split was 'premature', arguing that the supply situation for two simultaneous objectives was inadequate.[42] However, some observers have ventured to concede that Hitler's plan had at least been founded on an appreciation of the logistical parameters of the area in question. The former General Staff officer and historian Burkhart Müller-Hillebrand believed that the transport and supply possibilities for the planned offensive in the south – as well as the capabilities and intentions of the enemy – had been assessed in a sober manner before the decision for Blau was finally taken.[43]

A study of the work carried out by the Wehrmacht in order to construct and maintain a functioning rail network in southern Russia leads to the conclusion that Gehlen's flippant remark about the poor communications network beyond the Don is actually quite disingenuous. There was, for sure, only one railway line passing south through Rostov, but once it passed beyond Batajsk it split up into three directions. An early intelligence report revealed that the railway station in this town was a very important through station and was the second or third most important in the whole of the Soviet Union (including handling the most goods traffic).[44] It was certainly true that this stretch of railway would be pressed to its limits, but it at least had the facilities to cope with a large number of military transports.

Information on the railway network to the north of the Caucasus was available to the Germans and relatively comprehensive. An example of the detailed statistics obtained by the German high command was given in a report from the military intelligence office in Romania in November 1941 on the railway from Armavir to Sochi via Tuapse. This important line along the Black Sea coast was 310 kilometres in length, single-track, and in good condition. The stations along the route had on average five lines (which suggested their capacity for heavy traffic). There were also branch lines leading southward to the towns of Majkop and Labinsk in the foothills of the Caucasus. The final stretch to Tuapse, on which trains needed two locomotives due to the inclination, was often snow-covered in winter. The important

---

[41] Max Bork, 'Die Bedeutung des Bahn- und Straßennetzes als Mittel der Operation (Osten)', BA-MA MSg 2/1472, p. 35.

[42] Alfred Philippi and Ferdinand Heim, *Der Feldzug gegen Sowjetrußland, 1941-1945: Ein operativer Überblick* (Stuttgart, 1962), p. 144.

[43] Cited in Kreidler, *Eisenbahnen*, p. 144. For the railway system in the region beyond the Don, see Map 3 (Railways in the North Caucasus (*western part*)), Map 4 (Railways in the North Caucaus (*eastern part*)), and Map 5 (Railways in Transcaucasia).

[44] 'Flugplätze und Brücken in Russland' (unknown source, 12 September 1941), BA-MA RH 4/503.

junction of Armavir had two stations, the first of which handled traffic to Baku, Rostov and Sochi, the second directing trains running from Sochi eastward to Mineral'nye Vody and Baku. Traffic heading to Rostov did not enter the main railway station but bypassed it on its own separate branch line. Kurganinsk, on the line from Armavir to Tuapse, had approximately twelve tracks and large grain elevators. Belorechensk, sixty kilometres further west at the junction to Majkop, had a total of 30 tracks (amounting to approximately 60 kilometres). Here there were repair workshops, storage rooms, a turntable, a grain elevator and a nearby airfield. Tuapse had two stations: a marshalling yard with 20 tracks and a passenger station with 12. Further south along the coast Sochi had 20 lines (with a total of 25 kilometres of track) in addition to storage rooms and a turntable.[45]

The eastern side of the Caucasus was also believed to be suitably serviced by rail. A report on 21 December 1941 from the WiRüAmt stated that the existence of a projected line from Groznyj to Astrakhan' had been confirmed at the end of the previous year. In March 1941 work had begun on the foundation, though at the time of the report it was not yet believed to be in operation. It was also noted that the line heading south-west from Baku to the river Kura had been extended towards Iran via the town of Sal'jan (Salyan).[46]

The most significant railway track for immediate German purposes was the main line which ran from Rostov to Baku – the heart of the largest oil-producing area in the Soviet Union. Indeed, the quartermaster of 1st Panzer Army suggested that it went without saying that the line between Rostov and Georgievsk (halfway to Baku) would be of 'decisive' importance to any future operations in the region.[47] This line was deemed to be 'efficient' (*leistungsfähig*), notwithstanding the fact that there were numerous short stretches along its length which were single-track.[48] The same officer also noted that the connecting arteries in the North Caucasus (both railways and roads) were favourable for military operations.[49] Further east on this line – along the western coast of the Caspian Sea – it was possible to load and detrain troops at all stations without exception between the towns of Gudermes and Belidzhi (approximately 250 km apart). Nine stations along this route also had loading ramps

[45] 'Eisenbahnnetz im Nord-Kaukasus' (13 November 1941), BA-MA RH 66/385.
[46] 'Auszug aus Bericht IV. A.K. vom 25.11.41, Eisenbahnverbindung Astrachan–Grossnyj–Baku', BA-MA RH 66/385.
[47] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42' (29 July 1942), BA-MA RH 21-1/450, fol. 159.
[48] Bork, 'Bedeutung des Bahn- und Straßennetzes', p. 35.
[49] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42' (26 July 1942), BA-MA RH 21-1/450, fol. 145.

suitable for military purposes.[50]

The Germans had by now learned that the existence of railway lines on maps did not automatically mean that they would be operational when they fell into their hands, however. A study of the network in the Caucasus region dated 23 September 1942 noted that of the seventeen separate railway lines located, only eight were deemed to be fully operational.[51] This was understandable, considering that the Soviets had had time to destroy tracks in this region. However, the railways in the original jumping-off areas in the eastern Ukraine were often in good working order when taken during the rapid German advance. On 28 July the special officer assigned to 1st Panzer Army to deal with transport problems (*Bevollmächtigter Transportoffizier*, BvTO) noted that since the beginning of Blau, the strategically important railway line Millerovo–Kamensk–Rostov had fallen into German hands more or less intact and operational. He suggested that repairing the individual sections which had been rendered impassable would, relatively speaking, be possible within a short time. It had also been possible to get local railway workers to work for the Germans in order to get traffic running again. He proposed subordinating a railway engineer company to himself so that repairs would be able to keep up with the advance, with another to be added south of the Don later on which could be put to work on the important stretches linking Rostov, Krasnodar and Armavir.[52]

The following day the quartermaster of 1st Panzer Army reported that it would be two weeks before the railway line between Kamensk and Novocherkassk (just north of the Don) was fit for service. The line between Stalino and Taganrog (on the northern coast of the Sea of Azov) would be in operation in less than a week, though it would take considerably longer to fix the line continuing on to Rostov as this stretch had been completely destroyed by the Soviets during their retreat.[53]

On 4 August the commander of Feldeisenbahnkommando 3 (responsible for railway operations in the Ukraine) wrote that it was imperative that capacities were to be increased on certain stretches of railway, even if it often seemed that this might not be possible because of their current state of disrepair. His motto was: 'Trains must run under all circumstances!'[54]

---

[50] 'Beschreibung der Eisenbahnen und Landwege, Flüsse, Brücken und militärischen Objekte der Gebietsebenen Daghestans' (n.d., before the German summer campaign of 1942), p. 1, BA-MA RH 66/142.
[51] 'Studie über Verbindungswege zwischen Zentralrußld.–Ind.Ozean–Pers.Golf', BA-MA RW 4/691, fol. 70.
[52] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/450, fol. 158-9. The *Bevollmächtigter Transportoffizier* was the representative of the CdT at higher command levels.
[53] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42' (29 July 1942), BA-MA RH 21-1/450, fol. 159.
[54] 'Grundsätzliches über den Betrieb auf neu übernommenen Strecken', p. 1, BA-MA RH 4/723.

Three weeks later the quartermaster of 1st Panzer Army reported that both the railway line between Nevinnomyssk and Georgievsk and between Petrovskaja and Divnoe (east of Sal'sk) were 'usable', though other stretches were so badly destroyed that they could not be expected to be operational in the immediate future. This meant that for the moment the army could only transport between one fifth and one sixth of its required supplies to the front. However, from 30 August the line Nevinnomyssk–Georgievsk would have a capacity of 1,600 tonnes a day for the following four weeks, meaning that the railway should theoretically be able to supply the army during that period.[55] By the end of the month, as predicted, the line was fully operational. On the following day the quartermaster could report a considerable alleviation of the supply problems which the army had confronted up to that point.[56]

As the German advance south of the Don continued uninterrupted, the railway situation on the western sector of the front also looked promising. On 15 August Armeegruppe Ruoff (17th Army and 3rd Romanian Army) noted that the branch line between the port town of Ejsk and the important junction of Tikhoretsk (on the main Rostov–Baku line) would be finished within a week. The army therefore urgently requested that the harbour be cleared of mines as quickly as possible in order to allow the passage of ships for supply purposes.[57] This line, in conjunction with the naval supply routes across the Sea of Azov from Mariupol' and Berdjansk to Ejsk, would be crucial in alleviating supply difficulties by helping to bypass any potential bottleneck at Rostov. Six days later Armeegruppe Ruoff noted that the line Krasnodar–Abinsk heading towards the important Black Sea ports of Novorossijsk and Anapa was only partially destroyed.[58] On 27 August the army reported that there had been a gradual increase in capacity on the line between Taganrog and Uspenskaja (75 km east of Tikhoretsk), bringing on average 15 trains a day for the last two weeks. By late August the troublesome line from Taganrog to Rostov had one complete track in standard gauge, making it possible to send on the trains arriving in Taganrog to their destination further down the line. The line Ejsk–Pavlovskaja–Tikhoretsk was currently single-track in broad gauge, while the line Tikhoretsk–Kropotkin–Krasnodar would probably be the same from 2 September. A standard-gauge line along the entire stretch from Rostov to Kropotkin (halfway between

[55] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42' (24 August 1942), BA-MA RH 21-1/450, fol. 221, 222.
[56] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42' (31 August and 1 September 1942), BA-MA RH 21-1/449, fol. 66.
[57] 'Anlagenband XVII/2 zum Kriegstagebuch der Oberquartiermeister Abt./AOK 17 Nr. 215-507 vom 14.8.-31.8.42', attachment 241, BA-MA RH 20-17/592.
[58] Ibid., attachment 315, BA-MA RH 20-17/592 (21 August 1942).

Tikhoretsk and Armavir) could also be expected from the middle of the month.[59]

By the beginning of September the main line from L'vov in the western Ukraine to Rostov was double-track in standard gauge. The track from Rostov as far as Mineral'nye Vody had a capacity of 36 trains a day (twice as much as the main line serving Stalingrad).[60] This line then continued as a single track as far as Prokhladnyj (halfway between Mineral'nye Vody and Groznyj).[61] There was also a single-track broad-gauge line branching off the main line from Tikhoretsk to both Krasnodar to the south-west and Svetlograd to the east, which were both still being used by the Germans with Russian rolling stock.[62]

The importance of oil meant that the area of operations to the south of the Don (with the exception of the Kalmyk ASSR between Stalingrad and the Caspian Sea) was more closely knit and in a better state of repair with respect to the communications network than in other parts of the Soviet Union.[63] The transport situation in this part of Russia was so favourable that networks of temporary lines built in forward army areas (*Feldbahnen*) were not needed in the Caucasus to the same extent that they were needed elsewhere. A projected field railway from Mozdok over the river Terek towards Beslan was under construction towards the end of 1942, but given the short period of time that this area was under German control the project did not get far beyond the planning stage.[64] Nevertheless, it was indicative of the positive railway situation in this region that field railways were only built in considerable numbers at Stalingrad and in the central sector.

On 6 September Gercke ordered the continuation of large-scale construction work in the occupied eastern territories for the coming winter (Winter-Ostbau 1942-3). The railway lines in the southern areas of the Soviet Union were to be given special attention. It was also assured that the majority of OT workers in this theatre would be made available for work on the railway network.[65] This would include the many secondary lines which had been neglected by the Soviets but which were actually of special importance to the German Army for the lateral movement of troops. Sometimes, however, the state of the track superstructure was such that the theoretical number of trains could not always be accommodated on a given stretch. Along the operationally important line Kursk–Kastornoe leading to Voronezh, for

---

[59] Ibid., attachment 408, BA-MA RH 20-17/592 (27 August 1942).
[60] 'Anlage, Winter-Ostbau 1942/43' (map), BA-MA RH 4/568, fol. 124.
[61] Kreidler, *Eisenbahnen*, p. 149.
[62] 'Anlage, Winter-Ostbau 1942/43' (map), BA-MA RH 4/568, fol. 124.
[63] Dallin, 'North Caucasus', p. 560.
[64] Alfred Gottwaldt, *Heeresfeldbahnen: Bau und Einsatz der militärischen Schmalspurbahnen in zwei Weltkriegen* (Stuttgart, 1986), p. 323.
[65] 'Befehl für den weiteren Ausbau der Eisenbahnen im Osten: Winter-Ostbau 1942/43', BA-MA RH 4/568, fol. 27.

example, the superstructure was the worst yet seen by the army group, so much so that almost half the length of this stretch needed to have its sleepers replaced.[66] The tracks in the Soviet Union were incapable of bearing the same loads as those in Germany because the superstructure was generally of inferior quality to that found in western Europe. The ballast layer was usually made out of sand, only 2% of the tracks weighed 43 kg/m or more (compared to 49 kg/m on practically all main stretches in Germany), and there were only 1,440 sleepers per kilometre (as opposed to 1,600 in Germany). Accordingly, only lighter German locomotives with an axle pressure of no more than 16 tonnes – usually older models which had seen service in the First World War – could be used on stretches which had not been upgraded.[67]

Most of this repair work was carried out by the OT, especially in the rearward army areas well behind the front line. However, in the first half of 1942 the organization lost a large proportion of its workforce when it had to give up roughly 12,000 men as replacements for the Wehrmacht. Its units suffered most because of the loss of leadership personnel.[68] Hitler, however, recognized the importance of the work carried out by these formations and acted to alleviate the burgeoning workload which they already had to bear. On 8 September he issued a decree which forbade the employment of Germans for 'menial tasks' such as stone breaking and hauling building materials. They were to be freed from this type of work by setting a ratio of one German to ten local workers at building projects in the east if possible.[69]

The work on the railways in the south had lagged behind the requests made of the OT, so special measures were taken to ensure that the requisite number of labourers would be found to replace the German workers who had been drafted into the Army.[70] Earlier in the summer there had been a special campaign to recruit from the local population in order to fill out the gaps in the OT in the southern theatre. The net result was that the greatest number of foreigners to work for the organization throughout the war were Russians. These workers were not enlisted but 'requisitioned'.[71] As the Army approached the Caucasus, however, the Germans enticed prospective workers with more lenient treatment of the local population compared to that in other parts of the Soviet Union. There was no forced labour, while those

---

[66] 'Grundsätzliches über den Betrieb auf neu übernommenen Strecken', p. 2, BA-MA RH 4/723. The track superstructure is the ballast layer (usually gravel or coarse stone in developed countries) plus the track and sleepers.
[67] Pottgiesser, *Reichsbahn*, pp. 26-7.
[68] Seidler, *Organisation Todt*, p. 129.
[69] 'Beschäftigung deutscher Bauarbeiter in den besetzten Gebieten', in Hitler, *'Führer-Erlasse'*, pp. 280-1. Elsewhere in German-occupied Europe the ratio was usually one to five.
[70] Singer (ed.), *Quellen*, p. 395.
[71] Seidler, *Organisation Todt*, p. 142.

that did choose to help were given the same rations as their German counterparts.[72] Such efforts ensured that the Germans were able to employ massive numbers of foreigners on important construction works throughout the war. Of the roughly 800,000 men who served in the OT in the east, no more than 50-60,000 were German citizens.[73]

The influx of additional OT personnel and local labour had a positive effect on the speed with which the lines in the northern Caucasus were converted or reconstructed. At the beginning of September the BvTO of 1st Panzer Army reported that the line from Rostov to Georgievsk would be converted to standard gauge in stages starting with Rostov to Kropotkin (to be completed by 9 September), then on to Armavir (13.9.), Nevinnomyssk (15.9.) and finally to Georgievsk (17.9.). The line from Kropotkin to Georgievsk would initially be single-track, with work beginning on the second line immediately after the first was completed. The broad-gauge line would remain in use until the day before work on it was due to start. The important branch lines Tikhoretsk–Sal'sk and Kropotkin–Krasnodar would, it was hoped, be completed within five days.[74] The following week 17th Army reported that the line Batajsk–Sal'sk running north-east to Stalingrad parallel to the Don would be finished by the end of October, while the line Ejsk–Krasnodar would be repaired and operational in standard gauge from 19 September.[75]

In late September the new post of *General des Transportwesens Südrußland* (General of Transport Southern Russia) was created in order to coordinate the railways between various commands and logistics staffs in the southern theatre (i.e. army groups A and B, the *Wehrmachttransportleitung Ukraine*, and the *Bevollmächtigter Transportoffizier Stab Don*). A representative of the Reichsbahn from the transport ministry was subordinated to this position.[76] The following month Hitler decreed that in order to secure unified administration of the network, all means of transport – railways, roads, inland waterways and shipping – would come under the control of the Minister for Transport. This also included all railway property previously belonging to the Soviet Union.[77]

Notwithstanding the efforts being put in place to build up the rail network in southern Russia, soldiers at the front still knew that there would be no panacea which would eliminate

---

[72] Dallin, 'North Caucasus', p. 578.
[73] Seidler, *Organisation Todt*, p. 129.
[74] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42' (8 September 1942), BA-MA RH 21-1/451, fol. 18.
[75] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17 vom 14.8.-15.12.42', BA-MA RH 20-17/591, fol. 23.
[76] 'Gen.d.Trspw. Südrußland' (20 September 1942), BA-MA RW 19/888, fol. 113.
[77] 'Erlaß des Führers über das Verkehrswesen in den besetzten Ostgebieten' (23 October 1942), in Hitler, *'Führer-Erlasse'*, p. 290.

all logistics headaches entirely. As early as spring 1942 the quartermaster of 1st Panzer Army noted that it was not going to be possible to provision the army completely during a war of movement. It would therefore be necessary to make full use of the land and to teach the troops right down to the lowest level how to cook and bake for themselves. It was also suggested that the civilian population would only be fed to a very limited degree and that only those who were in German employ should be cared for properly in terms of rations.[78] Later in the year the same officer suggested that the number of trains passing through the bottleneck at Rostov would not be enough to supply the armies to the south of the Don adequately. 1st Panzer Army would therefore have to fend for itself with respect to provisions and fodder. Sufficient quantities of bread and slaughter animals could be attained from the surrounding areas, while roughly 60% of essential feed grains and 80% of fat stocks could also be guaranteed.[79] The Germans were, after all, now campaigning in a large grain-growing region of the Soviet Union, the conquest of which represented the loss of a huge proportion of the country's bread supply.[80]

On 25 September the officer responsible for economic questions (*Armee-Wirtschaftsführer*) at 1st Panzer Army headquarters confirmed that the railway line from Rostov to Georgievsk was henceforth converted and in operation, as were the most important connecting arteries to the right and left of this line within the army's area of operations.[81] This was an extremely positive announcement given the importance of this line for the entire army group. Indeed, by this time the overall situation for the Reichsbahn throughout the occupied territories in the east was positive.[82] Despite the vast distances involved and the speed of the German advance the railways continued to perform to a very high level. From April to September on the southern sector of the front 3,717 trains had been used for troop deployments alone, not to mention the many more which supplied these men.[83] This was quite an achievement if one considers that the Germans were advancing rapidly into enemy territory for the second half of this period, converting broad-gauge railway lines as they went.

By the beginning of the following month the overall transport situation was such that logistics tasks which had previously been carried out by other means could now be effected

---

[78] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42' (23 April 1942), BA-MA RH 21-1/449, fol. 15, 16.
[79] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42' (1 August 1942), BA-MA RH 21-1/450, fol. 170.
[80] Liddell Hart, *Second World War*, p. 262.
[81] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/451, fol. 197-8.
[82] 'Wehrwirtschaftlicher Lagebericht Nr. 37, September 1942', BA-MA RW 19/99, fol. 99.
[83] Kreidler, *Eisenbahnen*, p. 144.

by rail. On 2 October the Chief of Staff of 1st Panzer Army (Faeckenstedt) informed his corps counterparts that the increase in capacity of the railways had for the first time also allowed provisions to be brought forward to the front lines to a limited degree. Nevertheless, the troops had to be aware of shortages and where they would still have to help themselves. Measures were, however, being taken by the army itself, such as gathering grain and roughage and leaving them at collection points along the railway.[84] On the same day 17th Army noted that if supplies kept coming by rail and road in their present quantities the army would be sufficiently provisioned for the coming days. Stockpiling, however, would not be possible for the moment.[85] It was certainly not an ideal situation, but at least the army could concentrate on operational matters for the immediate future. Three weeks later the quartermaster of 1st Panzer Army reported that the three 'disruptive influences' of transferring supplies from vehicles to trains, the conversion of railway lines to standard gauge, and the changeover from troops living off the land to getting their provisions brought up from the rear had been overcome. Apart from in certain rear areas the railway network was running at full capacity, provisions were arriving in sufficient amounts, and the intensive exploitation of the land by the army was finished.[86]

On 9 October the new Army Chief of Staff (Zeitzler) issued an order in which it was stated that a difference was to be made between 'battle transports' (*Kampftransporte*) and 'transfer transports' (*Verlegungstransporte*). The former were the most important and were only allowed to contain the troops and equipment needed for the first four or five days of fighting. The units which were ready to go straight into action once they detrained (*Kampfstaffel*) would be sent immediately to the front, while the rest of the formation (*Ergänzungsstaffel*) would arrive later by overland march or by train.[87] A division which usually needed a total of 70 trains would now only have between 25½ and 30 – depending on the number of regiments – as part of the *Kampfstaffel*. Hitler's previous order had been modified so that now all heavy weapons would go along with the troops.[88] The new procedures also stipulated that in order to increase railway mobility an infantry division should now generally not exceed 65 trains.[89]

---

[84] 'Laufende Versorgung', BA-MA RH 21-1/451, fol. 212.
[85] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17 vom 14.8.-15.12.42' (2 October 1942), BA-MA RH 20-17/591, fol. 36.
[86] 'Bericht über die Versorgungslage der 1. Panzerarmee, Stand 23.10.42', BA-MA RH 21-1/451, fol. 279.
[87] 'Grundlegender Befehl Nr. 2 (Kampf- und Verlegungstransporte)', p. 1, BA-MA RH 4/684.
[88] Rohde, *Wehrmachttransportwesen*, pp. 150-1.
[89] 'Grundlegender Befehl Nr. 2 (Kampf- und Verlegungstransporte)', p. 1, BA-MA RH 4/684.

From October, 40-50 trains were running each day in the new Reichsverkehrsdirektion Rostow, despite the fact that the large bridge over the Don to Batajsk would not become available for use until January 1943.[90] While operations to the south of the river were going well, however, problems were still being encountered further north. By the middle of the month similar difficulties to those experienced the previous year at the bottleneck of Dnepropetrovsk in the Ukraine were repeating on the line from Taganrog to Rostov.[91] However, a report by the transport officer at 1st Panzer Army suggested that this line would most likely be converted and double-track by 5 November.[92] This would increase the capacity along this vital line considerably.

Important branch lines were also being rapidly made operational. The main line from Batajsk to Georgievsk was completed and double-track (with the exception of a few single-track bridges) by the end of October. The line Batajsk–Sal'sk was converted and in operation, as was the line Nevinnomyssk–Cherkanssk–Ust'-Dzheguta heading into the Caucasus. The track from Georgievsk to Budënnovsk was converted as far as the river Kuma, with the remainder likely to be completed by 25 November. However, the traffic situation to the north of the Don remained hard-pressed, especially across the central Ukraine between Taganrog and Kazatin. It was therefore suggested to march transports destined for the front over the river to Batajsk – where they could then be loaded on to trains – as rail operations to the south of the Don continued to be 'satisfactory'.[93]

Far from ignoring the problems connected with railway transportation, Hitler actually took an active part in trying to remedy what had been a significant thorn in the Army's side. His initiatives both before and during the German-Russian conflict meant that the railways were greatly improved in the eastern territories of Germany and beyond. Measures were continually being put in place to improve the capacity of the railways, especially from the beginning of 1942 onwards. These initiatives resulted in a rail network in the southern region of the Soviet Union that was more than capable of catering for the operational needs of a large army group.

There were, to be sure, shortages of rolling stock at the beginning of 1942, especially locomotives. However, efforts to increase numbers were successful. In February 1942 Hitler

[90] Pottgiesser, *Reichsbahn*, p. 62. On 6 September 1941 the Haupteisenbahndirektion Ost (HBD Ost) was created in Poltava in the Ukraine. On 15 January 1942 it was renamed Reichsverkehrsdirektion Poltawa (RVD Poltawa). The organization was moved to Rostov on 5 September 1942 and its name was once again changed.
[91] Beurteilung der Eisenbahnlage' (16 October 1942), BA-MA RH 21-1/451, fol. 268.
[92] Eisenbahnlage Nr. 28' (n.d., mid-October 1942), BA-MA RH 21-1/451, fol. 272.
[93] bid.

ordered the restructuring of the OT so that its units would now also help with Army construction projects, but the immediate priority remained the construction of locomotives. German workers and foreign prisoners of war were to be moved from building projects to the armaments sector, with special privilege for locomotive construction and the Army.[94] Two months later he ordered that all engine drivers were to be released from the Army and Waffen-SS so that a pool of experienced and competent personnel would be available to take advantage of the increased numbers of locomotives.[95]

Hitler's keen interest in technology was not limited to purely military hardware. On 22 September 1942 he acknowledged his appreciation of the fast development and production of the new 'war locomotive' (*Kriegslokomotive*). With this new Type 52 locomotive German industry took the first step towards the mass production of trains. In comparison to the construction of conventional locomotive types anything up to 26 tonnes of raw materials and 6,000 man-hours were saved. Use of non-iron metals was reduced from 2,650 kg to 272 kg and the weight of copper in each train was reduced from 2,360 kg to 120 kg.[96]

He was also very receptive to any new ideas concerning freight which might give Germany an edge in the logistics war. In late July 1942 he agreed with the solutions put forward by Albert Ganzenmüller (State Secretary at the Transport Ministry) for a line running from Upper Silesia to the Donbass which would have a track width of four metres and trains travelling at 200 km/h.[97] These main lines would connect Berlin with Moscow, Khar'kov and Turkey, with branch lines to Munich and the Ruhr.[98] He also suggested that containers should be made in such a way so that the upper section could be offloaded by crane and placed on to standard-gauge wagons, thereby upgrading older rolling stock and increasing its capacity. Indeed, he was a fervent advocate of the new container system which was being developed at the time.[99]

Hitler was more aware of the logistics demands for war in the Soviet Union than many of his top military advisers. The General Staff seemed to disregard logic when it convinced itself that original calculations concerning reserves of stocks for Barbarossa were overly cautious. A figure of five months for the completion of the campaign in Russia had been readjusted to take into account the lack of rolling stock, with some high-ranking officers now

---

[94] Cited in Hitler, *Deutschlands Rüstung*, pp. 66, 67.
[95] *KTB OKW*, vol. 2, p. 320 (12 April 1942).
[96] Hitler, *Deutschlands Rüstung*, p. 187.
[97] Cited ibid., p. 158.
[98] *Idem*, *Tischgespräche*, p. 475 (27 May 1942).
[99] Ibid., p. 476 (plus note 1).

talking of a campaign of no more than one month.[100] Furthermore, though large units had been given explicit orders to keep to specific railways this was often not done, resulting in too little attention being paid to the protection of these important arteries. This meant that the Soviets could carry out large-scale destruction of railway lines, but could also – more importantly – move large amounts of rolling stock out of the reach of the invader. As a consequence, German locomotives and wagons had to be used, meaning more conversions to standard gauge and the attendant time wasted on this colossal task.[101] At the end of 1941, despite the supply difficulties caused by the unfavourable weather and terrain, the Army leadership, reflecting its general disdain for logistics, had driven on towards Moscow. The catastrophe which beset it along the entire front was a direct result of this negligence.[102]

Historian Martin van Creveld has argued that Halder and the General Staff were ultimately to blame for German logistics failures because Hitler was simply not interested in this aspect of operations – despite the fact that it made up 'nine-tenths of the business of war'.[103] While the Army command was certainly guilty of complacency and overconfidence in the first year of the conflict, closer inspection of Hitler's direct influence on events from 1942 clearly shows that he had given logistics top priority for future operations. Despite heavy material losses, almost all transport projects within the realms of the possible were carried out right through to the German collapse in May 1945.[104] The Wehrmacht was given adequate support by the railways, not least because of the fact that, from October 1942, all authority outside the immediate front zone was concentrated in the hands of the Reichsbahn authorities.[105]

Hitler's insistence that nothing was impossible was also a major factor in ensuring that his subordinates were both energetic and ruthless in carrying out their duties. His conviction that willpower could overcome all obstacles was crucial. One of his ablest field commanders, Field Marshal Erich von Manstein, argued that the enemy, too, has a will of his own – a fact which, according to him, Hitler conveniently neglected.[106] Yet this is missing the point. Hitler could only have an influence on the appointment of leaders on the German side and duly set about installing men who had a track record of getting things done despite the immense

---

[100] Creveld, *Supplying War*, p. 151.
[101] Rohde, *Wehrmachttransportwesen*, pp. 176-7.
[102] Allan R. Millett, Williamson Murray and Kenneth H. Watman, 'The Effectiveness of Military Organizations', *International Security*, 11 (1) (summer, 1986), p. 57.
[103] Creveld, *Supplying War*, p. 180.
[104] Teske, 'Eisenbahn als operatives Führungsmittel', p. 54.
[105] Mierzejewski, *Hitler's Trains*, p. 146.
[106] Manstein, *Lost Victories*, p. 277.

pressures which they faced. A case in point is Albert Speer: at the beginning of 1942 Baustab Speer started construction work on the railways in the Ukraine and within months the capacity of the network in this area had increased tenfold.[107] Acknowledging these efforts, Hitler decreed on 9 June that Speer would take control of all work in the east concerning, *inter alia*, structural engineering, road construction, waterways and ports.[108] He remained in his position as the leading figure of the German economy and arms production until the end of the war. Gercke also retained his position to the very end thanks to the fact that numbers of locomotives and wagons increased throughout the war. An idea of the scale of production and the efforts to keep wagons in circulation can be seen from the following figures:

Table 8: Wagon Placement of the Deutsche Reichsbahn[109]	
1941	47,164,178
1942	45,353,675

The lower number for 1942 is due to the lower performance at the beginning of the year during the winter crisis. In the months from May to December, however, the average was up each time on the numbers from the previous year. In July, for example, the figure was 4.49 million, compared to a total of 4.17 for the same month the previous year.[110] Also, the figure for operating tonnes per kilometre increased from 159.8 billion to 164.1 billion between 1941 and 1942.[111]

[107] Singer (ed.), *Quellen*, p. 37.
[108] 'Erlaß des Führers über den Einsatz der Technik in den neu besetzten Ostgebieten', in Hitler, *'Führer-Erlasse'*, p. 256.
[109] Kreidler, *Eisenbahnen*, p. 340.
[110] Ibid.
[111] Mierzejewski, *Hitler's Trains*, p. 158.

Table 9: Delivery of Newly Constructed Vehicles to the Deutsche Reichsbahn[112]				
Year	Steam Locomotives	Electric Locomotives	Passenger Coaches	Goods Wagons
1940	979	44	673	24,546
1941	1,393	37	73	43,074
1942	2,159	61	188	43,119

The number of locomotives under the direct control of the Reichsbahn increased slightly from 28,586 in 1940 to 30,011 the following year. By 1942 there were 32,243. The total number of goods wagons increased in the same period from 779,641 to 885,906.[113]

Hitler's ruthless drive to recruit manpower for work on the railways in the occupied eastern territories paid dividends in the long term, even if it did eventually encourage many to take up arms against the Germans as partisans later on. The improvements made to the network during Ostbau 1942 were dramatic, while the exploitation of local inhabitants in the western areas of the Soviet Union or incentives for railway workers in Poland helped to fill out desperately needed numbers. In July, for example, approximately 70% of the personnel at Reichsbahndirektion Posen were Polish, including 43% of its officials.[114] In 1942 there were 6,500 Germans and 90,000 local inhabitants employed in all levels of the Ostbahn, whereas two years earlier the numbers were 5,300 and 60,000 respectively.[115] By 1943 the numbers had risen sharply to 9,000 Germans with 145,000 Poles and thousands more Ukrainians.[116] The result of this massive influx of local workers was that most of the initial targets set by Ostbau 1942 had been attained by early November 1942.[117]

In September Hitler acknowledged his appreciation of the work done by Speer in reducing the length of transport routes for certain commercial goods which he had demanded earlier in the year.[118] While this freed up much needed rolling stock for military purposes,

[112] Kreidler, *Eisenbahnen*, p. 339.
[113] Ibid., p. 335.
[114] Mierzejewski, *Hitler's Trains*, p. 163.
[115] Pottgiesser, *Reichsbahn*, p. 21. The Ostbahn (Eastern Railways) was the name of the German-run former Polish railways in the Government-General from November 1939.
[116] Hilberg, *Destruction*, p. 134.
[117] Mierzejewski, *Hitler's Trains*, p. 147.
[118] Hitler, *Deutschlands Rüstung*, p. 139.

problems due to back-ups were a direct result of burdening the eastern railways with additional traffic. On one day alone in October 1942, for example, 84 trains due for the front were being kept on holding tracks, while a further 145 were waiting in yards.[119] The speed with which trains were being unloaded further down the line had now become a serious problem. Both German industry and the Wehrmacht itself were responsible for causing these delays. It was shown that an improved turnaround time of one tenth of a day could increase the number of wagons by 20,000 in just one week. Hitler, as we have seen, had intervened personally to put measures in place to increase unloading times, while the Reichsbahn imposed increased demurrage charges on industry as well as giving incentives for faster turnaround times.[120] Nevertheless, problems at both ends of the logistics chain were further exacerbated by conditions in Russia itself. Train stations often had to be used for unloading which were not always suitable, meaning that it had to be carried out on open stretches of track without proper facilities.[121]

The Reichsbahn was burdened in other ways. An indication of the pressure on the German railways can be seen from the assistance which was also needed by Germany's Axis partners. In the first week of April 1942 the Hungarians requested that all of their divisions destined for the deployment areas on the Eastern Front in the lead-up to Blau be transported by rail. Because of the strained logistics situation, however, Keitel had to refuse.[122] Italy was also proving to be a burden. On 4 April Hitler noted that the Italians would have to supply the eighty locomotives which were needed to transport the German coal which they were due to receive.[123] Two months later he ordered that 50,000 wagons be removed from the occupied areas in the west for transport purposes in Germany. He also suggested that the wagons being used to transport coal to Italy should be returned.[124]

Germany's most important ally in the east in 1942 in terms of numbers was Romania. As with the other Axis members, this country depended heavily on Germany for logistics purposes. In October it was agreed that important deliveries of raw materials essential for the Romanian war effort would have to be sent by train due to difficulties encountered with other means of transport.[125] It had been noticed, for example, that delays of up to five months had

---

[119] Mierzejewski, *Hitler's Trains*, p. 145.
[120] Ibid., p. 155.
[121] 'Grundsätzliches über den Betrieb auf neu übernommenen Strecken', p. 3, BA-MA RH 4/723.
[122] 'Ereignisse während Abwesenheit Chef WFSt. vom 1.-6.4.42', BA-MA RW 4/921, fol. 21.
[123] Cited in Hitler, *Deutschlands Rüstung*, pp. 93-4. At this time Italy was receiving 1.05 million tonnes of coal a month from Germany.
[124] Ibid., p. 134 (4 June 1942).
[125] 'Rohstofflieferungen nach Rumänien' (13 October 1942), BA-MA RW 19/888, fol. 12.

occurred in the transport of rubber by waterway, especially during the winter months when the Danube would often freeze over.[126] Earlier in the year Hitler had even agreed to curtail building work on one of his favourite projects – the rebuilding of his hometown of Linz – because of the transport situation and the fact that the principal inland waterways were impassable.[127]A report from the the WiRüAmt in November ordered that vehicle tyres destined for Romania and which would previously have been transported by waterway would now, due to prohibitive delays and losses, be transported by rail.[128]

However, certain logistics problems could not be foreseen. Supply requirements increased constantly as war became more technical and specialized. In 1939, for example, the average supply needs per head per day for the German Army was 12 kilogrammes, whereas by 1944 this had risen to 20.[129] It would be churlish to blame the supply problems encountered along the railways in Russia on any one individual or organization, however. Complications connected with large-scale logistics undertakings were not confined to the Germans. Unloading was also a major problem for the Allies at Normandy two years later, with cargo piling up on docksides and fully loaded ships waiting along the coast because of a lack of berths. Mistakes made at the French ports were then repeated at Antwerp in Belgium. There were plenty of ports, yet supplies were moved too slowly through them. This was a simple case of mismanagement which the Allies failed to rectify over a prolonged period.[130]

The rapid German advance in southern Russia brought its own problems. Between August and December 1942 the average distance covered by a locomotive in the occupied areas of the east fell from just over 200 kilometres to just under 180 kilometres a day. However, only from October did the distances begin to drop significantly (as was to be expected due to the weather conditions).[131] This would suggest that railway operations during this period were not as severely interrupted as at other times earlier in the conflict, despite the fact that tracks had to be converted at such a rate as to allow supplies to be brought forward to the advancing troops. The vast distances to be traversed, however, meant that by September 1942 the turnaround time for a wagon in the east rose to 9.6 days (compared to 5.4

---

[126] 'Rohstofflieferungen nach Rumänien' (10 October 1942), BA-MA RW 19/888, fol. 13.
[127] Hitler, *Deutschlands Rüstung*, p. 80 (19 March 1942). Hitler simply told Speer that, 'What can't be done, can't be done' (*Was eben nicht geht, geht nicht*).
[128] 'Transporte in den Südostraum: hier, Kautschuk-Transporte nach Rumänien' (6 November 1942), BA-MA RW 19/888, fol. 8.
[129] Kreidler, *Eisenbahnen*, pp. 303-4, (plus note 13).
[130] Dominick Graham and Shelford Bidwell, *Coalitions, Politicians and Generals: Some Aspects of Command in Two World Wars* (London, 1993), p. 270.
[131] 'Lokomotiveinsatz und seine Abhängigkeiten von der Betriebsabwicklung im Kriege' (August 1944), p. 6, BA-MA RH 4/757.

in Germany and the Government-General).[132]

The most decisive advantage to be gained from the main railway leading into the Caucasus was that it ran parallel to the front line. On 23 October the quartermaster of 1st Panzer Army noted how the rail network behind it was 'extraordinarily favourable' and led right up to the fighting troops, meaning that all vehicles which would normally be used for bringing supplies from railheads to the front line had for weeks been used for gathering fodder from the countryside for the coming winter. The branch lines to Kislovodsk and Budënnovsk had helped to cover the army's whole area of operations, which in turn made supply largely independent of the unfavourable ground conditions experienced during the *rasputitsa* and winter periods.[133]

The speed with which the rail network in the Ukraine and southern Russia was made operational – notwithstanding the hardships suffered by the local population as a consequence – is testament to Hitler's appreciation of its strategic and operational importance. It served Army Group A well and was an important factor in this formation remaining undefeated, even if events elsewhere eventually forced its withdrawal from the Caucasus early in 1943.

Persecution and Holocaust

The most salient feature of Adolf Hitler's world view was undoubtedly his virulent anti-Semitism. This is evidenced by his countless speeches and writings declaring the Jews to be at the root of all Germany's misfortunes. In his Political Testament – dictated a day before his suicide – his valedictory proclamation to future German leaders and the German nation included a warning to be ruthless in resisting what he termed the 'universal poisoner of all peoples'.[134] This section will examine the role of the German railways in the transport of Jews and other minorities to their deaths in occupied Poland, and the effect which this operation had on military logistics further east.

Hitler was central to the persecution and destruction of European Jewry, even if his exact role in the latter might never be fully established. He did, however, provide the 'imagination' behind the plan, the legitimacy needed to make it state policy (even if there was no paper trail in the form of directives leading back to him), and the will to see it through to

[132] Pottgiesser, *Reichsbahn*, p. 75.
[133] 'Bericht über die Versorgungslage der 1. Panzerarmee, Stand 23.10.42', BA-MA RH 21-1/451, fol. 279.
[134] Cited in Kershaw, *Hitler*, vol. 2, p. 823.

its murderous conclusion.[135] His anti-Semitism and desire to rid Europe of its Jewish population were principal themes in National Socialist philosophy, and he was willingly aided in his campaign of hatred by his most senior lieutenants. Both Himmler and Goebbels were obdurate in their belief that measures which would lead to the physical destruction of the Jews should begin at once. World history, they deemed, would only ever see one Adolf Hitler, while the war itself provided the opportunity to fulfil this task.[136]

Events, however, did not move as fast as they might perhaps have wished. About a month into the campaign against the Soviet Union Hitler was still against the idea of a complete deportation of Jews from German-occupied areas, but did allow 'partial actions' (*Teilaktionen*) to be put in place to deal with evacuations from Germany. On 18 August he let it be known to Goebbels that he wanted Berlin's Jewish population to be deported eastward in just such an 'action' as soon as the transport situation allowed.[137] Continuing into September he repeatedly refused to begin extensive deportations, but seems to have decided around this time to commence them. However, on 6 October he procrastinated once more when he expressed concern that the necessary measures would have to be put on hold for the moment because of the troublesome transport situation.[138] The German drive on Moscow – widely regarded as the final prerequisite for victory in the east – was into its second week, resulting in the railway lines running from Germany to the front via Poland being particularly hard-pressed. By the end of the year, however, despite the desperate military situation (or perhaps even because of it) Hitler now wanted widespread transportations to go ahead the following spring.[139]

As with any enterprise of its type, efficiency was a watchword for the Reichsbahn with respect to both timetabling and costs. This had become even more pronounced now that Germany was at war. On 4 January 1940 staff at the central policing and security department of the Nazi Party, the Reich Security Main Office (*Reichssicherheitshauptamt*, RSHA),

---

[135] Alan Bullock, *Hitler and Stalin: Parallel Lives* (London, 1991), pp. 844-5.

[136] Hilberg, *Destruction*, vol. 2, p. 407. It has been suggested that in January 1941 Hitler was most likely wary of repercussions abroad if the knowledge of mass killings became public, which meant that Himmler had to wait until the British and Americans were no longer a threat: Richard Breitman, *The Architect of Genocide: Himmler and the Final Solution* (London, 1992 [1991]), p. 154. Goebbels noted in his diary entry of 27 March 1942 that a vengeance was being wrought on the Jews – meaning their murder – which they had fully deserved. Five weeks earlier he had avocated the acceleration of their destruction 'with cold ruthlessness': cited in Helmut Heiber, *Joseph Goebbels* (Munich, 1965 [1962]), p. 259.

[137] Wolf Gruner, 'Von der Kollektivausweisung zur Deportation der Juden aus Deutschland (1938-1945): Neue Perspektive und Dokumente', in Birthe Kundrus and Beate Meyer (eds.), *Die Deportation der Juden aus Deutschland: Pläne–Praxis–Reaktionen, 1938-1945* (Göttingen, 2004), pp. 60, 47. In addition to his position as Minister for Public Enlightenment and Propaganda Goebbels was also *Gauleiter* of Berlin.

[138] Browning, 'Nazi Policy', pp. 161, 162.

[139] Ibid., pp. 172, 173.

determined that 1,000 people per train was the 'optimum' number for deportations. These transports were treated by the railway authorities as 'freight extras', which meant that they were only allowed time on through routes once priority traffic (such as troop and munitions trains) had passed. In order to ensure the smooth running of operations the Reichsbahn insisted that all people to be deported were to be ready and waiting on platforms before their train arrived. However, delays often occurred when trains of a higher priority were allowed through first.[140] The final ignominy was that those deported were forced to pay for their own final journey.[141]

On 6 March 1942 the man responsible for coordinating transportation for the 'Final Solution' (*Endlösung*), SS-Obersturmbannführer Karl Adolf Eichmann, told a meeting of senior SS personnel that agreement had been reached with the OKH to allow the RSHA to use trains which had carried Russian prisoners of war westward to transport Jews from cities throughout Greater Germany on their return journey.[142] These trains had also been used to transport Polish and Russian forced labourers to the Reich and were returning empty as they had no 'consumer'. From spring 1942 the Germans then began to employ a system where trains would stop off at different points along the way, attaching more wagons carrying deportees as they went (so-called *Koppelzüge*).[143] Later that summer, however, the number of persons per carriage was doubled in order to save on locomotives and to reduce the overall number of transports. For shorter journeys within Poland several thousand persons per train was frequently recorded, though it was still often the case that even these shorter transports had to wait several hours or even days at train stations or on sidings.[144] Starting on 22 July a train with no fewer than 5,000 people left every day from Warsaw for the extermination camp at Treblinka, with a further two a week – also carrying no fewer than 5,000 people each time – leaving from Przemyśl for the camp at Bełżec.[145]

---

[140] Mierzejewski, *Most Valuable Asset*, vol. 2, pp. 115, 119. The RSHA was set up by Himmler on 27 September 1939 to combine all the police forces and was an amalgamation of the Security Police (*Sicherheitspolizei*, Sipo) and the Security Service (*Sicherheitsdienst*, SD). The Sipo consisted of the Secret State Police (*Geheime Staatspolizei*, Gestapo) and the Criminal Police (*Kriminalpolizei*, Kripo), while the SD was the intelligence branch of the SS.

[141] Hilberg, *Destruction*, vol. 2, p. 298.

[142] Lozowick, 'Malice in Action', pp. 231-2. From December 1939 Eichmann headed Referat IV B4, a sub-section of Amt IV (Gestapo) and the department of the RSHA which dealt with Jewish affairs and evacuations. He attended the Wannsee Conference on 20 January 1942 (chaired by the head of the RSHA, SS-Obergruppenführer Reinhard Heydrich) during which plans for the deportation of Europe's Jewish population to eastern Europe were fleshed out by government officials and prominent SS figures.

[143] Gottwaldt and Schulle, *'Judendeportationen'*, pp. 160, 161.

[144] Jäckel et al. (eds.), *Enzyklopädie des Holocaust*, vol. 2, p. 1200.

[145] Hilberg, *Destruction*, vol. 2, p. 313.

Meanwhile, in western Europe, the deportation of Jews who had been rounded up in France did not begin until spring 1942 because of the lack of rolling stock and the situation on the Eastern Front. As in the east, however, once the shortages had been remedied transports began to leave once again.[146] In mid-June a total of 37,000 goods wagons, 8,000 carriages and 1,000 locomotives were suddenly moved from the German-occupied areas of France so that they would be available to the Army for the initial stages of Blau. This rolling stock was pressed into service so hastily that trains departed from France empty (i.e. with no deportees). Whatever rolling stock remained was used to transport 350,000 workers from France to Germany. By the end of June, just as major operations in the east were beginning, SS-Hauptsturmführer Theodor Dannecker was able to 'wrangle' a train every second day from the Wehrmacht for transportations. This would allow him to move 15,000 people a month from the 100,000 to be transported in total.[147]

The highest proportion of deportations during the war occurred in spring and summer 1942, but they caused no serious inconvenience to Reichsbahn operations. Preparations for Blau were relieved somewhat when a two-week embargo was placed on all 'non-essential' traffic in the Ostbahn region (which included the deportation of Jews).[148] The number of trains carrying deportees rose sharply once again from July, though this only happened once the major transport problems on the railways had been resolved.[149]

An exact figure for the number of people who perished in the extermination camps in Poland or at the hands of the *Einsatzgruppen* which operated as mobile murder squads in the Soviet Union will never be known.[150] What *is* known is that the Reichsbahn used approximately 2,000 trains to transport around 3 million Jews to their deaths in the camps (all of which were located close to main railway lines). This total number of trains was 'infinitesimal' compared to the overall number which travelled on a daily basis throughout German-occupied Europe during the Second World War. The Reichsbahn ran roughly 30,000 trains a day in 1942, whereas an average of only two *Sonderzüge* ('special trains') ran daily for the transportation

---

[146] Alexander Brakel, *Der Holocaust: Judenverfolgung und Völkermord* (Berlin, 2008), p. 138.
[147] Hilberg, *Destruction*, vol. 2, p. 406. Dannecker was head of the *Judenreferat* (Jewish Department) at the security police headquarters for Belgium and France (located in Paris) from September 1940 until July 1942.
[148] Mierzejewski, *Most Valuable Asset*, vol. 2, p. 119.
[149] Longerich, 'Wannsee Conference', p. 143.
[150] Noakes and Pridham (eds.), *Nazism*, vol. 3, p. 1208, give a lowest estimate of 4,194,200 persons, a highest of 5,721,000. The four *Einsatzgruppen* ('task forces') which followed the Wehrmacht into the Soviet Union were attached to Amt IV of the RSHA and, together with other police units, were responsible for the deaths of approximately two million Jews.

of Jews eastward for the entire duration of the war.[151] The most people transported from Germany in any one month beginning in autumn 1941 was 12,346 (in September 1942).[152] At around this time the men of Army Group A were approaching the high Caucasus and would later suffer from lack of provisions as they attempted to force the mountain passes and ridges. However, in addition to being given low priority on main railway lines the 'special trains' used in the deportations were comprised of locomotives and wagons which were old and worn-out.[153] It is indicative of the Nazi regime that even rolling stock deemed unworthy by the Army for transporting *matériel* could be used to transport human beings.

The railways were also used to transport approximately 900,000 foreigners to Germany to be used as forced labour. This too did not create any difficulties for the Reichsbahn.[154] Though it was undoubtedly another headache for the railway authorities, these transports brought people to Germany who were vital for the war economy. At the beginning of 1942 the German authorities released 370,000 workers for front-line service who were originally regarded as essential to the war effort at home. Their place was taken by forced labourers who had been rounded up in the occupied territories and sent by rail to Germany.[155]

In the two years from the beginning of the German attack on the Soviet Union up to June 1943 a total of 58,080 trains travelled eastward in support of military operations. This included 9,201 with ammunition, 8,292 fuel trains, 20,464 with provisions, and 20,123 miscellaneous.[156] After the winter of 1941-2 the number of trains travelling eastward rose to approximately 400 a day and remained at this level for most of the remainder of the war.[157] In contrast, in 1942 less than 300 trains transported Jews from Germany to the extermination camps during the whole year.[158] Pressure on the railways was further eased by the fact that transports within Poland were never more than 200 miles in all directions.[159]

Men such as Himmler who were not privy to the extent of the transport difficulties seemed more interested in the number and promptness of deportations than their Führer, at least initially. Towards the end of 1941 Hitler had only allowed the transportation of Jews

---

[151] Mierzejewski, 'Public Enterprise', pp. 287-8.
[152] Gruner, 'Kollektivausweisung zur Deportation', p. 57.
[153] Mierzejewski, 'Public Enterprise', p. 288.
[154] *Idem*, *Most Valuable Asset*, vol. 2, pp. 122-3.
[155] Ready, *Forgotten Axis*, p. 193.
[156] Leaflet sent to Eugen Kreidler (Mineis (L) beim Chef des Transportwesens), July 1943, BA-MA RH 4/725. This is the same Kreidler who wrote *Die Eisenbahnen im Machtbereich der Achsenmächte während des Zweiten Weltkrieges*, cited above.
[157] Max Bork, 'Unser Wehrmachttransportwesen', BA-MA MSg 2/1470, p. 3.
[158] Gottwaldt and Schulle, *'Judendeportationen'*, pp. 445-6.
[159] Hilberg, *Destruction*, vol. 2, p. 314.

once the requirements of the Army had been guaranteed first.[160] The Reichsführer-SS, however, believed this to be an error of judgement on his master's part. An insight into Himmler's mind-set is revealed in a letter dated 20 January 1943 in which he wrote to Ganzenmüller in order to demand more trains, despite the fact that a second embargo on deportations had just ended. His police chief in the Government-General, Friedrich-Wilhelm Krüger, was requesting an additional three pairs of trains for use in deportations. Himmler, acting on his behalf, suggested to Ganzenmüller that the Jews were responsible for sabotaging trains, hence their deportation would actually help to alleviate transport problems in the long term.[161]

The Holocaust operation was exceptionally small in terms of the overall figures for locomotives and cars involved in its execution. It did not represent an operational challenge to the Reichsbahn because the amount of rolling stock involved was relatively insignificant in comparison to other traffic.[162] This, however, does not detract from the heinousness of the crime visited on millions of defenceless men, women and children. The name Adolf Hitler will forever be synonymous with the most consequential crime against humanity that mankind has ever witnessed. The fact that this genocide could be executed with the help of the German national railway with no adverse effect on operations on the Eastern Front reveals nothing positive about him as a military commander: the suffering of the people who perished in such an intensely cruel and undignified manner is testament to that. His misanthropy precluded him from considering the wrath which his treatment of the Jews and others would invite, and his profound inhumanity had consequences which reached far beyond the conduct of operations in the Soviet Union. Though the operational execution of the Holocaust might not have had a detrimental impact on operations in southern Russia in 1942, his treatment of subjugated and marginalized peoples steeled his opponents in their resolve to fight his barbarous regime until it was completely overthrown.

---

[160] Brakel, *Holocaust*, p. 89.
[161] Hilberg, *Destruction*, vol. 2, p. 314. Krüger served as Höherer SS- und Polizeiführer Ost ('Higher SS and Police Chief East') from 4 October 1939 until 9 November 1943.
[162] Mierzejewski, *Most Valuable Asset*, vol. 2, p. 113; *idem*, *Hitler's Trains*, p. 177.

Roads and Terrain

Perhaps the most enduring imagery of the German-Soviet conflict is of soldiers, horses and vehicles bogged down in the morass of the Russian countryside during the *rasputitsa* periods. Indeed, this was one of the reasons why the railways were by far the most important mode of transportation in the Soviet Union, both before and during the war. Another explanation, according to a German Army report from the beginning of February 1942, was because of the vast distances to be covered in the wide expanses of the country. In contrast, the importance of the road and internal waterway systems paled in comparison. In fact, during Soviet times only 2% of goods had been transported on the roads as opposed to 90% on the railways.[163] An indication of the priority given to the latter is evident in a memorandum from the Chief of the OKW Operations Staff (General Alfred Jodl) in winter 1941-2 which declared that, among others, the minister responsible for the maintenance of roads (Speer) was to free up units which were housed near railway installations in order to help out in special circumstances (e.g. during periods of heavy snowfall), provided that this did not interrupt their other work.[164] Roads, however, were still of vital importance to the German Army as the final link in the supply chain, which connected the railheads with the front line.

Nevertheless, an indication of the daunting task which still lay ahead for construction and engineer teams was that 98.5% of the huge road system in the Soviet Union was made up of simple 'earth roads' (*Erdstraßen*).[165] In today's parlance these would be termed 'unimproved' and were merely tracks which often simply cut across fields. Furthermore, it was frequently the case that even cobbled roads were in poor condition because of the different way in which they were constructed compared to in Germany. One example was a 37-kilometre stretch of road to the west of Stalino (Donetsk), where inferior construction methods meant that approximately half the length of the road was in a particularly abysmal state of repair. The engineers of 1st Panzer Army suggested that a total of 300 stone setters and 700 labourers were necessary for maintenance work on this relatively short section. For the 13-kilometre stretch earmarked for a complete overhaul a total of 320 men would be needed. 40,000 cbm of sandstone were required from the quarry at Makeevka (10 km east of

[163] Extract from a memorandum entitled 'Die russische Transportlage zu Wasser und zu Lande unter Betrachtung der sich aus ihr ergebenden operativen und wehrwirtschaftlichen Möglichkeiten, Stand Anfang Februar 1942', p. 1, BA-MA RH 4/725.
[164] 'Hilfeleistung bei Notständen', BA-MA RW 19/2198, fol. 14. Speer succeeded Todt in all his posts, including Inspector-General of Roads (*Generalinspektor für das deutsche Straßenwesen*).
[165] Seidler, *Organisation Todt*, p. 90. The Germans used the word *Greter* for the broad Russian country tracks, which were often up to 100 metres wide.

Stalino), but in order to get this delivered during the next three months some 200 workers would be needed to shift 400 cbm (580 tonnes) daily. One truck making two journeys a day could carry 15 tonnes, meaning that forty trucks would be needed in total. Eight were currently available, leaving thirty-two trucks (or 400 *panje* wagons) still needed. This did not include the 250 workers needed for the sandpit to the east of Izmajlovka (30 km west of Stalino). Taking the other sections into account, a grand total of 330 stone setters, 1,900 non-skilled workers, 47 trucks or 600 *panje* wagons, 4,000 tonnes of cement, and 10 kilometres of rail would be required.[166]

By the end of 1941 over 11,000 kilometres of roads had been made passable, upgraded, newly built or substituted with corduroy roads.[167] At around this time an Army Group South intelligence report gave an early indication of what was to be expected with respect to the quantity and condition of roads in the North Caucasus region, the mountains themselves, and Transcaucasia. Generally speaking, the report read, all roads were passable in summer. However, from November to March travel was severely restricted in certain low-lying areas, even becoming completely impossible in spring. In the first two months of the year movement was possible in frosty weather, though sudden thaws could make roads completely impassable for supply vehicles. Nevertheless, mountain roads had a stony or similarly good base layer almost without exception, and were unobstructed the whole year round (apart from when there were snowdrifts at high altitudes). On the mountain ridges there would undoubtedly be difficulties for troop movements, and native guides would be needed throughout the area. There were a number of roads which passed through the mountains, though they were of varying utility to the army. The Georgian Military Road (Ordzhonikidze–Tbilisi) stood out as the best. To the west of and parallel to this, the route Alagir–Gurshevi–Oni–Kutaisi (210 km) was impassable at certain times because of landslips and excessive rainfall. In Transcaucasia the motorway Tbilisi–Borzhomi–Akhaltsikhe (running 200 km westward towards the Turkish border) was also deemed to be very good. The best road to the north of the mountains ran parallel to the main railway line Rostov–Baku (1,280 km), and was fully cobbled in places. Roughly from Kropotkin it became a paved country road, but was still in good condition. Individual stretches, however, were prone to suffer from the adverse effects of heavy rainfall. In the western Caucasus, the route heading

[166] No date, most probably early 1942, BA-MA RH 21-1/240, fol. 65, 70-2.
[167] Seidler, *Organisation Todt*, p. 92. A corduroy road is normally built by laying logs transversely beside one another along a road or track which already exists (though they can also be built across waterlogged terrain where there are none). They were a much more common sight in the swampier northern and central sectors of the Eastern Front than in the south.

south from Krasnodar to Gorjachij Kljuch (60 km) was gravelled and in good condition, while the road which branched off it in a south-easterly direction towards Khadyzhensk (57 km) was also paved with gravel. The main road eastward from Krasnodar via Ust'-Labinsk to Kropotkin (148 km) was surfaced with gravel along the entire stretch and was two-way, with no steep inclines or sharp curves. The road Ust'-Labinsk–Kurganinsk–Armavir (153 km) was improved with gravel and was traversable all year round, as was the route Ust'-Labinsk–Majkop (86 km). The important artery to the port of Novorossijsk from Krasnodar via Tonnel'naja (150 km) was for the most part a rural high road, with a flat, unpaved surface in other places. From the port of Temrjuk eastward towards Krasnodar (140 km) the road was a flat country track, though the first stretch to Slavjansk-na-Kubani was not suitable for truck traffic from mid-November to mid-March. The road leading north from Krasnodar to the other important port of Ejsk (250 km) was flat and paved with seashell, was wide enough to allow two-way traffic, and had no serious gradients or curves. Parallel to this, the first fifteen kilometres of the main road from Krasnodar to Rostov (275 km) were surfaced with gravel, while the remainder of the route was a flat country track. The route Rostov–Batajsk–Medvezh'e (Krasnogvardejskoe)–Novoaleksandrovsk–Prochnookopskaja–Armavir (400 km) was suitable for tanks (and would later form stretches of the roads designated by the Germans as *Panzerstraße K* and *K-Ost*).[168]

Three months later another intelligence report from Army Group South gave a relatively positive overview of the more distant stretches of the road network in the Caucasus. It suggested that the main western artery heading southward from Rostov to Krasnodar was traversable for all types of vehicle all year round, surfaced with road metal as far as Batajsk, and paved in other sections further on. The next stretch to Novorossijsk was also partially paved. The lateral route eastward Krasnodar–Kropotkin–Armavir (222 km) was a gravel-covered high road, which was passable for all traffic year-round. Further east, the 40-kilometre stretch from Mineral'nye Vody to Essentuki was 25 metres wide, paved, and suitable for all types of traffic at any time of the year. The main road from Pjatigorsk to Groznyj (almost 300 km) was a paved rural route, but was impassable during periods of heavy rain. Continuing on from Groznyj to the Caspian Sea at Makhachkala (165 km) there was a gravel high road, which could be used by all vehicles all year round, as was the route from here southward via Bujnaksk–Levashi–Akusha (133 km). Parallel to this further east,

[168] 'Gefangenenvernehmungen ('Straßen- und Wegeverhältnisse im Kaukasus')' (12 December 1941), BA-MA RH 19-I/247, fol. 22, 23, 24, 26-7, 28. The Georgian Military Road runs over the Caucasus ridge between Vladikavkaz and Tbilisi for a distance of 208 kilometres and to a maximum height of 2,379 metres (Krestovyj Pass). Construction on its present form first began in 1799.

the route from Makhachkala to Sergokala (80 km) was a high road surfaced with road metal and also used by all types of traffic the whole year round, as was the main coastal road further east again from Makhachkala to Baku (395 km).[169]

On 16 May the commander of engineer troops in 1st Panzer Army wrote that road *repairs* were to result in making the worst sections of a given road passable once again. The aim of road *maintenance*, on the other hand, was to ensure the continuous flow of traffic along its entire length. German labourers, he stressed, were always to be put to work in a concerted, concentrated manner. It was therefore necessary to make up any shortages in personnel for repairs and maintenance work by using the civilian population living along a particular road. He suggested that it was not necessary to pay these people as, during Soviet times, every kolkhoz and village community had to work on the construction and upkeep of roads in its own locality. However, if larger projects were necessary, or if the site was a considerable distance from their homes, they could be remunerated. He further added that the old Soviet road maintenance departments were to be re-established, while commanders were to be made aware of the fact that members of the civilian population always had their own tools for such work. He finally opined that traffic should run at all costs, even where roads were in the worst possible condition. Stretches which were in a poor state or under construction were to be detoured; in order to facilitate this, adjoining byroads were to be provided with entry and exit points. Small commandos were also to be set up in order to assist vehicles which had become stuck in muddy or waterlogged areas.[170]

The following month the commandant of the rear area of 17th Army ordered that all local inhabitants and others of non-German nationality between the ages of 15 and 50 were eligible for maintenance work on *Durchgangsstraße IV* in the Ukraine (one of several main roads used by the Wehrmacht as principal lines of communication). Those who were already in the service of German agencies and authorities or of local administration were exempt, while those who did end up working on the road were to be recompensed for their efforts.[171] However, work was often hampered by army commanders in both operational and rear areas. Speer noted after the war that commanders who did not realize the importance of logistics would often take OT units away from a particular section of road during good weather, especially if they themselves were used to flying, and hence were not fully appreciative of the

---

[169] 'Wegeverhältnisse im Kaukasus' (16 March 1942), BA-MA RH 19-I/247, fol. 14.
[170] 'Merkblatt zur Strasseninstandsetzung und Strasseninstandhaltung', BA-MA RH 21-1/243b, fol. 180, 182-3.
[171] BA-MA RH 20-17/590. *Durchgangstraße IV* (Through Road IV) extended eastward from Germany through the Ukraine and southern Russia along the route L'vov–Vinnitsa–Kirovograd–Dnepropetrovsk–Stalino (Donetsk)–Taganrog–Caucasus. It is primarily the present-day Ukrainian M12/E50.

problems involved. This meant that certain roads – *Durchgangsstraße IV* included – were never fully completed.[172]

There were, however, other men on the ground who were willing to use their own initiative positively in inauspicious situations – just as Hitler had demanded. The quartermaster of 1st Panzer Army set up a horse-drawn supply column detachment a month before Blau began in order to limit motorized transports to short stretches. This group consisted of young reliable Ukrainians with *panje* wagons.[173] The following month his chief of staff, while recognizing that the coming battles would be fought with supply difficulties and shortages in *matériel*, tried to alleviate the apprehension of his opposite numbers in the subordinate units of the army with the knowledge that a system of expedients could create practical possibilities. His watchword was: 'Don't make requests – help yourself!' (*Nicht anfordern – sich selbst helfen!*)[174] It was hoped that leaders would be acclimatized to the new *modus operandi* before the summer offensive.

As Blau approached, intelligence information on heretofore unknown routes in southern Russia was reaching the command of Army Group South. Two weeks before the offensive began a report from the general of engineers at its headquarters suggested that there was a secret military road leading from the Black Sea coast at Gagra into the mountains along the river Bzyb'. It was believed to have been built in 1936-7, was heavily guarded, ran beyond lake Ritsa, and seemingly continued through one or more tunnels into the North Caucasus. It was apparently paved in places, kept in good condition through constant repairs, and was passable all year round. There was also a brand new road which had been built between 1938 and 1940 from Shorapani to the Ossetian Military Road at Oni. It had few curves or inclines to hinder vehicle traffic. The report also suggested that the important coastal route heading northward from Sukhumi to Novorossijsk (420 km) was eight metres wide and was traversable the whole year round, as was the road from Poti to Zugdidi (73 km) in Georgia. Further east, the road leading from Samtredia to Khoni (22 km) was good all year round, though heading northward into the mountains from here to Tsageri (73 km) conditions began to get difficult for vehicle traffic.[175]

---

[172] Cited in Seidler, *Organisation Todt*, p. 93.
[173] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/450, fol. 44.
[174] Ibid., fol. 70, 71 (6 June 1942).
[175] 'Straßen, Kunstbauten und Kanäle im Kaukasus (Quelle: Kgf.-Aussagen)' (15 June 1942), BA-MA RH 19-I/247, fol. 3, 5-6, 8. The Ossetian Military Road runs over the Caucasus ridge between Alagir (Russia) and Kutaisi (Georgia) for a distance of 275 kilometres and to a maximum height of 2,911 metres (Mamisonskij Pass). Its construction was completed in 1897.

On the following day the Abwehr drafted a memorandum on the difficulties which the German troops were likely to face when they crossed the Don. In the North Caucasus, roads as the Germans knew them were scarce because of the lack of stones for construction purposes. Nevertheless, when the troops entered Transcaucasia the road network here was more compact and in a better state. In the area to the north of the mountains they were really just broad tracks across fields, which were actually best avoided because of the permanent ditches along the sides. Moreover, the steppe in this region was hard and 'flat as a table' (*eben wie ein Tisch*), and could therefore be traversed with ease. During wet spells, however, this could prove to be a deleterious feature. Indeed, the weather in the region was decisive for marching troops: in September it was fairly certain to be dry, but in October precipitation levels rose, while at the same time chances of evaporation were reduced considerably.[176] As the following table shows, however, the weather in the North Caucasus was still expected to be more favourable for mobility than further north around Moscow[177]:

Table 10: Precipitation for Selected Cities in the Soviet Union

City	Precipitation (in mm)		
	August	September	October
Moscow	68	57	36
Stalingrad	22	30	27
Astrakhan'	10	16	10

Blau I (reaching the Don at Voronezh) and Blau II (encircling the Soviet troops to the west of the river further south) were scheduled to be completed by mid-July and mid-August respectively.[178] It is safe to assume that Hitler would therefore have expected the advance

[176] 'Probleme des Vormarsches im Kaukasus-Gebiet (Quartier, Verpflegung, Futter, Trinkwasser, Straßen, Sprache)' (16 June 1942), BA-MA RW 4/256, fol. 159, 160.
[177] 'Anlage 2 zu OKH/GenStdH/Op.Abt. (I), Nr. 1154/41g.Kdos.' (10 June 1941), BA-MA RH 20-6/969, fol. 173.
[178] Citino, *Death of the Wehrmacht*, p. 162.

into the Caucasus to begin by early to mid-September in favourable weather conditions as soon as Stalingrad had been taken or at least brought under artillery fire (Blau III). In fact, even later on in the year the weather was relatively pleasant in the south. On 6 November, 1st Panzer Army recorded that there was a clear sky with warm and sunny weather at its headquarters at Pjatigorsk.[179] Three days later 17th Army noted that the frost which now covered the roads had improved the going somewhat.[180]

On 13 July the chief engineer of Armeegruppe Ruoff (17th Army and 3rd Romanian Army) gave instructions for the maintenance of roads in the area of operations. Corps construction detachments were forbidden to carry out major improvements to large sections of roads so that they could be used during all types of weather, as such attempts were futile and deprived the more important tasks of workers. The principal goal was to secure trouble-free movement of supplies – if possible in all weather conditions but this was not a prerequisite. At the very least, construction work was to make a road passable again in the shortest possible time after a period of rainfall.[181] This instruction was also heeded by 1st Panzer Army. At the beginning of August a lack of workers forced its commander of engineer troops to forego efforts to repair bridges and roads other than the main route used for the movement of tanks and supplies.[182] Nevertheless, despite all hardships, 1st Panzer Army proudly noted that in the three months from 17 May to 17 August its engineers and construction troops had built 215 new bridges with a total length of 6,980 metres, while a further 176 bridges with a total length of 3,390 metres had been repaired. RAD and OT bridges were not included in this figure.[183]

On 10 August, I Flak Corps (General Otto Deßloch) noted that the land to the south of the river Kuban', which it was now entering, began to rise gradually into more mountainous terrain. However, here to the left of the line of longitude 40° east the Caucasus only had the character of a low mountain range.[184] This was an important observation for future events, as

---

[179] 'Kriegstagebuch Nr. 9 der 1. Pz. Armee vom 1.11.42-31.1.43', BA-MA RH 21-1/86, fol. 23.
[180] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17 vom 14.8.-15.12.42' (9 November 1942), BA-MA RH 20-17/591, fol. 59, 61.
[181] 'Beilage 2 zum K.T.B. Nr. 3 A.Pi.Fü. Tätigkeitsbericht v. 11.3.-13.8.42, Anlage 1', Anlage 21, pp. 2-3, BA-MA RH 20-17/725.
[182] Telex from 1st Panzer Army to LVII Panzer Corps (7 August 1942), BA-MA RH 21-1/238, fol. 180.
[183] 'Pionier-Befehl Nr. 42' (17 August 1942), BA-MA RH 21-1/236, fol. 93. The RAD (*Reichsarbeitsdienst*, Reich Labour Service) was an organization in which all able-bodied Germans aged between 19 and 25 were obliged to serve according to a decree issued by Hitler on 26 June 1935. People from disparate backgrounds worked side by side and were a source of cheap labour. As a result, unemployment in Germany was greatly reduced in the pre-war years.
[184] 'Generalkommando I. Flakkorps, Ic, 'Lagebeurteilung Nr. 1'', BA-MA RL 11/160, fol. 253. Deßloch commanded I Flak Corps from April 1942 until September 1943. It was known as Luftwaffenkommando Kaukasus (headquarters at Pjatigorsk) from 25 November 1942 until 6 February 1943.

it was practically the entire sector which would later be held by 17th Army (with the exception of the battalions of 1st Mountain Division which fought on, and to the west of, Mount Elbrus). The terrain around the town of Voroshilovsk (Stavropol') was lightly undulating, but also had many flat areas, and rose to approximately 800 metres above sea level. However, it posed no particular problems for military operations as the differences in altitude were slight, the land was treeless, and the solid steppe terrain was also suitable for motorized units. The land features around the upper reaches of the Kuban' and further to the north-east towards the Nogai Steppe (between the rivers Kuma and Terek) were of a similar nature. However, the latter would form a natural barrier because of its dearth of drinking water and abundance of small salt lakes. A further advance eastward towards the Caspian Sea could therefore only be carried out south of the Terek via Ordzhonikidze (Vladikavkaz) and Groznyj. The report concluded that the easiest way to get to Transcaucasia was still to the west and east of the Caucasus.[185]

Many smaller roads on the opposite side of the mountains also looked to be passable and in use by the Soviets. On 30 August the intelligence officer at 17th Army headquarters noted that air reconnaissance had shown that the stretch Dzhubga–Khrebtovoe (39 km) on the main road down from the mountains from Gorjachij Kljuch to the coast was suitable for motorized columns in all weather conditions. Further south, the road from Adler to Krasnaja Poljana (41 km) was also suitable for motor vehicles, but heading into the mountains from here to Khamyshki (80 km) only horse-drawn vehicle columns had been observed.[186]

On 23 September a fourth deployment group of OT was created from the twenty-four subunits of Baustab Speer in order to assist the advance of Army Group A into the mountains (Einsatzgruppe Kaukasus).[187] It was badly needed as, on the following day, Division Lanz arrived from Majkop into the western Caucasus for the attack on Tuapse. In order to bring up the heavy artillery pieces the troops began to build a road in the difficult terrain. However, all paths soon began to muddy up to such a degree that the project had to be given up.[188]

Once in the foothills of the Caucasus the Germans now got first-hand knowledge of the roads in the area. On 25 September the officer responsible for economic questions at 1st Panzer Army headquarters confirmed that roads suitable enough for traffic in all weather conditions were only to be found around the bigger towns. Nevertheless, all routes were still passable in good weather and could be expected to be used less now that the main railway

[185] Ibid., fol. 253-4, 255.
[186] 'Beilage 1 zum K.T.B. Nr. 4 Ic Tätigkeitsbericht vom 14.8.-15.12.42', BA-MA RH 20-17/366.
[187] Seidler, *Organisation Todt*, p. 95.
[188] Meyer, *Blutiges Edelweiß*, p. 92.

line from Rostov was in operation as far as Georgievsk.[189] Some unimproved roads, such as the one leading from Voroshilovsk (Stavropol') to Mineral'nye Vody via Aleksandrovskoe, were in a considerably worse state than the principal road, designated *Panzerstraße K-Ost*, so time was not wasted on improving them.[190] This was simply a case of pragmatism and expediency, as the work was often slow and there were simply too many roads in need of maintenance. In late August, for example, Straßenbau-Bataillon 559 (under the command of Oberbaustab 19) and a road construction detachment made up of Russians were responsible for a section of *Panzerstraße K-Ost* which stretched 110 kilometres from Nevinnomyssk to Mineral'nye Vody.[191] Two months later a report on the work carried out in a single day by this construction battalion showed that 50 metres of a *Greter* had been covered with gravel, a 220-metre stretch of the main road and 1,400 metres of the adjacent track had been repaired, and ditches along each side of the road had been dug or cleaned up.[192] Though the figures were impressive for a single detachment, they give some indication of the seemingly interminable workload shouldered by these formations.

Even roads that had been tended to were not expected to be traversable indefinitely. The commander of engineer troops in 17th Army wrote towards the end of September that *Greter* which had been covered with gravel could be used in times of light rainfall as long as there was no danger to the drainage system. He further noted that the strength of the layer of gravel would determine for how long the track would be passable. Normal earth *Greter*, on the other hand, had to be closed off immediately at the onset of rain and vehicles prohibited from using them. Special attention was to be drawn to narrow points where there were no adjacent tracks (such as bridges and embankments). The main road was to be closed off on both sides of the tapered section and traffic redirected onto byways. The narrow part itself was to be treated especially carefully with gravel, road metal or logs.[193]

Pack animal columns (primarily mules) were used in the mountains where neither horses nor trucks could be used. One animal could carry a load of approximately 50 to 80

---

[189] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/451, fol. 197-8.

[190] BA-MA RH 21-1/243b, fol. 144. At this time *Panzerstraße K-Ost* followed the route Peschanokopskoe–Medvezh'e (Krasnogvardejskoe)–Moskovskaja–Voroshilovsk (Stavropol')–Nevimonnyssk–Mineral'nye Vody–Pjatigorsk–Baksan. It comprised stretches of the present-day Russian roads P269 and M29.

[191] 'Einsatz der Bautruppen' (20 August 1942), BA-MA RH 21-1/238, fol. 28. Oberbaustab (Higher Construction Headquarters) 19 was created on 25 May 1941 and was subordinate to the commander of engineer troops in 11th Army until late 1942. Straßenbau-Bataillon (Road Construction Battalion) 559 was part of Oberbaustab 19 during the advance into the Caucasus.

[192] 'Tagesmeldung für den 17.10.42' (17 October 1942), BA-MA RH 21-1/238, fol. 210.

[193] 'Sperrung der Erdstraßen (Greter) bei Regenwetter' (22 September 1942), BA-MA RH 20-17/729, attachment 30.

kilogrammes; depending on terrain and on the load-bearing capacity of the individual animals, one column could carry up to five tonnes. However, bearer columns were envisioned by the German high command in place of pack animals in the rougher terrain in the Caucasus.[194] On 19 October, 17th Army issued an order which explicitly called for the inclusion of the civilian population for work as bearers because of the difficult supply circumstances.[195] This was a measure born of desperation as, on the following day, the quartermaster noted that despite the deployment of all available prisoners and local inhabitants on construction works, the softened roads and tracks had even become impassable for pack animals. He also reported that supply levels had sunk to half of what they originally were.[196] With the onset of winter in mind, however, 17th Army continued its drive to secure as many draught animals as possible. Towards the end of the month the army veterinarian got the order to raid the area for *panje* horses and to raise several pack animal relay formations one after the other to be used as a reserve by the army. He was explicitly ordered to do this with no consideration for the agricultural situation.[197] It was often the case, however, that a more civilian-friendly approach was employed. The previous day the Commander-in-Chief of 1st Panzer Army (Kleist) agreed to allow 200 horses to be bought from the local inhabitants in order to alleviate potential supply or mobility difficulties during the coming months.[198] The recommended price for one horse was set at RM 150, while the price to be paid for wagons and harnesses was to be assessed on an individual basis.[199]

These drives ensured that both armies in Army Group A were well supplied with horses. On 22 October the chief veterinarian of 1st Panzer Army reported that the authorized strength for all horses (including *panje* horses) was 31, 554, while the actual strength was 30,232 (including 22,946 *panje* horses).[200] Five days later 17th Army (excluding the Romanian formations under its command) reported having 77,226 horses, of which 34,539 were *panje* horses. Losses had been high, though not usually because of overexertion. In the month from 21 September to 20 October a total of 2,152 horses had perished; 44.5% of the animals had died as a result of enemy action, with only 9.8% being lost through

---

[194] Frank, *Lastkraftwagen*, p. 15.
[195] 'A.O.K. 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 166.
[196] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17' (20 October 1942), BA-MA RH 20-17/591, fol. 48.
[197] 'A.O.K. 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (29 October 1942), BA-MA RH 20-17/132, fol. 198.
[198] 'Panzer-A.O.K. 1, O.Qu., Tätigkeitsberichte zum K.T.B. vom 1.11.42-31.1.43' (28 October 1942), BA-MA RH 21-1/340, fol. 82.
[199] Ibid., fol. 84 (6 November 1942).
[200] 'Zehntagesmeldung über Veterinärwesen für die Zeit vom 11.10. bis 20.10.42', BA-MA RH 21-1/451, fol. 278.

exhaustion.[201] Almost two months later the number of horses in 1st Panzer Army was even higher than it had been at the end of October, up slightly to 30,425 (including 23,309 *panje* horses).[202]

On 12 October the Chief of Staff of Army Group A (Lieutenant-General Hans von Greiffenberg) replied to Halder's question about the arrangements made for supply for the troops in the mountains during the winter by informing him that a lot had already been done in this respect, including the fact that numerous cableways were planned. The army group also noted that the roads throughout its area of operations were all perfectly usable at that particular moment.[203] On the same day XXXXIX Mountain Corps (now fighting in the highest sector in the Caucasus) received a further two construction companies for support in maintaining its supply road.[204]

On 21 October, 17th Army noted that the troops fighting some distance away from the main route to Tuapse could only be supplied with the greatest difficulty with bearer columns. 198th Infantry Division (Major-General Ludwig Müller) and Division Lanz (Major-General Hubert Lanz) found themselves in a particularly unfavourable place on either side of the road, where pack animals could no longer get through to them. The army's commander of engineer troops was charged with getting the greatest possible number of locals and prisoners of war to work on the road from Apsheronsk to Majkop (46 km) and the important road leading from the port of Temrjuk to Krasnodar via Slavjansk-na-Kubani (140 km).[205] The significance of such an order was highlighted three days later when it was noted during Zeitzler's visit to the army's headquarters that the majority of construction troops were either directly involved in combat themselves or were in forward areas for the purpose of building roads. In the rear, however, there was only a small force available for road construction (made up of local inhabitants).[206] 17th Army carried out its order as diligently as it possibly could: by the beginning of November, of the 36,312 Soviet internees in its operational and rear areas, 32,099 had already been set to work on various tasks.[207]

---

[201] 'Übersicht über die Versorgungslage der 17. Armee, Stand 27. Oktober 1942, Anlage 6 (Veterinärwesen)' (27 October 1942), BA-MA RH 20-17/595, fol. 536.
[202] 'Zehntagesmeldung über Veterinärwesen für die Zeit vom 1.11. bis 10.11.42' (12 November 1942), BA-MA RH 21-1/338, fol. 26.
[203] 'Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.10.42-31.10.42', BA-MA RH 19-V/107, fol. 75, 76. Greiffenberg served as chief of staff of the army group from its inception as Stab Anton in April 1942 (see Chapter 6 below) until 16 July 1943 (with a three-month interlude at the beginning of the year).
[204] 'Beilage 2 zum K.T.B. Nr. 4 A.Pi.Fü. Tätigkeitsbericht vom 14.8.-15.12.42' (12 October 1942), BA-MA RH 20-17/728.
[205] 'A.O.K. 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 170,172.
[206] 'Besuch Chef Gen.St.d.H. am 24.10.42' (24 October 1942), BA-MA RH 20-17/134, fol. 51.
[207] 'Kgf.-Monatsmeldung' (9 November 1942), BA-MA RH 20-17/596, fol. 103.

Meanwhile, further east 1st Panzer Army noted that, during the past months, both supply from the homeland and requisitioning from the countryside had only offset immediate needs, meaning that a considerable build-up of stocks had neither been possible in the past nor would be in future; on the other hand, the report conceded, 'supply crises' (*Versorgungskrisen*) had not arisen. There were, to be sure, problems which needed to be surmounted. The road network in the region, while compact in itself, was only fit for use during dry or cold weather spells, and there would doubtless be difficulties ahead with respect to vehicle traffic during the winter. However, this drawback would play no decisive role in the sector occupied by III Panzer Corps as, generally speaking, the distances from the railheads to the troops could be bridged with the use of *panje* wagons.[208]

As a rule, all roads in the southern areas of Russia were passable during the summer months and continuing into autumn. Even during dry spells later on in the year, or as long as the snow was not deep, the roads everywhere were almost completely passable as long as they were not overloaded.[209] For this reason army commanders were keen to ensure that their subordinates were aware of the measures to be taken during periods of rainfall. For example, early in October (at the height of the *rasputitsa*) the OKH informed 17th Army that it would have to manage with smaller deliveries of fuel for the foreseeable future. According to the army high command, the problem lay not with transport difficulties but with the simple fact that fuel stocks in general were sparse. It therefore ordered a sharp reduction in the number of journeys which were not deemed to be absolutely necessary. All 'fuel-guzzling' vehicles, such as tractors, were to be turned off as often as possible. It concluded that the increased use of horse-drawn vehicles in a relay system was imperative.[210] Though the supply situation was far from ideal, a paucity of fuel throughout the entire armed forces was often the reason why stocks could not be built up in forward depots.

Despite the obvious difficulties which were encountered, some high-ranking officers were often sanguine about the supply situation at the time, even if this was not necessarily evident *after* the war. On 23 October the quartermaster of 1st Panzer Army reported that the situation with regard to the state of the roads might well be bothersome, but not to the extent as it had been in the Ukraine the previous year.[211] The soil in this region of southern Russia

[208] 'Bericht über die Versorgungslage der 1. Panzerarmee' (20 November 1942), BA-MA RH 21-1/338, fol. 36.
[209] Bork, 'Bedeutung des Bahn- und Straßennetzes', p. 44.
[210] 'Kriegstagebuch Nr. 3 der Oberquartiermeister Abt./AOK 17' (7 October 1942), BA-MA RH 20-17/580, fol. 38-9.
[211] 'Bericht über die Versorgungslage der 1. Panzerarmee, Stand 23.10.42', BA-MA RH 21-1/451, fol. 279-80.

and north-east Ukraine is called chernozem (from Slavonic roots meaning 'black earth'), which is renowned for its high agricultural yield. However, it is deep and humus-rich, and was responsible for the restrictions imposed on German mobility in late 1941 and early 1942. Nevertheless, the quartermaster of 17th Army observed four days later that the previous winter had shown that even during periods of bad weather and snow, supply by *panje* wagons and sleighs could still be maintained.[212] There was also an abundant amount of wood in the area for construction work, which meant that less would have to be supplied from Germany. Up to 23 October the commander of engineer troops in 17th Army recorded that it had recommissioned twenty-four sawmills in its area of operations. A further thirty had been inspected, of which eight were suitable for restoration work.[213]

There is a military maxim which decrees that terrain hazards are always preferable to the perils of combat. Throughout the history of warfare great captains often had to overcome extreme terrain in order to gain a decisive success, whereas in the twentieth century the emphasis had shifted to overcoming extreme climate.[214] In fact, it was possible in principle for the Germans to reduce the strategic significance of the extreme factors experienced in Russia such as terrain, distance *and* climate with the aid of twentieth-century transport and logistics systems. In practice, however, the increased military effectiveness of the Red Army resulting from ideology, despair, growing competence, and depth of resources wore down the German Army so much that the military leaders of the Soviet Union were able to add the physical geography of their country to their list of strengths.[215] Despite this, however, even the Soviet armies operating in the Caucasus were not immune to the difficulties produced by the terrain in the region. Supply problems were proving difficult for the Black Sea Group of Forces (Colonel-General Jakov Cherevichenko) by the end of September, especially for its units in the more remote mountainous areas. Troops were lacking thousands of rifles and machine-guns, and food and fodder stocks were low. Winter clothing was also absent from the stores.[216]

The German General Staff was as culpable as anybody for any oversights which had been made in terms of assessing terrain factors in the Soviet Union. Before the war it had

---

[212] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17' (27 October 1942), BA-MA RH 20-17/591, fol. 53.
[213] 'Beilage 2 zum K.T.B. Nr. 4 A.Pi.Fü. Tätigkeitsbericht vom 14.8.-15.12.42', BA-MA RH 20-17/728.
[214] Simpkin, *Race to the Swift*, p. 175.
[215] Colin S. Gray, *Modern Strategy* (New York, 1999), pp. 40-1.
[216] Grechko, *Bitva za Kavkaz*, p. 156. On 31 August the Stavka combined the North Caucasus and Transcaucasus *fronts* into one, under the command of the latter and coming into effect three days later. The reorganized North Caucasus Front henceforth became known as the Black Sea Group of Forces of the Transcaucasus Front. Cherevichenko was replaced on 17 October by Major-General Ivan Petrov.

doubted the necessity for a military geological service, though it did increase its number of geologists from 1941 once it had realized the importance of geological expertise for military operations.[217] Notwithstanding these efforts, however, there were simply too few labourers (German or otherwise) to offset the immeasurable number of construction and maintenance tasks which had to be carried out. The Reich Commissar for the Ukraine (Koch), for example, warned that any inhabitants taken from the area would be lost to the important harvest work. There was therefore a constant three-way struggle between the Wehrmacht, Reichsbahn and OT authorities to secure as many workers as possible from the finite number available.[218]

Even where labourers *were* available, much of the work was exceptionally cost-prohibitive. RAD and OT units used methods of soil stabilization on the roads similar to those used by the Luftwaffe for runways on airfields in order to strengthen them and increase their load-bearing capacities. The downside to this process, however, was that twenty trains of cement were needed for one kilometre of road treated in this manner. This forced the OT to look for simpler ways, such as using sandy loam.[219] Efforts to improve the roads with respect to fighting the influences of weather, such as digging roadside ditches or using rollers to even off surfaces, had only minor, occasional success.[220] Indeed, the precedent had already been set as early as 19 February 1942 when Hitler himself ordered that roads were to be built or repaired in the most primitive of fashion, just good enough to allow them to hold for two or three years.[221] This environment of extemporization was endorsed by his former Chief of Staff, Halder, who maintained that warfare in general was always a 'system of improvisations'.[222]

Horses were still available locally in Russia in 1942 because there were approximately 11 million of them in the area under German occupation, most of which were *panje* horses. Each German division had been given two hundred wooden carts from the cache which had been requisitioned after the campaign in Poland, with more being obtained once the Germans were in the western areas of the Soviet Union.[223] However, losses were often extreme, especially as a result of enemy action. This high attrition rate is evidenced by the loss of

---

[217] Hermann Häusler, 'Deployment and Role of Military Geology Teams in the German Army, 1941-45', in Edward P. F. Rose and C. Paul Nathanail (eds.), *Geology and Warfare: Examples of the Influence of Terrain and Geologists on Military Operations* (Bath, 2000), p. 174.
[218] Seidler, *Organisation Todt*, p. 93.
[219] Ibid., p. 89.
[220] Bork, 'Bedeutung des Bahn- und Straßennetzes', p. 10.
[221] Seidler, *Organisation Todt*, p. 91.
[222] Cited in Bernhard R. Kroener, 'Squaring the Circle: Blitzkrieg Strategy and Manpower Shortage, 1939-1942', in Wilhelm Deist (ed.), *The German Military in the Age of Total War* (Leamington Spa, 1985), p. 292.
[223] DiNardo, *Mechanized Juggernaut*, p. 47.

1,341 pack animals suffered by XXXXIX Mountain Corps alone in the thirty days from 11 October to 10 November.[224] Through requisitioning and purchasing, however, Army Group A managed to more or less maintain its authorized strength of *panje* horses throughout the second half of 1942.

Terrain undoubtedly dominated Hitler's strategy in southern Russia at the end of 1942. Though modern machinery had indeed made it possible to overcome difficult terrain in many cases, the highest sectors of the Caucasus still represented a formidable obstacle. The easiest routes into Transcaucasia lay on both sides of the mountains, which, as has been shown, were traversed by a system of roads that were more than suitable for modern warfare. It was primarily for this reason that the German offensive was concentrated on these areas. Indeed, only one corps (XXXXIX Mountain Corps) ended up operating in the highest parts of the mountains, but this formation was comprised mainly of troops who had been specially trained for combat in this type of terrain.

There were times when ammunition levels ran low or when *matériel* was not replaced as quickly as commanders might have wished. Nevertheless, as will be seen in Chapter 6, supplies reached the troops at the front in enough quantities to maintain them as a viable fighting force. The battle raging further north at Stalingrad, however, ensured that both sides kept their forces in the Caucasus to a minimum, which does much to explain why neither side was ultimately able to gain a decisive breakthrough.[225]

Air Transport

During the Second World War the Luftwaffe differentiated between supply and transport with respect to missions involving transport aircraft. Air *supply* involved units which were primarily used as 'instruments intended to assure maximum utilization of the available transport routes'. This was done by forming an air corridor with completely surrounded ground forces or where there was enemy-held territory between the landing area and the main German operational area. These missions did not usually involve the transportation of a

[224] 'Die blutigen Verluste des Armeekorps' (15 November 1942), BA-MA RH 20-17/134, fol. 28.
[225] Bergström, *Stalingrad*, p. 68.

fighting force. Air *transport*, on the other hand, was used within German-held territory.[226] Air operations in the Caucasus and the Mediterranean were examples of the latter.

Before the Luftwaffe operations in support of the encircled 6th Army at Stalingrad the most important example of air supply had been the relief of the troops of 16th Army (Army Group North) which had been encircled around the towns of Demjansk and Kholm in January 1942 during the first Soviet winter offensive. When these airlift operations finally ended in May the Luftwaffe had lost 265 transport aircraft (or 30% of the total force available at the end of February).[227] These destroyed or severely damaged aircraft included 106 Ju 52s, 17 He 111s, and 2 Ju 86s. In addition to these aircraft the Luftwaffe also lost 387 highly trained service personnel.[228] Though successful, almost the entire air transport fleet had been committed to these operations. Added to the detrimental loss of aircraft during this period was the fact that training schools were adversely affected by being denied the use of 300 aircraft over a four-month period.[229] Furthermore, transporter losses at Demjansk and Kholm were added to those already incurred in Crete the previous summer when the Luftwaffe had lost 271 Ju 52/3m aircraft.[230]

When Hitler met Raeder on the afternoon of 15 June 1942 it was decided that the Luftwaffe transport units so urgently needed in the east would not be called upon for the planned invasion of Malta.[231] Nevertheless, in the same month four transport groups were taken from the Eastern Front, speedily brought up to establishment in terms of both personnel and *matériel*, and redeployed to the Mediterranean. This was forced on the German high

---

[226] Morzik, *Airlift Operations*, pp. 66, 71. Lieutenant-Colonel (later Major-General) Friedrich-Wilhelm (Fritz) Morzik was made head of air transport (*Lufttransportführer*) at the quartermaster department of the Luftwaffe general staff on 1 October 1941. Later, on 20 February 1945, he was made chief of air transport. (*Lufttransportchef*) of the Wehrmacht. The general terms 'supply by air' and 'air supply' (from the German word *Luftversorgung*) are used in the present work to describe any operation involving the supply of ground troops by transport aircraft.

[227] Murray, *Strategy for Defeat*, p. 120.

[228] Bergström, *Stalingrad*, p. 23. The Junkers Ju 52 was the workhorse of the German transport aircraft and went through numerous modifications throughout the war. Although primarily used as a bomber the Heinkel He 111H was also used extensively as a transporter, a task which superseded its original role more and more as the war progressed. Later models of this aircraft were built with these additional transport tasks in mind. The Ju 86 also had different models which were used as either a bomber or transporter.

[229] Martin Pegg, *Transporter: Luftwaffe Transport Units, 1939-1943* (Burgess Hill, 2006), p. 36.

[230] Green, *Warplanes*, pp. 412, 413. The German airborne invasion of Crete (Operation Merkur) had been the largest in history up to that point. The battle for the island only lasted from 20 May to 1 June 1941, but heavy losses led Hitler to forbid any such operations for the remainder of the war.

[231] 'Vortrag Ob.d.M. beim Führer am 15.6.42 nachmittags auf dem Berghof', Anlage 4: 'Unternehmen "Herkules"', BA-MA RM 7/186, fol. 127. Operation Herkules, originally approved by Hitler and Mussolini in mid-April 1942, was formally put on ice three months later as Rommel's drive on the Suez Canal took centre stage. It was never revived.

command as a result of a sharp increase in shipping losses from the previous month due to British air and naval actions.[232]

Once Blau was under way the high rate of advance of German spearheads meant that supply by air was often necessary. On 12 July, for example, the Luftwaffe flew 200 tonnes of fuel to panzer units in the south as air transportation was now becoming a factor of fundamental importance.[233] Unfortunately for Army Group A, however, it could never rely on supply by air as much as it might have wished. On 1 August XXXX Panzer Corps (part of 1st Panzer Army approaching the river Egorlyk approximately 150 km to the south of the Don) requested that its fuel be airlifted in, given that supply columns would be delayed because of the rapid advance. It was informed that air supply was not immediately available.[234] The following day, however, 1st Panzer Army got 300 cbm of fuel brought forward by transport echelons of the Luftwaffe. It was also promised a further 400 cbm, to arrive on the day after that.[235] On this date 1st Panzer Army once again asked for air supply of fuel for its lead units and was told that it would be sent by air to Belaja Glina (which had been taken two days earlier and was therefore very close to the front).[236] By the following day supply by air was under way, though three Ju 52s were shot down by Russian fighters during the operation.[237] It proved to be both a highly dangerous and costly way to supply troops.

On 21 August the quartermaster of 1st Panzer Army (now in the foothills of the eastern Caucasus) noted that the transport network in the region made it preferable to keep the supply bases on the near side of the mountains until the troops had fought their way over on a broad front. He also suggested that supply from the air for forward units was only possible in reasonably flat terrain, i.e. primarily in the mountain passes. Even with small mistakes in siting drop zones in steep areas, he warned, the troops were no longer able to reach the supplies which had been airdropped. He noted finally that air supply – as ever – depended largely on weather conditions.[238]

---

[232] Morzik and Hümmelchen, *Transportflieger*, p. 99.
[233] Plocher, *German Air Force*, p. 218.
[234] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/449, fol. 53.
[235] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42', BA-MA RH 21-1/409, fol. 8.
[236] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42' (3 August 1942), BA-MA RH 21-1/449, fol. 54.
[237] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/449, fol. 55.
[238] 'Anlagenband 1 zum Kriegstagebuch der 1. Pz.Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/450, fol. 197-8.

On occasions when supply by air was absolutely necessary in order to avoid a disaster it was carried out. On the last day of August, 2nd Romanian Mountain Division had practically expended all of its ammunition and, if it was not supplied in time, 1st Panzer Army intimated that it would have a 'catastrophe' on its hands. Air supply was therefore requested and granted.[239] Indeed, even Zeitzler agreed during a visit to 17th Army headquarters that air supply for individual units fighting in the mountains would become unavoidable once winter set in.[240]

Until the railway to Prokhladnyj was in operation (approximately from late August) the Luftwaffe was obliged to airlift a large amount of fuel and ammunition to Army Group A in the North Caucasus. As a result, the Air Force was consistently under considerable pressure because fuel, spare parts and ammunition also had to be provided for its own units as well as for the ground troops of army groups A and B (the latter being in particular need of air supply until the railway line Stalino–Krasnyj Luch–Tatsinskaja–Morozovsk–Stalingrad was operational).[241] In the same month, however, the Commander in Chief of XXXXIX Mountain Corps (General Rudolf Konrad) noted that even if air supply *were* still available at a later date, it would not have any lasting results going into the difficult southern foothills of the Caucasus.[242] Transport aircraft were therefore best employed elsewhere.

By September Luftflotte 4 was once again further weakened in favour of its sister formation in the Mediterranean. I./JG 53 *Pik-As* (fighters), III./ZG 1 *Wespen* (heavy fighters), and 6./KG 26 (bombers) had been redeployed from the east to Luftflotte 2 in Sicily, while the transport units I./KGzbV 1 and KGzbV 102 (both with Ju 52/3m aircraft) had been sent to North Africa. By December the latter two units had returned to the Eastern Front but were deployed at Stalingrad.[243]

---

[239] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42' (31 August 1942), BA-MA RH 21-1/449, fol. 65.

[240] 'Besuch Chef Gen.St.d.H. am 24.10.42', BA-MA RH 20-17/134, fol. 51.

[241] Hans-Detlef Herhudt von Rohden, 'Die Luftflotte 4 bei Stalingrad und am Kaukasus 1942/43' (11 January 1956), BA-MA RL 7/483, fol. 39. Major-General Herhudt von Rohden was Chief of Staff of Luftflotte 4 from 24 August 1942 until 23 February 1943.

[242] Rudolf Konrad, *Kampf um den Kaukasus* (Munich, 1954), pp. 30-1. Konrad commanded this formation from 19 December 1941 until 10 May 1944 (with two short intermissions).

[243] Tony Wood and Bill Gunston, *Hitler's Luftwaffe* (London, 1997 [1977]), p. 46. Luftflotte 4 was commanded by Colonel-General (later Field Marshal) Wolfram Freiherr von Richthofen from 4 July 1942 until 4 September 1943. A *Luftflotte* usually had at least one *Fliegerkorps* plus additional units under its command. At the end of 1942 the principal subordinate units of Luftflotte 4 in southern Russia were IV Fliegerkorps (Caucasus) and VIII Fliegerkorps (Stalingrad). Luftflotte 2 was commanded by Field Marshal Albert Kesselring from 12 January 1940 to 11 June 1943. At the beginning of Barbarossa it was deployed in the central sector of the Eastern Front, but its headquarters were redeployed to Frascati (outside Rome) on 1 December 1941. Throughout 1942 the main subordinate units of Luftflotte 2 were II Fliegerkorps (Sicily) and X Fliegerkorps (Greece).

Stiffening Soviet resistance during September forced the Germans to continue to airlift in supplies, in addition to bringing in more German and Italian troops to bolster the southern front.[244] In the middle of the month Hitler told Konrad that if he had ventured to go over the mountains he would have supplied him by air.[245] The obvious difficulty, however, was getting past the stiff Soviet resistance in the mountain passes and getting down to the other side. Towards the end of the month the quartermaster at 17th Army headquarters noted in the war diary that Hitler wanted answers that same evening as to what the army's plans were with respect to supply for the troops in the mountains during winter. By 2100hrs he needed to report to Hitler on the cableways which were currently in use (including their load capacities) and which were planned. A report on the number of pack animals and the possibility of air supply either by landing or by airdrop was also to be drawn up.[246] Unfortunately, the responses to these particular questions do not appear to have survived; however, some indication of their content might be revealed by the fact that ten days later 17th Army was informed that ground supply to its formations in the higher reaches of the Caucasus would have to be secured as supply by air was out of the question.[247]

This situation continued throughout October. On the last day of the month 17th Army was informed that air supply for XXXXIX Mountain Corps on Mount Semashkho (a mere 30 km from the coast north-east of Tuapse) could only be carried out if supply by any other means was not possible. As if to deter the army from making any future such requests unless absolutely necessary, it was reminded that supply by air always meant the loss of fighter aircraft involved in escort duties.[248] In fact, the Luftwaffe command had good reason to be mindful of attrition rates: between May and October 1942 the Germans lost 51% of all bombers and 48.6% of all single-engine fighters which they had had on the Eastern Front at the end of April.[249] Konrad subsequently did not make any further request for air supply (at least initially).

At the beginning of November – just at the time when it seemed that Army Group A would need air supply the most – 150 Ju 52s were deployed to the Mediterranean, with a further 170 following at the end of the month. In addition to these aircraft Luftflotte 4 also

---

[244] Weinberg, *World at Arms*, pp. 420-1.
[245] Konrad, *Kampf*, p. 34 (14 September 1942).
[246] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17 vom 14.8.-15.12.42' (29 September 1942), BA-MA RH 20-17/591, fol. 34.
[247] 'Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.10.42-31.10.42' (9 October 1942), BA-MA RH 19-V/107, fol. 58.
[248] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband, 14.8.-15.12.42' (31 October 1942), BA-MA RH 20-17/132, fol. 202.
[249] Murray, *Strategy for Defeat*, p. 125.

gave up an entire fighter group to the same theatre in the first week of the month.[250] Thus, with even fewer fighters left in the Caucasus to protect transports, Army Group A was left to make do with ground supply as far as possible.

On 7 November 13th Panzer Division (fighting under 1st Panzer Army in the river Terek sector) requested air supply because its lines of communication had been severed by the Soviets during a counterstroke against both of its flanks. Later that day, however, it reported that the situation had been restored and that this support was no longer necessary.[251] When the tactical situation changed once again three days later, however, a combat group surrounded in the area around Gizel' now needed to be supplied by air after all. With great difficulty Luftflotte 4 managed to organize a supply operation based at Soldatskaja (20 km north-west of Prokhladnyj). Drop containers were sent here by rail from Armavir, with the first flights scheduled for two days later.[252] On 12 November 1st Panzer Army reported that air supply could now be cancelled; the war diary also noted that there had been numerous losses of aircraft during the airlift operation. Alternative supply was instead requested of the Quartermaster General of the Army via Army Group A.[253]

Of the two army groups supported by Luftflotte 4, Army Group B certainly came off best in terms of air supply, especially as it approached Stalingrad from the end of August. This continued into the first week of September and consisted primarily of fuel for 4th Panzer Army. By the second week airlifted supplies were down to a trickle for both army groups, and from 9 September there was practically no supply for the ground troops at all from Luftflotte 4 until the second half of the month. The following month there were mostly days when there were no transports flown by Luftflotte 4 at all; if there *were* flights, they were generally concentrated on the Stalingrad axis. The only transports now – as always – were those flying the wounded out of the area of operations.[254]

On 6 October three planes flew in six tonnes of supplies for the Army; ten days later the figures were three planes with only four tonnes of supplies. In the intervening period there were no flights at all. From 18 October there was once again no air supply and the situation continued more or less in this vein until the end of the month. At this point transport aircraft which might otherwise have been deployed in southern Russia were instead being used in the

[250] Ibid., p. 160.
[251] 'Kriegstagebuch Oberquartiermeister-Abteilung der 1. Panzer-Armee vom 1.11.1942-31-1.1943', BA-MA RH 21-1/337, fol. 4.
[252] Ibid., fol. 5 (10 November 1942).
[253] Ibid., fol. 6.
[254] 'OKW/WFSt Lageberichte, Teil 5 (1.10.1942-15.10.1942)' (3 October 1942), BA-MA RW 4/97, fol. 68.

Mediterranean. Only on the last day of the month was there any air supply of any consequence once again.

It was not until 10-11 November that supplies were once again flown in by Luftflotte 4, though the tonnage was meagre in comparison to previous sorties. The situation remained like this up to the Soviet counter-attack at Stalingrad eight days later. In fact, in the days leading up to 21 November poor weather had grounded all flights anyway. The table overleaf gives a summary of the main transport missions conducted by Luftflotte 4 from the end of July to mid-November 1942.[255] By then there were still occasional supply sorties, but not too many. More importantly, they did not go into the mountains themselves but only as far as Soldatskaja, Krasnodar, Mineral'nye Vody, Groznyj, Belorechensk, Majkop (all North Caucasus), Saki (Crimea), and a few other towns.[256] Terrain and weather conditions now decided where and when supplies would be airlifted.

[255] 'OKW/WFSt Lageberichte, Teil 1 (1.8.1942-15.8.1942)', BA-MA RW 4/93, fol. 12, 77, 84; 'OKW/WFSt Lageberichte, Teil 2 (16.8.1942-31.8.1942)', BA-MA RW 4/94, fol. 13, 34, 118, 240, 278, 317; 'OKW/WFSt Lageberichte, Teil 3 (1.9.1942-15.9.1942)', BA-MA RW 4/95, fol. 109, 166, 203; 'OKW/WFSt Lageberichte, Teil 4 (16.9.1942-30.9.1942)', BA-MA RW 4/96, fol. 32, 128; 'OKW/WFSt Lageberichte, Teil 5 (1.10.1942-15.10.1942)', BA-MA RW 4/97, fol. 140; 'OKW/WFSt Lageberichte, Teil 6 (16.10.1942-31.10.1942)', BA-MA RW 4/98, fol. 41, 58; 'OKW/WFSt Lageberichte, Teil 7 (1.11.1942-15.11.1942)', BA-MA RW 4/99, fol. 27, 260.

[256] 'Transportbewegung am 18.11.1942', BA-MA RL 24/167, fol. 295; 'Transportbewegung am 19.11.1942', BA-MA RL 24/167, fol. 296.

Table 11: Luftflotte 4 Transport Missions		
Date	Supply (in tonnes)	Notes
30 July	119.2	
2 August	137.3	
14 August	223.6	
15 August	126.5	
19 August	186.0	
25 August	451.2	*high point of supply by air for a single day*
27 August	189.9	*242 cbm (= 181.5 tonnes) of fuel for 4th Panzer Army*
29 August	159.8	*202 cbm (= 151.5 tonnes) of fuel for 4th Panzer Army*
4 September	211.4	*272 cbm (= 204 tonnes) of fuel for 4th Panzer Army*
7 September	16.5	
15 September	15.0	
20 September	18.0	
6 October	6.0	
16 October	4.0	
17 October	20.4	*plus 598 men*
31 October	7.5	*plus 564 men*
10-11 November	17.0	

Airdrops can be used for isolated bases whose strength or geographical position either 'do not permit or do not warrant surface supply transport'.[257] None of these preconditions generally applied to Army Group A. Additionally, supply by airdrop should only be attempted in circumstances of absolute necessity, as the obvious benefits of mass utilization of aircraft for air transport missions are normally outweighed by the large number of forces needed to carry them out. They should only be used for transport purposes when there is no other option available which can ensure that men and equipment can just as effectively be brought to a particular area within a time limit deemed desirable or vital.[258] J.F.C. Fuller noted that aircraft are certainly the best option for the supply of troops *when cost efficiency is not an issue*.[259] However, there is a significantly unequal ratio of effort to gain involved in supply by air which a commander must take into account. To be sure, air transport has advantages with respect to speed, independence of terrain, and relative adaptability to military situations. However, the concomitant lack of economy can be seen from the loads which could be conveyed by one horsepower using different means of transportation during the war[260]:

aircraft	15¾ – 18 lb
automobile or truck	90 – 202½ lb
rail	675 – 1,575 lb
ship	2,250 – 9,000 lb

Air transportation was by far the most inefficient of the options open to Hitler. Luftwaffe transport units did help to get fuel forward to the troops heading into the Caucasus and alleviate some shortages, though the bulk nature of fuel further exacerbated supply difficulties. Another fact that simply could not be altered was that the operating bases now being used by the Luftwaffe were 'primitive' compared to those which had been used before Blau began. This added to the attrition rate of the aircraft which had been deployed in support of the forward elements of the ground forces.[261]

The demand for transport aircraft on other fronts meant that supply by air on a large scale in the Caucasus would have constituted a luxury which the German leadership simply did not have. Air supply operations were still ongoing in the salient at Demjansk even after

---

[257] Morzik, *Airlift Operations*, p. 335.
[258] Ibid., pp. 334, 72, 306.
[259] Cited in Brian Holden Reid, *J.F.C. Fuller: Military Thinker* (Basingstoke, 1987), p. 208.
[260] Morzik, *Airlift Operations*, p. 306.
[261] Murray, *Strategy for Defeat*, pp. 124-5.

ground forces had forced open a corridor to the encircled troops because the tenuous nature of this narrow supply route meant that II Corps still needed to be supplied by air. For example, on one day alone at the end of July (just as German units were heading into the North Caucasus region) 124 planes airlifted almost 230 tonnes of supplies to Demjansk.[262] From towards the end of February 1942 until January 1943 the Luftwaffe flew a total of 32,427 sorties with *matériel* and 659 troop transports to the area. During these operations alone a total of 42,155 tonnes of aviation fuel and 3,242 tonnes of lubricant were used.[263] It might perhaps be suggested that the salient at Demjansk represented such a serious drain on German air transport resources that its continued existence was simply unjustified. However, this is a specious argument which does not take into account the positive effects of retaining such a position. During the battles of the previous winter, Army Group South had noted that even completely encircled units could tie down large numbers of enemy troops for a considerable period.[264] This was evident in the Demjansk salient where, on 1 October 1942, roughly twelve German divisions were opposed by about forty-two major Soviet formations (excluding artillery and engineer units) from four of the five armies of Lieutenant-General Pavel Kurochkin's North-Western Front.[265]

Both the Luftwaffe transport units and those of the other two arms operated at full capacity trying to get important supplies to the Army and Air Force. Air transport units and vehicle columns comprised of Luftwaffe ground troops not only had to look after their own needs, however, but also often those of the Army. Richthofen's insistence on improvisation in order to free up vehicles for supply purposes on the ground often led to a reduction in the mobility of the Luftwaffe's own forces and made excessive demands on *matériel*.[266] Nevertheless, his actions were in full accordance with Hitler's vision of what was expected of commanders in these difficult times: 'anticipatory measures and spirit of innovation' (*vorausschauende Maßnahmen und Erfindungsgeist*).[267]

By the end of 1942 the Luftwaffe had almost 70% of its aircraft in the Mediterranean, in the West, and in service defending the Reich against Allied bombing raids. Only six

---

[262] 'OKW/WFSt Lageberichte, Teil 1 (1.8.1942-15.8.1942)' (31 July 1942), BA-MA RW 4/93, fol. 34.
[263] Morzik and Hümmelchen, *Transportflieger*, p. 145.
[264] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 1.-15.1.42 (Anlagen)' (6 January 1942), BA-MA RH 19-I/235, fol. 93.
[265] Wegner, 'Krieg gegen die Sowjetunion', p. 903; Grylev (ed.), *Boevoj sostav*, p. 188. Soviet formations included approximately 19 rifle divisions, 13 rifle brigades, 3 tank brigades and 7 independent tank battalions. Kurochkin commanded North-Western Front from August 1941 until November 1942 and then again from June until November 1943.
[266] Herhudt von Rohden, 'Luftflotte 4', BA-MA RL 7/483, fol. 25.
[267] 'Grundlegender Befehl Nr. 4 (Aushilfsmittel der Führung)' (16 October 1942), BA-MA RH 2/940, fol. 31-2.

months previously, however, approximately 54% of its entire force was deployed in the east.[268] In July, August and September 1942 it flew 40,000 troops and 4,000 tons of supplies to North Africa as a result of Rommel's advance into Egypt, which could only be achieved after a 'significant augmentation' in Luftwaffe strength in this theatre.[269] Between 1 July and 19 November 1942 (the day of the Soviet counteroffensive at Stalingrad) the Luftwaffe flew a total of 11,500 sorties to North Africa with 42,000 soldiers as well as 15,000 tonnes of supplies, ammunition and fuel. In the six-day operation to bring fuel to the airfield at Martuba (Libya) a total of 1.25 million litres of fuel were flown in.[270] In another major supply operation two months later 916 tonnes of fuel and 75 tonnes of equipment were flown to Rommel's troops in North Africa in two days. A further 546 tonnes of fuel, 207 tonnes of general cargo and 192 tonnes of ammunition came by sea.[271] Throughout September and most of October there were anything from 200 to 500 aircraft being used to transport personnel and *matériel* from Greece and Crete to North Africa. In November this figure was supplemented by even more aircraft as a result of Axis shipping losses.[272] There were, therefore, more pressing tasks for the transport units of the Luftwaffe than those in southern Russia.

It is important to keep in mind that air transport missions should not have been attempted if there was insufficient fighter escort, as anything less would only have been a half-measure that would be undependable in a crisis.[273] However, fighter losses throughout 1942 had been high, and even an increase in production figures could not supply enough aircraft to cover all escort duties when losses are also taken into account. For the first six months of the year output of bombers decreased by 2% (to 329 a month), but output of fighters rose in the same period by 60% (to 391 a month).[274] Nevertheless, overall attrition rates in 1942 were disturbingly higher than in the previous year as a result of the Luftwaffe being continually called upon to assist the Army in a close-support role. However, given the fact that the balance of both ground and air forces favoured the Soviets, there was perhaps no other option available to the German high command. Hitler had been given little choice but to

---

[268] Horst Boog, 'Der anglo-amerikanische strategische Luftkrieg über Europa und die deutsche Luftverteidigung', in *DRZW*, vol. 6, p. 565.
[269] Murray, *Strategy for Defeat*, p. 160.
[270] Morzik and Hümmelchen, *Transportflieger*, p. 115. It should be noted that these supplies were for one army only (Panzerarmee Afrika).
[271] 'OKW/WFSt Lageberichte, Teil 7 (1.11.1942-15.11.1942)' (1-3 November 1942), BA-MA RW 4/99, fol. 96.
[272] Anon., *German Air Force*.
[273] Morzik, *Airlift Operations*, p. 332.
[274] Green, *Warplanes*, p. 12.

concentrate on equipping the Army ahead of the Navy and Air Force after the reversal before Moscow the previous winter.[275]

The following figures show the sharp increase in attrition rates for transport aircraft between 1941 and 1942:

Table 12: German Transport Aircraft Losses[276]	
1941	
January – March	42
April – June	324
July – September	75
October – December	128
Total 1941	**569**
1942	
January – March	235
April – June	281
July – September	261
October – December	372
Total 1942	**1,149**

Between January and October 1942 the Luftwaffe lost 506 transport aircraft completely written off (or 52.2% of its January strength), 1,749 bombers (99.95%), 1,734 single-engine fighters (115.6%), and 575 twin-engine fighters (117.3%). A total of 277 transporters, 1,279 bombers, 1,486 single-engine fighters, and 426 twin-engine fighters were damaged in the same period.[277]

[275] Murray, *Strategy for Defeat*, pp. 113, 136.
[276] Morzik, *Airlift Operations*, p. 301-C. These figures include aircraft which were damaged.
[277] Murray, *Strategy for Defeat*, p. 140.

Production of transport aircraft, on the other hand, did not keep up with the loss rate because the Luftwaffe was simply never given the requisite means to build up a significant independent transport force. A further distinct disadvantage was that a sizeable number of its transporters often served as training aircraft for future bomber pilots. Then, in the case of emergency airlift operations such as Demjansk and Stalingrad, training schools had to be shut down in order to provide instructors, pilots and aircraft for combat purposes.[278] Such drastic measures, however, were only taken as a last resort.

In the three months from the beginning of August until the end of October 1942 the Luftwaffe flew a total of 21,500 transport sorties, which amounted to 10.5 million miles and roughly 43,000 tons of fuel and equipment (excluding return loads). Air transport played a very important role, given that the Germans were at the end of extended lines of communication in all theatres. By the time of the Soviet counteroffensive at Stalingrad on 19 November, however, the strain on the transport fleet was already appartent. Ju 52s were now in short supply, and the drain on training units was beginning to take its toll. Indeed, the exceptional scale of Luftwaffe transport operations during 1942 actually exacerbated another problem which continued to be the bane of the Wehrmacht throughout the war: lack of fuel stocks. There was a serious fuel shortage going into the second half of the year, particularly from August onwards. This resulted in restrictions being imposed on the Luftwaffe such as limiting flights behind the front line. This in turn resulted in further unfavourable consequences for pilot and crew training. In certain circumstances these restrictions even extended to flights in operational areas which were not absolutely essential for the war effort. This continued into June of the following year, when the pressure was finally eased somewhat with the restoration of fuel stocks made possible by the synthetic oil industry.[279]

It is interesting to note that Hitler's faith in the power of individual personalities (as seen with respect to Gercke and Speer during the railway crisis) was also evident in the Göring Programme. This was an initiative put in motion by Hitler and General Thomas (head of the WiRüAmt) with the intention of quadrupling the size of the Luftwaffe. It was headed by Field Marshal Erhard Milch and put into effect on 26 June 1941.[280] Thomas initially suggested that the plan would only achieve about 60% of its targets. However, even though the aircraft industry had the same work force and aluminium allocation as it had had for the previous year there was a dramatic increase in production figures. Milch himself was

[278] Ibid., pp. 119-20.
[279] Anon., *German Air Force*, pp. 217, 218.
[280] 'Besprechung Staatssekretär Milch am 26.6.1941', in *KTB OKW*, vol. 1, pp. 1016-18.

primarily responsible for this intensification of effort and increase in production.[281] The following table gives the production figures for transport aircraft compared with the other most important types:

Table 13: Production of Aircraft According to Year and Type[282]

Type	1939	1940	1941	1942
Bombers	737	2,852	3,373	4,337
Fighters	605	2,746	3,744	5,515
Transporters	145	388	502	573

Losses in trained and experienced aircrew also increased steadily as the war wore on. The following table gives an indication of the massive additional toll taken on Luftwaffe personnel once the war against the Soviet Union began:

Table 14: German Aircrew Losses, 1939-1943[283]

Period	Killed and Missing	Wounded and Injured	Total
1.9.39 – 22.6.41 (22 months)	13,535	5,998	19,533
22.6.41 – 31.12.43 (30 months)	35,029	13,525	48,554

Army Group A was never destined to get the assistance from air supply that it would otherwise have got under different circumstances. Only when certain units became surrounded in the mountains or came dangerously close to expending their ammunition did Hitler consent to relatively large-scale relief efforts by air. However, there were enough

[281] Murray, *Strategy for Defeat*, p. 137.
[282] Cajus Bekker, *The Luftwaffe War Diaries* (Edinburgh, 2001 [1966]), p. 377. All yearly figures are up to September of each year.
[283] Ibid., p. 380.

mitigating factors to give him reason to use his limited air transport capabilities elsewhere. The principal reasons were that the armies serving in southern Russia could be supplied by rail and road (however tenuous this turned out to be), and were simply too large a force fighting in unsuitable terrain to be supplied by air in any meaningful sort of way. Contrariwise, the troops serving in North Africa depended primarily on supply by air and sea and could therefore justifiably expect to demand a much higher percentage of transport aircraft and fighter escorts from the Luftwaffe.

Black Sea

It has been argued that the possibilities of transporting supplies by sea for the German ground troops operating along the Black Sea littoral were largely ignored by both Hitler and the German high command.[284] Indeed, it has become somewhat of an uncontested truism that Hitler had little interest in naval matters in general and had no understanding of naval strategy in particular.[285] This in turn has led some authors to claim that his knowledge of logistics at sea was limited at best.[286] There were, however, several mitigating factors which led to the Black Sea area becoming and remaining a tertiary German naval theatre until 1944 after the Atlantic and Mediterranean.

At the end of the first week of February 1942 the Chief of Staff of the Operations Department of the Kriegsmarine (Captain Gerhard Wagner) met with Halder in order to discuss plans for cooperation between the Army and the Navy for the coming offensive. The Navy felt that there would be a strong threat from the Soviet fleet to any shipping routes for as long as the last ports on the eastern coast of the Black Sea were not in German hands. Losses through enemy action would be inevitable – a situation which would be exacerbated due to the 'extremely serious' situation with respect to the lack of German cargo space.[287]

Nevertheless, later in the month Marinegruppenkommando Süd (the naval command responsible for the Black Sea and Balkan Peninsula regions) stressed that the principal task for 1942 would continue to be the supply by sea of Army Group South. It was noted,

---

[284] See, for example, Ruge, *Sowjetflotte*, p. 99.
[285] For such an opinion of Hitler's dilettantism in this regard, see Marolda, 'Failure of German World War II Strategy', p. 41.
[286] See, for example, Kenneth Macksey, *For Want of a Nail: The Impact on War of Logistics and Communications* (London, 1989), p. 108.
[287] 'Niederschrift über die Besprechungen des Chefs 1. Skl. im Hauptquartier am 6. u. 7.2.42', BA-MA RM 7/2188, fol. 182. Wagner was Chief of Staff of 1. Skl. from 13 June 1941 to 28 June 1944.

however, that problems were different here from those in the Baltic Sea as the Soviets had been far more active in the southern theatre from the very outset of the conflict, especially with respect to submarines.[288] Almost two months later the Chief of Staff of the Seekriegsleitung (Fricke) suggested that the Kriegsmarine could certainly support operations on land logistically, but that German naval forces continued to be inferior to the Soviet Black Sea Fleet. The Operations Department believed that the Soviet threat could only be eliminated either by taking the last naval bases in the region or by destroying the naval forces which were using them. The report concluded, however, that the destruction of the Black Sea Fleet could not be done at present with the resources available to the Kriegsmarine and Luftwaffe in the region.[289]

A further report from early in the year showed that the ports which might fall into German hands were not necessarily suitable for supply purposes. To begin with, most of the ports on the Taman' Peninsula were not accessible for ocean-going vessels. A total of 900 tonnes of supplies could be offloaded daily at each of the ports of Temrjuk, Ejsk and Primorsko-Akhtarsk, but this could only be achieved if suitable barges were available as the anchorages of the supply ships would be some distance from the ports. It was deemed possible to bring 800 tonnes to Evpatorija and Sevastopol' (both Crimea) and 900 tonnes to Rostov (Sea of Azov) once all available MFPs (*Marinefährprähme*) were used, but with the caveat that no other sea transport tasks were undertaken. The port of Adler (Caucasus) was of no use, while Sukhumi (100 km further south) was only capable of handling small numbers of vessels. If necessary, MFPs could be used as far as Tuapse (Caucasus), though it was unlikely that there would be enough of them to supply Sukhumi too. The required 800 tonnes for 11th Army on the Crimea and the projected 1,000-1,200 tonnes to Batumi and Poti (both near the Turkish border) could only be shipped if all other supply traffic was stopped and if loading and unloading was carried out speedily. It was up to the Army to ensure that enough unloading teams were made available at each port if operations were to run smoothly. Everything was once again dependent on the situation at sea and the technical transport parameters with the available tonnage.[290] Furthermore, the chances that all of the aforementioned ports would be fully operational once they fell to German land forces were slight. A report from the Army's commander of railway troops noted that in the event of a

[288] 'Studie über die Seeaufgaben im Schwarzen Meer' (16 February 1942), BA-MA RM 35-III/22, fol. 21-2.
[289] 'Russische Seeherrschaft im Schwarzen Meer' (2 April 1942), BA-MA RM 7/938, fol. 285.
[290] 'Versorgungsnachschub für das Schwarze Meer' (27 January 1942), BA-MA RM 7/938, fol. 227-8. An MFP was a simple vessel used in coastal waters (and hence not as susceptible to enemy attack), originally built as a landing craft but which was later put into service as a ferry barge. It had a load capacity of 100-140 tonnes and a top speed of 11 knots. For comparison, one train had a load capacity of approximately 400 tonnes.

retreat in southern Russia the Soviets intended to destroy the port facilities in both Batumi and Poti in order to deny them to the Kriegsmarine.[291]

On 30 May 1942 Hitler made the *Reichsstatthalter* and *Gauleiter* of Hamburg, Karl Kaufmann, Reich Commissar for Maritime Shipping. It was his responsibility to ensure the unified planning of shipping in conjunction with the OKW, Göring (as head of the Four-Year Plan) and with the relevant ministers. He was to be responsible for the continual expansion and replacement of merchant shipping tonnage – including its equipping and manning – and for increasing the capacity of the ports.[292] In the following months German shipping in the Black and Mediterranean seas increased significantly as the following table shows:

Table 15: German Ocean-Going Merchant Ships in the Black and Mediterranean Seas over 400 Gross Register Tons (GRT)[293]

Time	Confiscated by OKH	Available for Merchant Shipping	Total
End of May 1942	19 (62,647 GRT)	9 (25,677 GRT)	28 (88,324 GRT)
End of June 1942	19 (57,729 GRT)	9 (25,642 GRT)	28 (83,371 GRT)
End of August 1942	36 (85,882 GRT)	9 (25,737 GRT)	45 (111,619 GRT)
End of September 1942	36 (85,882 GRT)	9 (25,737 GRT)	45 (111,619 GRT)

[291] 'UdSSR. Meldung über sowjetische Vorbereitungen für den Fall eines Rückzuges in Südrussland und im Kaukasus' (2 February 1942), BA-MA RH 66/385.
[292] 'Erlaß des Führers über die Einsetzung eines Reichskommissars für die Seeschiffahrt vom 30. Mai 1942', in Hitler, '*Führer-Erlasse*', p. 254. Kaufmann held this position until the end of the war.
[293] 'Lage Handelsschiffahrt im Monat Mai 1942', BA-MA RM 7/110, fol. 27; 'Lage Handelsschiffahrt Ende Juni 1942', BA-MA RM 7/110, fol. 34; 'Lage Handelsschiffahrt Ende August 1942', BA-MA RM 7/110, fol. 45; 'Lage Handelsschiffahrt Ende September 1942', BA-MA RM 7/110, fol. 50.

Throughout the summer months of 1942 a steady flow of supplies arrived by sea for the southern armies on the Eastern Front. From 19 April to 31 July a total of 114,000 tonnes of supplies were transported to the Ukraine for the Wehrmacht (including 42,000 tonnes of ammunition, 15,000 tonnes of coal and 25,000 tonnes of provisions, for the loss of just 2 ships).[294] This was a considerable achievement if one considers that a small motorboat of 500-1,200 GRT needed 17 days to be loaded in a Danube port, sail to Kherson (at the mouth of the Dnieper), return fully loaded and then unload. A large steamer of 5,700-7,800 GRT needed roughly 45 days to unload and reload at Constanţa (Romania), travel over two days to Kherson, unload and reload, return to Constanţa, and unload once again.[295]

Hitler had already made it explicitly clear at the beginning of 1942 that the Army could only be built up for the summer offensive at the expense of both the Luftwaffe and the Kriegsmarine (with the exception of the submarine arm).[296] His determination to continue the struggle with the Anglo-Saxon powers with the majority of the existing surface forces and his insistence on the increased production of U-boats were – as was to be expected – to have a lasting effect on operations in the Black Sea. On 7 August 1942 the operations staff of Marinegruppenkommando Süd reported that the route from Romania to Nikolaev (mouth of the river Bug) would remain the main transport artery for the foreseeable future. It would remain so until such time as there were adequate escort vessels and protective measures put in place which would allow the lengthening of the supply line either along the coast or directly across the Black Sea. There were only a few steamers available at present and the risk to ships travelling along a protracted route was too simply too great. Instead, only supply transports with MFPs would be possible for the moment to Sevastopol' and the Caucasus ports. The Army would have to decide where it wanted ships and barges employed, but must also understand that one task could only be carried out by foregoing another. The best option was to use shorter sea lanes, especially as additional steamers for use in the area would most likely not be available for the rest of the year.[297] As these risks were too great and the Kriegsmarine forces in the area were too weak to carry out all their tasks Hitler ordered that the steamers should only go as far as Feodosija (Crimea) for the moment as he wished to avoid losing what few of them the Germans had.[298]

---

[294] 'Seetransportnachschubleistung nach der Ukraine', BA-MA RM 35-III/33, fol. 5.
[295] 'Umlauf der Nachschubdpf. rum./bulg. Häfen – Cherson (Nikolaeff)', BA-MA RM 35-III/22, fol. 56.
[296] Guntram Schulze-Wegener, *Die deutsche Kriegsmarine-Rüstung, 1942-1945* (Hamburg; Berlin; Bonn, 1996), p. 19.
[297] 'Allgemeine Hinweise für die jetzigen Operationen', BA-MA RM 35-III/33, fol. 36-7, 38-9.
[298] BA-MA RM 7/938, fol. 367 (18 August 1942).

The weather situation at sea was another problem which the Kriegsmarine would have to contend with. At the beginning of February the sea around the important Ukrainian port of Odessa was only navigable for steamers with ice-reinforced hulls, though the port itself remained closed to all traffic.[299] Only towards the end of April was the Black Sea finally ice-free everywhere, including Mariupol' harbour and surrounding waters in the Sea of Azov (which had been the last remaining obstruction on the entire body of water).[300] Operations later in the year, however, would once again be restricted by adverse weather conditions. On 19 November ice had started to form in the Bay of Taganrog resulting in all traffic between here and Ejsk being halted the following day.[301] Five days later Mariupol' could only be reached by steamer, while tight drift-ice at Rostov meant that only ice-reinforced steamers could reach the port.[302]

The Navy readily acknowledged that supply via the Black Sea was not simply a transport task: it was, rather, a military undertaking which was dependent on several factors. Once the ice had melted and the Danube fleet of convoy escorts and steamers became available it was suggested that 40,000 tonnes of supplies (the total capacity for all three arms of the Wehrmacht) could be shipped 'spasmodically' eastwards within a period of thirty days. One important precondition was that ships were not to be used for other military purposes such as ferrying 11th Army across the Kerch' Strait from the Crimea to the Caucasus (an operation which had been prepared but which was later scaled down considerably). Additionally, any supply ships returning loaded would reduce the monthly capacity further by one third. As ever, enemy action and poor weather would have an effect on these numbers.[303] Nevertheless, from August 1941 to October 1942 a total of 47.7% of Germany's grains and 53.3% of its meats and livestock came from the Soviet Union.[304] Much of these goods were transported by sea.

On 23 June Hitler decreed that the increase in the productivity of German merchant shipping was of 'war-winning' importance. This was to include both the construction of new merchant ships capable of carrying ores and the rapid repair of damaged vessels.[305] The following month he ordered an additional 100 men to the shipyards on the Black Sea for

---

[299] 'Entwicklung der Eisverhältnisse im Hinblick auf Transportwege' (3 February 1942), BA-MA RM 7/2164, fol. 52.
[300] 'Eisbericht vom 20.4.42, morgens', BA-MA RM 7/2164, fol. 158.
[301] 'Eisbericht vom 20.11.42 (Meldungen vom 19.11.42)', BA-MA RM 7/2164, fol. 215; 'Eisbericht vom 21.11.42 (Meldungen vom 20.11.42)', BA-MA RM 7/2164, fol. 216.
[302] 'Eisbericht vom 25.11.42 (Meldungen vom 24.11.42)', BA-MA RM 7/2164, fol. 219.
[303] 'Anlage 1 zu K.T.B. Mar.Gruppe Süd op. vom 12. Februar 1942', BA-MA RM 35-III/21, fol. 49-50, 51-52..
[304] Mulligan, *Politics of Illusion and Empire*, p. 102.
[305] 'Ausbau der Handelsschifftonnage', in Hitler, *'Führer-Erlasse'*, p. 258.

work on surface vessels (though this number was the lowest of all the allocations which he prescribed).[306] At the end of July he further decreed that there was to be a temporary halt on recruitment into the Wehrmacht from the shipyards because of the dramatic increase in the need for skilled workers for naval construction. There was also to be an easing of the regulations which determined how foreign workers were employed in the construction and repair of warships and submarines. The use of shipyard workers for other projects (such as the oil or locomotive programmes) was to cease, as additional German specialists were not available for the moment.[307]

Operations on land were also directed towards making life that much easier for the supply tasks assigned to the Navy. On 12 August Hitler ordered that 17th Army should be given priority with respect to fuel so that it could fulfil its task of taking the Black Sea coast and with it the ports which would enable it in future to be supplied by sea.[308] Two days later he insisted that efforts on the supply route Mariupol'–Ejsk were to be expanded with all means possible (which would help somewhat to circumvent the railway bottleneck at Rostov).[309]

On 23 September Schuster concluded that once the tugs and barges which had been promised had arrived the daily totals for cargo transfer would be 900 tonnes at Ejsk and 100 tonnes at Azov (just to the west of Rostov). In the event of additional vessels being made available, railway cranes and other loading equipment being put on the quay, and pier and railway facilities at Ejsk, Azov and Berdjansk being upgraded, these totals could increase to 1,200 tonnes for Ejsk and 300 tonnes for Azov. All of this, however, depended on the weather remaining good, no accidents or air-raid damage, and on all tugs and barges remaining in the Sea of Azov.[310] However, given the dearth of labour resources and the unpredictability of war and the weather these demands were simply too unrealistic. Nevertheless, Hitler did acknowledge the importance of Sevastopol' and ordered that construction work carried out here should only concentrate on the naval facilities.[311]

---

[306] 'Arbeitskräfte für Werften. (Bau und Reparatur von Kriegsschiffen)/Prioritäten' (3 July 1942), ibid., p. 262.
[307] 'Kräftebedarf für das Kriegsmarineprogramm' (22 July 1942), BA-MA RW 19/963, fol. 10, 11.
[308] Geoffrey Jukes, *Hitler's Stalingrad Decisions* (Berkeley, CA, 1985), pp. 50-1.
[309] 'Kriegstagebuch des Admiral Schwarzes Meer vom 1. August 1942 bis 30. November 1942', BA-MA RM 45-V/115, fol. 25. Admiral Schwarzes Meer was the designation given to the naval commander who had previously held the title of head of the Deutsche Marinemission in Romania. The command was responsible for all naval units on the Black Sea and the Sea of Azov as well as the ground troops on the adjacent coastlines. It was directly subordinate to Marinegruppenkommando Süd and its commanders in 1942 were Vice Admiral Friedrich-Wilhelm Fleischer (5.4.41-2.5.42), Vice Admiral Hans-Heinrich Wurmbach (15.5.42-14.9.42) and Vice Admiral Robert Witthoeft-Emden (10.11.42-1.2.43).
[310] 'Kriegstagebuch Marine-Gruppenkommando Süd', BA-MA RM 35-III/36, fol. 25.
[311] 'Lageübersicht vom 17.-30.9.42, Mittelmeer–Ägäis–Schwarzes Meer', BA-MA RM 7/115, fol. 226.

Even when ships finally did manage to offload their cargo it was not always the end of the logistics headache. It was often the case that when one problem was solved another would take its place. On 12 November the quartermaster of 17th Army noted that due to the poor condition of the roads after continuous rainfall all landward traffic to the Taman' Peninsula had been suspended. There were over 500 tonnes of provisions lying here which could not yet be moved on to the troops. Six days later 140 tonnes were ferried up the river Kuban' because they could not be transported from Temrjuk by road.[312]

According to Ruge, much was achieved in improving conditions in the Black Sea area with respect to the naval situation in 1941 and 1942. These efforts, however, constantly came up against opposition from the naval staff, which wanted to concentrate primarily on targeting Allied shipping.[313] The Navy was never particularly interested in the Black Sea and felt that its priorities lay elsewhere. Nevertheless, by the end of February Hitler had realized the need for strengthening in this area before the planned attack on the Crimea and acted accordingly. Within a short time the Navy high command reported that there would be 6 German E-boats, 3 submarines, 12 minesweepers and 14 armed trawlers in the region by the beginning of May. To this would be added 4 (later 6) Italian motor torpedo boats, 6 smaller submarines and 4 torpedo boats. This amounted to an extraordinary increase in effort, which Hitler both instigated and saw through to its conclusion.[314]

Schuster later noted that Hitler put great emphasis on the Navy's support of land operations and that it was imperative that all available forces be used in the Sea of Azov for this purpose. Land operations, Schuster concluded, must not be compromised because of supply problems encountered by the Navy.[315] Even still, 17th Army noted that the shipment of supplies would always be determined by the weather, suggesting that it could therefore not depend on this alone.[316] Indeed, the operations staff of the Navy had noted at the beginning of the year that increased activity on the part of the Soviet fleet could, at any moment, put *all* transport by sea into question.[317] This worst-case scenario actually became reality on 11 June when all supply traffic on the Black Sea was suspended indefinitely because of the loss of the

---

[312] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17', BA-MA RH 20-17/591, fol. 63, 64, 66.
[313] Cited in Marolda, 'Failure of German World War II Strategy', p. 42.
[314] Ibid., p. 44.
[315] 'Kriegstagebuch Marine-Gruppenkommando Süd' (21 July 1942), BA-MA RM 35-III/32, fol. 42.
[316] 'Übersicht über die Versorgungs-Lage der 17. Armee, Stand 27. Oktober 1942', Anlage 10 (Verkehrs-Lage), BA-MA RH 20-17/595, fol. 542.
[317] 'Versorgungsnachschub für das Schwarze Meer' (31 January 1942), BA-MA RM 7/938, fol. 223.

largest transport ship off the port of Odessa through enemy action.[318] Despite all this, however, until the end of 1942 transport and supply demands were met. All tasks assigned to the Navy were largely fulfilled, thanks in no small part to the initiative of enterprising commanders in the theatre.[319] The table overleaf gives an indication of the rapid increase between early and late 1942 in the amount of supplies which were ferried across the Black Sea[320]:

[318] 'Wehrwirtschaftlicher Lagebericht Nr. 5, Juni 1942', p. 4, BA-MA RW 29/58. The ban on seaborne traffic was subsequently lifted.
[319] Salewski, *Seekriegsleitung*, vol. 2, p. 384.
[320] *Notes*: 'Black Sea' (*Table 16*: Supplies Shipped on the Black and Baltic Seas, April 1941 to February 1943) includes data for the Sea of Azov, 'Baltic Sea' excludes data for Finland. The figure of 84 ships (Coastal Traffic) for the Black Sea to the end of March 1942 is a discrepancy in the original records. All figures to the end of November 1942 exclude losses due to enemy action and so on (i.e. they represent actual amounts *shipped*). The figures for April 1941 to February 1943 in black are actual amounts *delivered*; figures in red are *losses*: '1942 Seetransportleistungen für die deutsche Wehrmacht', BA-MA RM 7/95, fol. 238; '1942 Seetransportleistungen für die deutsche Wehrmacht', BA-MA RM 7/2156, fol. 219-21; '1942 Seetransportleistungen für die deutsche Wehrmacht', BA-MA RM 7/96, fol. 367; 'Seetransportleistungen für die deutsche Wehrmacht, November 1942', BA-MA RM 7/230, fol. 26-8; 'Seetransportleistungen für die deutsche Wehrmacht, Februar 1943', BA-MA RM 7/1422, fol. 99-106.

		Troop and Supply Transports		Warships		Coastal Traffic		Unrestricted Passage	
Region	Time	Number of Ships	Supplies (tonnes)	Men	Supplies (tonnes)	Number of Ships	Supplies (tonnes)	Number of Ships	Supplies
Black Sea	**To end Jan. 1942**	**29**	**53,896**	-	-	**107**	**4,689**	-	-
Baltic Sea	To end Jan. 1942	93	26,969.7	-	-	370	114,633	59	49,430
Black Sea	**To end March 1942**	**30**	**54,186**	-	-	**84**	**5,125**	-	-
Baltic Sea	To end March 1942	98	28,943.5	-	-	370	114,633	59	49,430
Black Sea	**To end June 1942**	**98**	**149,833**	-	-	**449**	**20,538**	-	-
Baltic Sea	To end June 1942	117	32,553.2	-	-	384	132,662	111	103,379
Black Sea	**To end Nov. 1942**	**283**	**364,423**	**114,023**	**15,849**	**3,521**	**236,566**	-	-
Baltic Sea	To end Nov. 1942	140	35,359.9	-	-	415	154,960	238	310,404
Black Sea	**April 1941 to Feb. 1943**	**327**	**425,731**	**176,389**	**40,387**	**4,031**	**320,540**	-	-
Black Sea (Losses)	**April 1941 to Feb. 1943**	**8**	**14,892**	-	-	-	-	-	-
Baltic Sea	Apr 1941 to Feb. 1943	140	35,359.9	-	-	421	157,506	299	387,573
Baltic Sea (Losses)	April 1941 to Feb. 1943	-	-	-	-	3	200	-	-

The Navy also played its part in the economic exploitation of the Soviet Union, thereby reducing its capacity to supply the German Army. In 1942 a total of 1.295 million GRT of cargo were shipped on the Black Sea, most of which needed some sort of naval escort.[321] In the first seven months of the year this included 647,388 tons of oil transported to Germany by boat (compared to 658,514 tons by rail). By the end of the year all available tonnage was being used to its fullest, so much so that some transports had to be delayed due to the shortage of cargo vessels.[322]

The constant threat from the Soviet naval forces was also a significant hindrance. Only from the beginning of September when the Soviets retreated from the Taman' Peninsula and their naval forces were either scuttled or moved up the rivers Don and Kuban' could the Germans really concentrate on transport and minesweeping duties. This in turn led to a large percentage of supplies eventually being transported across the Kerch' Strait to Army Group A.[323] Even still, the Navy reported lively and increased Soviet activity from surface forces and submarines throughout October which concentrated on supply routes in the western areas of the Black Sea, especially around the mouth of the Danube.[324] Hitler was therefore constantly wary of losing large amounts of supplies due to the sinking of Axis shipping.

As with the railways, the Germans also had to assist their allies with supply by sea, and not just in the Russian theatre. At the end of January the Quartermaster General of 1. Skl. reported that ships could not be taken from the Aegean Sea as the transport difficulties in this region could not be 'remotely mastered' (*im entferntesten bewältigt*). The Italians, however, rebuffed a German approach for assistance by suggesting that they could not afford to part with a single vessel.[325] Several weeks later a WiRüAmt report showed that the Kriegsmarine could not undertake large-scale operations because, firstly, it had to give fuel to the Italian Navy for convoy protection, and, secondly, by the end of 1941 its fuel supply was already under its quota.[326] By the beginning of April German stocks of fuel oil for the Navy were down to 150,000 tons, while deliveries from Romania had dropped from 46,000 tons to a

---

[321] BA-MA RM 7/186, fol. 264 (map). The total amount of sea traffic to and from Norway for the same period was 15.9 million GRT (which included everything from Finnish nickel to Norwegian fish). The potential dangers of supply by sea can be seen from the fact that in 1942 Germany lost 13% of its merchant fleet over 400 GRT sunk and 17% damaged.

[322] 'Wehrwirtschaftlicher Lagebericht Nr. 7, August 1942' (1 September 1942), p. 2, BA-MA RW 29/57.

[323] Meister, *Seekrieg*, p. 261. A *Seilbahn* (cableway) was constructed over the Kerch' Strait in September, which had a load capacity of 800 tonnes.

[324] 'Lageübersicht vom 1.-15.10.42, Mittelmeer–Ägäis–Schwarzes Meer', BA-MA RM 7/115, fol. 235; 'Lageübersicht vom 16. bis 31.10.42, Mittelmeer–Ägäis–Schwarzes Meer', BA-MA RM 7/115, fol. 246.

[325] 'Versorgungsnachschub für das Schwarze Meer' (27 January 1942), BA-MA RM 7/938, fol. 224, 225.

[326] 'Versuch einer Darlegung der Gesamtproblematik unserer Treibstoffversorgung im Kriege unter Verzicht auf die Darstellung der Einzelheiten' (16 February 1942), BA-MA RW 19/202, fol. 37.

mere 8,000 tons per month. This amount had been promised to the Italians for their operations in the Mediterranean and was given to them. That month the allocation for both navies was slashed from 97,000 tons to 61,000 tons. Submarines and pocket battleships used diesel and were therefore not affected.[327] Two months later the Commander-in-Chief of the Navy (Raeder) asked Hitler to refuse the latest requests from the *Comando Supremo* for fuel oil as they were impossible to fulfil. Hitler consented.[328] Even the lesser partners were not always prepared to help with tasks which were vitally important for supply efforts. During Raeder's report to Hitler on the naval situation on 13 April it was noted that the Crimean coast could not be mined as intended for the moment because the Romanians had refused to release naval units for this purpose.[329]

Hitler once expressed the view that on land he was a hero but on the sea he was a coward.[330] He was not, however, completely ignorant of naval matters and was willing to listen to his commanders when he believed that the information put before him warranted particular attention. His concentration of forces in Norwegian waters has often been interpreted as a lack of understanding of naval strategy, yet there was strong evidence to suggest that this region could become a target for an Allied landing. Marinegruppenkommando Süd – despite being outnumbered and outgunned by its adversary in the Black Sea – believed that the Russian theatre should be subordinate to the struggle against the Anglo-Saxon powers, with only a modest number of ships and a defensive posture in the east.[331] Indeed, early in 1942 the Intelligence Department of the Naval War Command (3. Skl.) came to the conclusion that enemy intentions with respect to a landing in northern Norway during 1942 were very real and could have potentially very serious repercussions for German strategy as a whole. This staff – in contrast to the Operations Department – was fully convinced that it was correct to concentrate naval forces in this area.[332]

Hitler's insistence on a strong submarine arm stemmed from the fact that naval operations were the only way that he could engage both the United States and Great Britain as long as their ground troops remained out of reach away from continental Europe. In the

---

[327] Hitler, *Fuehrer Conferences*, p. 274. During Operation Cerberus alone 20,000 tons of fuel were consumed in just two days (11-13 February 1942). This action saw a squadron of German ships (including the battleships *Scharnhorst* and *Gneisenau* and the heavy cruiser *Prinz Eugen*) run the British blockade in the Channel and return safely to home ports. It is commonly known in Britain as the Channel Dash.
[328] Ibid., p. 285 (15 June 1942). Raeder was Commander-in-Chief of the Navy from October 1928 until January 1943. The *Comando Supremo* was the High Command of the Italian Armed Forces.
[329] Ibid., p. 273.
[330] Cited in Dülffer, 'Wilhelm II. und Adolf Hitler', p. 49.
[331] Marolda, 'Failure of German World War II Strategy', p. 42.
[332] Cited in Salewski, *Seekriegsleitung*, vol. 2, pp. 9-10 (22 January 1942).

Soviet Union, on the other hand, the Army took precedence. Its supply could best and most safely be assured by using the railways. Also, any available shipping tonnage was needed to bring much needed agricultural produce and industrial material back to Germany in order to help it sustain itself during the Allied blockade. It was primarily for these reasons that supply via the Black Sea was destined to take on a less significant role than supply on land.

Hitler began to prepare the German transport network for war as soon as he came to power. With his attention set on eastward expansion, this work was then expanded to Poland once it had been defeated and occupied in a campaign lasting five weeks. However, complacency on the part of practically everyone in the Army high command with regard to railway logistics led to catastrophic consequences at the gates of Moscow at the end of 1941. Hitler therefore initiated a massive increase in locomotive production and the acquisition of wagons for Blau while simultaneously ensuring that provisions made for the transport of Holocaust victims eastward did not interfere with military deployments. Titanic efforts to keep the railways operational continued as Army Group A raced towards the Caucasus.

Logistics were further strengthened by efforts to enhance the capacity of the Soviet road network through large-scale construction programmes and through a drive to increase the amount of fuel and the number of motor vehicles available to the southern armies for Blau. As with the railways, work on the roads continued unabated as the Germans advanced into the North Caucasus and beyond.

Airlifts and supply by sea also played a significant role in German successes during Edelweiß, and Hitler was instrumental in securing as much aircraft and shipping cargo space as the Luftwaffe and Kriegsmarine could provide. His recognition of the importance of seaborne logistics in particular was crucial during this campaign, though this is generally ignored by historians.

Chapter 5: Military Intelligence and FHO

Like the catalyst in a chemical reaction, intelligence – with its intangible output – is known to be a vital constituent of the process it influences so critically, but its precise function is difficult to isolate and measure with accuracy.

Michael I. Handel[1]

Introduction

The ultimate goal of military intelligence is the prevention of 'unpleasant surprises'.[2] As important as the topic is to the military profession, however, it is only in the past few decades that it has become the subject of proper research.[3] Perhaps one of the main reasons for the dearth of writing on military intelligence is that it is not a subject which fires the imagination as others might do. Military historians have justifiably tended to concentrate instead on strategy, operations and the political events which have been the catalysts of military action. Nevertheless, its potential influence on the outcome of conflicts should not be overlooked. Intelligence is a 'primary function' of war which is critical for its rational execution.[4]

The modern concept of intelligence emerged as late as 1914 with the advent of aerial imagery and radio interception.[5] At this stage in their development, European armies were fixated on the notion that attack is the best form of defence. However, military leaders espoused Clausewitz's maxim which decreed that the offence is 'complete in itself', suggesting that it does not require knowing much about one's enemy. Thus, even though intelligence evaluation had become a recognized discipline within the occupation of arms, it was not well regarded.[6]

Official army texts have consistently tended to treat military intelligence as a secondary field of work, even though observers agree that it is important if operations are to succeed. It

---

[1] 'Intelligence and Military Operations', in *idem* (ed.), *Intelligence and Military Operations* (London, 1990), p. 32.
[2] Hugh Bicheno, 'Military Intelligence', in Richard Holmes (ed.), *The Oxford Companion to Military History* (Oxford, 2001), p. 447.
[3] Heike Bungert, Jan G. Heitmann and Michael Wala (eds.), *Secret Intelligence in the Twentieth Century* (London; Portland, OR, 2003), p. xix.
[4] Lloyd Hoffman, 'Military Intelligence', in Trevor N. Dupuy (ed.), *International Military and Defense Encyclopedia*, vol. 3 (Washington; New York, 1993), p. 1307.
[5] Bicheno, 'Military Intelligence', pp. 447, 448.
[6] David Kahn, 'The Rise of Intelligence', *Foreign Affairs*, 85 (5) (Sep.-Oct., 2006), p. 129.

is indicative of twentieth-century thought on the matter that there is no mention of intelligence in the British Army's 'Principles of War' section in its 1989 manual *Design for Military Operations – The British Military Doctrine*. In fact, the publication stresses the dangers of too *much* intelligence as opposed to too *little*.[7] Nevertheless, it can be argued with respect to intelligence during the Second World War that the few people involved in it achieved a great deal for their efforts, which was certainly incommensurate to the limited recognition which they later received.[8] Quite exactly what these attainments amounted to, however, is a moot point. The impact that intelligence can have on operations is the most important question which students of the subject must approach.[9]

This chapter will focus primarily on the work carried out by the intelligence service of the German Army on the Eastern Front and the influence which it had on Hitler's strategic and operational decision-making.

Clausewitz and Intelligence

All great military thinkers of the past have noted the importance of intelligence in the conduct of war. Clausewitz was no exception, though his advocacy of its influence on operations was not as complete as that of other observers.

One of his more important contributions to the study of war was that he recognized the critical roles of 'uncertainty', 'chance' and 'friction' – issues which are still very much of relevance today. Nevertheless, he was careful to caution his readers that reliance on intelligence could become an 'unjustified act of faith'.[10] Indeed, he went so far as to claim that 'most intelligence is false', adding that men prefer to give more credence to 'bad news than good, and rather tend to exaggerate the bad news' – a psychological anomaly which had to be countered by the commander who must 'stand like a rock on which the waves break in vain'. According to Clausewitz, the best defence a planner of an operation can have against a loss of confidence in his decision-making is his own self-reliance against the stress which he often finds himself under.[11]

He realized too that a dearth of accurate intelligence would more often than not make a

---

[7] Cited in Michael Herman, *Intelligence Power in Peace and War* (Cambridge, 1996), p. 139 (plus note 9).
[8] Handel, 'Intelligence and Military Operations', p. 33.
[9] David Kahn, 'World War Two History: The Biggest Hole', *Military Affairs*, 39 (2) (Apr., 1975), p. 76.
[10] Handel, 'Intelligence and Military Operations', pp. 8, 3
[11] Clausewitz, *On War*, pp. 117, 118.

commander *too* cautious, resulting in a preference for the 'paralysis of worst-case analysis' over the dangers of calculated risks. Clausewitz therefore admonished the tendency to succumb to less adventurous, 'safer' options – courage and self-confidence were needed by the commander in order to counter uncertainty.[12] He also emphasized intuition and willpower as important metaphysical foundations on which a general should base his decisions.[13] He argued that the military genius, or 'artistic intuition', of the commander must be cultivated in order to offset a lack of reliable intelligence.[14]

Consumer and Analyst

The relationship between consumers of intelligence (i.e. policymakers) and their analysts has been fraught with distrust and antagonism since the dawn of warfare. It is not surprising that consumers tend to be 'decisive and confident', whereas analysts tend to distrust those whom they serve and the power that they exercise. The former dislike uncertainty and complication because they impede decision-making, whereas the latter believe that the world is essentially abstruse and that it is their duty to reflect this as faithfully as possible.[15] It is only human, however, that people who use intelligence tend to choose the information given to them both consciously and unconsciously. Whether the consumer opts for single-source material or all-source assessment, he normally comes to a judgement on intelligence which is influenced by his own prejudices.[16]

Policymakers tend to limit the alternatives under consideration and then satisfy themselves (known as 'satisficing' in intelligence jargon) in the belief that the decisions which they come to will serve their own purposes.[17] They want all the facts as opposed to forecasts and warnings, and most are opposed to having analysts who deal in estimations. They prefer to interpret these facts themselves because they feel that the analysts do not have any more expertise in such matters than they have. In essence, they choose to be their own

[12] Handel, 'Intelligence and Military Operations', pp. 9-10.
[13] Herman, *Intelligence Power*, p. 137.
[14] Handel, 'Intelligence and Military Operations', pp. 13-4.
[15] K. L. Gardiner, 'Squaring the Circle: Dealing with Intelligence-Policy Breakdowns', in Christopher Andrew, Richard J. Aldrich and Wesley K. Wark (eds.), *Secret Intelligence: A Reader* (London, 2009), pp. 129-30.
[16] Herman, *Intelligence Power*, p. 142.
[17] Ibid., p. 141 (note 17).

analysts.[18]

The consumer will seldom give up on an objective which he has set for himself, even if his analyst suggests otherwise, and will give himself whatever time is necessary to achieve it, notwithstanding the possibility of setbacks along the way. If he does not reach his goal immediately, he will usually keep his options open in order to allow him to convince himself that it will still be attainable at some later point. He will therefore avoid for as long as possible the notion that he has to make a trade-off between different objectives.[19]

When a decision has been made, the policymaker has developed a strong sense of the correctness of his judgement, even if this has not been accepted by those around him. At this point his interest in information and (especially) analysis will have narrowed considerably: he now only wants to hear facts which are pertinent to the decisions which he has made. It is at this stage too that he will probably tend to resist evaluations which might oblige him to reconsider his choice of action.[20] This is a recurring theme throughout history, especially where dictatorships are concerned. Habits of collaboration and frankness are usually underdeveloped in authoritarian states, given the competition which inevitably emerges between protagonists in their rise to power.[21]

The effects of intelligence have in large part to do with the personal chemistry between consumer and analyst. Even the Western democracies were not immune from such issues. It has been suggested that the record of Allied leaders with respect to their handling of intelligence was not one which they could be particularly proud of. They too suffered from a lack of training, were cautious because of earlier failures, and were strongly influenced by domineering subordinates determined to have their own way.[22] It was exactly this latter scenario which Clausewitz had cautioned against.

Information given to a commander should be of both a positive and negative nature. Intelligence is failing if it does not produce some particulars which the consumer will undoubtedly regard as undesirable and contradictory to his own views: in other words, all intelligence work needs *some* 'worst-case' analysis. However, the military inclination towards this type of negative appraisal usually gives a tendency to exaggerate the enemy's

---

[18] Woodrow J. Kuhns, 'Intelligence Failures: Forecasting and the Lessons of Epistemology', in Richard K. Betts and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003), pp. 94-5.
[19] Gardiner, 'Squaring the Circle', p. 132.
[20] Ibid., p. 133.
[21] Michael I. Handel, 'Intelligence and the Problem of Strategic Surprise', in Richard K. Betts and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003), p. 27.
[22] The opinion of historian Harry C. Deutsch, cited in Herman, *Intelligence Power*, p. 142.

capacities.[23] The analyst becomes circumspect and fatalistic, leading to a worst-case assessment of the situation which then exonerates him of culpability if events do not develop as expected. This can often have grave repercussions for military operations.[24]

It has been posited that instead of fact-based analysis there should now be a move towards intuition, while 'worst-case' and 'warning-focused' predictions should instead become 'opportunistic' and 'optimistic'. The analyst should try to make an impact on policymaking rather than indulge in 'analytic detachment'.[25]

Fremde Heere Ost

Fremde Heere Ost (Foreign Armies East, FHO) was established on 10 November 1938 as the 12th Department of the German General Staff under the control of the Quartermaster General of the Army. From November 1938 to March 1942 it was under the direction of Lieutenant-Colonel (later General) Eberhard Kinzel. On 1 April Halder replaced Kinzel with Lieutenant-Colonel (later Major-General) Reinhard Gehlen, who held this position throughout the war until 10 April 1945, when he was dismissed by Hitler.

When Gehlen assumed command of FHO he immediately began to improve the organization by instituting standardized procedures for the gathering and assessment of disparate facets of the Red Army such as force composition, deployments, losses in both personnel and *matériel*, and armaments production. During the first year of war FHO had not felt the need to issue written estimates of the enemy situation because Soviet operational activity was entirely dependent on German strategy. Consequently, the department limited itself to producing a single daily situation report on the enemy for the General Staff. This dearth of important estimates of enemy strengths, weaknesses and intentions had had a negative effect on the Army's operational planning. Under its new chief, however, FHO continuously refined its evaluations of Soviet front-line units and strategic reserves.[26]

Gehlen – a hard-working and creative officer – turned the organization into one which did not merely locate and count enemy units: it also began to offer opinions as to probable enemy actions, which were then frequently seized upon by the Army Chief of Staff. He

---

[23] Herman, *Intelligence Power*, p. 247.
[24] Handel, 'Intelligence and the Problem of Strategic Surprise', p. 21.
[25] Carmen Medina, 'What To Do When Traditional Models Fail', in Christopher Andrew, Richard J. Aldrich and Wesley K. Wark (eds.), *Secret Intelligence: A Reader* (London, 2009), pp. 112-13.
[26] David Thomas, 'Foreign Armies East and German Military Intelligence in Russia, 1941-45', *Journal of Contemporary History*, 22 (2) (Apr., 1987), pp. 280, 289.

reported twice a day to Halder, who in turn would incorporate this information into his own two daily meetings with Hitler. The latter would then utilize or ignore the information in order to make his decisions on the strategic and operational conduct of the war.[27]

Perhaps the most unfortunate disadvantage for FHO in terms of carrying out its duties was the quality of its personnel. The precedence of operations within the German Army meant that less qualified officers tended to be assigned to intelligence work.[28] Originally, all these men were members of the General Staff, though later these posts began to be filled by reservists and officers who had not had specific training in this type of work. Only shortly before the outbreak of war did Halder make the Ic (chief intelligence officer) of a division the equivalent rank of the Ia (chief of operations) in order to enhance the former's prestige and influence at headquarters. Indeed, once the war had begun he emphasized the increased need for proper training among the officers who would go on to be the chief intelligence officers of larger formations.[29]

The Ic-AO (*Abwehroffizier*, counter-espionage officer) was normally a young captain at corps level, who also acted as the Abwehr representative in addition to his role as intelligence officer.[30] However, the men in these positions had a difficult task trying to analyze the information which they received. As a consequence, the 'mosaic' of data which they ultimately produced could never be absolutely faultless.[31] FHO was further constrained by the fact that Gehlen was possessed of an inflated sense of self-assurance and infallibility. Once he had formulated an idea about the enemy, he could not be disabused by any information which contradicted his interpretation. Not unlike the consumers whom he served, he was proof that senior intelligence officers can be deceived most easily by their own opinions.[32]

---

[27] Kahn, *Hitler's Spies*, pp. 429, 432, 436.
[28] Handel, 'Intelligence and Military Operations', p. 83.
[29] Kahn, *Hitler's Spies*, pp. 405-6. The three important positions on a German staff (besides the chief) were Ia (operations officer), Ib (logistics) and Ic (intelligence).
[30] Gehlen, *Dienst*, pp. 43-4.
[31] Wilhelm, 'Prognosen', p. 22.
[32] Thomas, 'Foreign Armies East', pp. 290-1.

When Hitler came to power he dramatically increased funding for the Abwehr, turning it from an agency primarily responsible for internal affairs into a proper military intelligence agency with a new focus on foreign policy. He had been optimistic about the future of the agency and had plans to model it along the lines of the British Secret Service.[33] This never became a reality, however, especially where the Soviet Union was concerned. No serious attempt at strategic espionage was ever made by the Abwehr here, despite the fact that there were many elements in the country that were intensely antagonistic towards the Stalinist regime.[34] Hitler was aware of the deficiencies of the service and was critical of the Abwehr, even if he never expressly said so. He felt that Soviet intelligence was far more accomplished than its German counterpart, a fact shown by the failure to detect the existence of the Soviet T-34 tank despite this weapon having been used against the Japanese in the Far East.[35]

Hitler's ambivalence towards intelligence work in general was evident in his remark that only a genius could correctly guess at the intentions of the enemy and act accordingly, but that such a person would never waste time on such banausic details.[36] Some observers have therefore surmised that he was inclined to ignore the facts and figures presented to him by FHO, irrespective of whether they were deemed to be accurate. Schramm was emphatic in his conviction that crucial intelligence information was not even reaching Hitler, further suggesting that FHO had practically no more influence on him from 1942 onwards.[37] This, however, is merely an attempt to portray Hitler as a dilettante who refused the good counsel of more competent professionals. He is reported to have spent eight hours a day reading reports and memoranda on different issues from a wide range of sources.[38] It is simply incorrect to claim that he did not receive the most important information which had been gathered and analysed by FHO. What *is* true, however, is that he was hampered in his decision-making by sycophants who selected specific information which they believed he

---

[33] Ludwig Richter, 'Military and Civil Intelligence Services in Germany from World War I to the End of the Weimar Republic', in Heike Bungert, Jan G. Heitmann and Michael Wala (eds.), *Secret Intelligence in the Twentieth Century* (London; Portland, OR, 2003), pp. 6-7.
[34] Kahn, *Hitler's Spies*, p. 460.
[35] Wilhelm von Schramm, *Geheimdienst im Zweiten Weltkrieg* (Munich, 1979 [1974]), p. 255. The T-34 was a medium tank, which was first deployed by the Red Army in 1940. It was not, as the former intelligence officer Schramm suggests, used in the battles of Khalkhin-Gol the previous year (part of the border dispute in Mongolia between the Soviet Union and Japan, fought from 11 May to 16 September 1939).
[36] Cited ibid., p. 261.
[37] Ibid., pp. 33-4.
[38] Kahn, *Hitler's Spies*, p. 537.

wanted to hear.[39]

This, perhaps, was an inevitability. Though the intelligence given to Hitler was unsound and deficient, the notion of what the sociologist Max Weber called 'charismatic authority' ensured that this would happen. Hitler stood at the apex of the intelligence pyramid and was privy to every piece of information, whereas his subordinates saw only part of the picture.[40] This was sufficient reason for him to feel that he knew more than anybody else and hence was in the best position to do what he felt was correct. His subordinates knew what he wanted to hear; they substantiated his views with favourable reports and supported his opinions during situation conferences.[41]

There is one major setback, however, which will always hamper the judgement of the policymaker. The proper use of intelligence is an art in itself, but there are few opportunities to learn it. Previous experience in this type of work is important.[42] Many historians have pointed to the obvious fact that Hitler had never commanded so much as a regiment before he became Supreme Commander of the German Armed Forces. However, he explained to his then Chief of Staff (Guderian) towards the end of the war that he had been commanding German armies in the field since 1939 and therefore had more experience than any of his generals.[43] This did not merely involve taking decisions and having them carried out (as a political leader would usually do): he was also deeply involved in all military aspects of the campaigns which he conducted, including the analysis of intelligence.

FHO Estimates of Soviet Formations

The issue of FHO estimates regarding Soviet front-line and reserve formations from the end of 1941 up to and including Blau has been outlined elsewhere.[44] This section will primarily consider the estimates from summer 1942 to the end of the year, with some initial reflection on the work conducted in the period prior to this.

An indication of the difficulties faced by German military intelligence is evidenced by the fact that, six months prior to the outbreak of hostilities, FHO had calculated that the Soviet peacetime army numbered two million men, rising to four million once Barbarossa

[39] Handel, 'Intelligence and the Problem of Strategic Surprise', p. 27.
[40] Kahn, *Hitler's Spies*, p. 536.
[41] Ibid., p. 538.
[42] Herman, *Intelligence Power*, p. 46.
[43] Heinz Guderian, *Panzer Leader* (New York, 1996 [1952]), p. 378.
[44] See Wegner, 'Krieg gegen die Sowjetunion', pp. 796-804.

had begun. These estimates, however, were completely fallacious: the peacetime figure already stood at four million, rising to over five million shortly after the conflict had begun.[45]

It was no secret that the task of trying to gather information on the enemy was particularly onerous. On 23 January 1942 the OKH informed the German military attaché in Ankara that intelligence work against the Soviet Union had become extremely difficult, even 'impossible' at times. Only the situation at the front and in the Soviet rear operational area could be ascertained, pieced together from statements made by captives willing to give information. However, the Abwehr could only compile what the Army termed imprecise, mostly irrelevant data about activity in the interior, about military and political measures or intentions (especially with respect to the performance of the enemy's armaments industry), and about the *matériel* and personnel reserves of the Soviet Union.[46] Some weeks later FHO informed Halder that the following could not be established with any degree of certainty: the total number of men in the Soviet Union who were eligible for military service, enemy losses up to that point, the number of males currently in the German-occupied areas, and the number of men needed to maintain Soviet industry. The report added that the enemy would more than likely be able to activate no more than sixty new rifle divisions for the coming campaign.[47] FHO had not bothered to acquire much of this type of information before 1942 because it had been convinced – like just about everybody else – that the campaign against the Soviet Union would be a swift one.[48] It had become apparent to the Germans now, however, that they would have to improve their intelligence-gathering if they were to obtain more reliable information in future.

As the initial stages of planning for Blau were being discussed and finalized, FHO actually noticed a decrease in Soviet forces around Moscow between December 1941 and March 1942, with an attendant increase in units facing Army Group South. The following table shows the estimated figures of Red Army units facing German Army Group Centre and South on two separate dates during this time:

---

[45] Kahn, *Hitler's Spies*, p. 459.
[46] BA-MA RH 2/2921, fol. 24, 25.
[47] 'Mit wie vielen russischen Verbänden müssen wir Anfang Mai ds. Jrs. rechnen?' (15 February 1942), BA-MA RH 2/2582, fol. 53.
[48] Wegner, 'Krieg gegen die Sowjetunion', pp. 798-9.

Table 17: FHO Estimates for Army Group Centre and South, 20 December 1941 and 14 February 1942

Army Group	Date	Rifle Divisions	Rifle Brigades	Cavalry Divisions	Tank Brigades
Centre	20 December	131	0	19	24
Centre	**14 February**	**96**	**35**	**15**	**22**
South	20 December	57	0	15	7
South	**14 February**	**74**	**10**	**16**	**18**

Just under a month later (8 March) there seemed to be an even larger increase in rifle divisions moving into the southern sector: 83 facing Army Group South, with only 91 now facing Army Group Centre.[49]

Despite the implications of such figures, it has been well documented that Stalin was persistent in his belief that the German summer offensive would be launched against Moscow.[50] Nevertheless, it is pertinent to give a brief summary of the type of information that the Soviet leader was receiving at this time. A report from the Main Intelligence Directorate of the Red Army (GRU) dated 18 March suggested that the main effort of the German summer offensive would be switched from the Moscow axis to the southern front, with ancillary attacks in the northern and central sectors. The most likely time for the attack would be mid-April to the beginning of May. Five days later this organization informed the State Defence Committee (GKO) that the main attack would have Stalingrad and the North Caucasus region as its targets, with the Caspian Sea as its ultimate objective. In the event of a successful campaign in the south, the Germans would then turn north along the Volga and launch their main attacks on Moscow and Leningrad (St Petersburg), as taking these two targets was seen as a matter of prestige by the German high command. On 26 March the GRU gave the Deputy Chief of Staff (Lieutenant-General Aleksandr Vasilevskij) a report on how the British believed the war would develop in the coming spring and summer. The

[49] 'FHO Feindbild', BA-MA RH 2/2094, fol. 36, 92, 114.

[50] For a summary of why Stalin had reason to believe that the German offensive would happen in the centre of the front (including the German deception plan, Operation Kreml, discussed below) and the fact that Soviet military intelligence was often giving him diametrically opposed information, see V. V. Beshanov, *God 1942: 'Uchebnyj'* (Minsk, 2003), pp. 244-7.

contents of this document – seconded by the military command and the Ministry of Foreign Affairs – now suggested that the Germans would only conduct large-scale operations on the southern wing, with the oilfields of the Caucasus as their target.[51]

In the meantime, the Germans were busy with their own strategic intelligence. On 20 March Kinzel wrote to the chief intelligence officer of each army group on the Eastern Front that there was absolutely no doubt that the Soviets still had certain reserves, which were currently being activated. In reports gleaned from disparate sources the original number of sixty new rifle divisions which had first been suggested as their maximum potential continued to be mentioned. It was also suggested that Russian industry was producing 300 light, 200 medium and 100 heavy guns a month, in addition to 550 medium and 350 heavy tanks. Significantly, however, Kinzel suggested that the production of weapons would *decrease* over time because of the dearth of coke and the distances involved in transporting the raw materials needed for their construction. The number of guns being produced a month seemed to support the conviction that the Soviets would activate 50-60 new rifle divisions, especially if each one had six batteries. Furthermore, these new divisions would have poorly trained men, few officers, and would be poorly equipped in terms of infantry weapons and artillery.[52] FHO seemed content to allow new information to fit into the general impression of Soviet potential which it had already formed up to that point.

On 23 March the department reported its initial findings on this information to Halder. Significantly, it concluded that Soviet manpower was far from inexhaustible, but rather 'almost completely drained'.[53] It was posited that the number of men eligible for conscription would be 9.77 million by 1 June, while the authorized strength of the armed forces currently stood at 7.8 million. This meant that there would be approximately 1.97 million men available as replacements (though this number would be considerably less when considerations such as nationalities deemed unreliable were factored into the figures).

---

[51] Cited in Chevela, 'Novye Ispytanija', p. 324. The GRU (*Glavnoe razvedyvatel'noe upravlenie*) was part of the Red Army General Staff and was also responsible for foreign military intelligence. It was headed by Major-General Aleksej Panfilov from February until August 1942, and by Major-General (later Lieutenant-General) Ivan Il'ichëv until June 1945. The GKO (*Gosudarstvennyj komitet oborony*) came into operation on 30 June 1941 under the chairmanship of Stalin and had eight members by early 1942. It was the most powerful organ of authority in the Soviet Union during the war, responsible for all questions concerning the governance, armed forces, economy and security of the country. Vasilevskij (promoted to Marshal of the Soviet Union on 16 February 1943) served as Deputy Chief of the General Staff as well as its Chief of Operations from 1 August 1941. He became Chief of Staff on 26 June 1942 when Marshal Boris Shaposhnikov was relieved of his position for health reasons.

[52] BA-MA RH 2/1924, fol. 4-6.

[53] Wegner, 'Tottering Giant', p. 300.

Furthermore, these reserves would only become available gradually.[54] This latter point is important because, though the numbers look impressive on paper, FHO believed that they would only be poorly trained recruits who would not all arrive at the front simultaneously. Crucially, the report concluded that the Soviets could only build up sufficient reserves at the expense of their industrial capacity or food industry. In fact, it was noted that workers from the Donbass and Moscow regions were already being called up for military service. An intercepted radio message at Voroshilovgrad (Lugansk) in the eastern Ukraine suggested that the number of workers being taken from the factories there was having an adverse effect on both the quality and quantity of production. There was also a significant dearth of skilled workers in certain cases.[55] This was bound to have dramatic consequences for the armaments industry as a whole.

With the summer offensive now only two months away, FHO concluded that the total number of Soviet units facing the Germans along the Eastern Front was 282 rifle divisions (with a suggested combat power of 152), 105 rifle brigades (37), 39 cavalry divisions (21), 2 tank divisions (⅓) and 71 tank brigades (42).[56] The figures in parentheses are significant as they suggest that the combat effectiveness of a significant number of units in the Red Army was well below 50%. If one adds to this the fact that FHO believed that these divisions were being filled with poor replacements in terms of personnel and *matériel*, it is understandable why the German high command was confident about the forthcoming battles. It is interesting to note that the actual strength of the Soviet forces (excluding Karelian Front in the far north and 23rd Army facing the Finns) was not too dissimilar to the German estimates: 296 rifle divisions, 92 rifle brigades, 31 cavalry divisions and 81 tank brigades.[57]

Nevertheless, instances of sound intelligence work conducted by FHO were often negated by cases of stupefying failure. At the beginning of May the department compiled a report on possible Soviet intentions for the summer months. Most importantly, there was a belief that the enemy would not be in a position to carry out a major offensive and would instead content himself with attritional battles. A possible attack against Army Group Centre in order to prevent the Germans building a *Schwerpunkt* further south could be expected, as could an attack from the Voronezh–Elets area in the general direction of Kiev. Further offensives around the Izjum salient and Stalino (Donetsk) in order to hinder German

---

[54] 'Die personelle Wehrleistungsfähigkeit der UdSSR', BA-MA RH 2/1924, fol. 26; Wegner, 'Krieg gegen die Sowjetunion', p. 799.
[55] 'Die personelle Wehrleistungsfähigkeit der UdSSR', BA-MA RH 2/1924, fol. 27-9, 48.
[56] BA-MA RH 2/2577, fol. 3 (30 April 1942).
[57] Grylev (ed.), *Boevoj sostav*, pp. 79, 89 (1 May 1942).

offensive plans in these areas were also possible. Intelligence suggested that the Soviets were in all likelihood expecting an attack in the south, but that they would not completely neglect the defence of Moscow. The number of potential reserve divisions was still deemed to be sixty, though – significantly – a Swedish source had produced a figure as low as thirty-five. The report concluded that enemy plans for a major operation with far-reaching objectives had not been identified.[58] It is truly astonishing how this might be the case, given that eleven days later the Soviets set in motion an offensive which had the encirclement and destruction of 6th Army around Khar'kov as its objective. It is even more bewildering if one considers that the Soviets intended to use a force of over 765,000 men supported by over 900 tanks (more than twice as many as were available to the Germans) for this operation.[59]

On 7 May FHO produced a summary of the effects that the winter battles of the previous year had had on the Red Army. One of its most salient points was that Soviet bayonet numbers were superior to those of the Germans, but not to a significant degree (the ratio was given as 1.4:1).[60] These figures are noteworthy because they represent the number of men on each side along the entire front. However, taking into account redeployments for Blau and what FHO knew of Soviet dispositions, this would mean that the Germans could at the very least expect to be equal in numbers at the point of main effort once the offensive began.

On 21 May, in an address given (most probably by Gehlen) during a conference attended by intelligence officers, those present were beseeched not to view what they were about to hear as a definitive account of what FHO believed the Soviets were planning; rather, it was more an investigation into possible developments on the ground with the aim of giving these officers some mental stimulus for their own work. Once the aim of the Soviet military leaders the previous winter of destroying the German Army had failed, they had now resorted to a strategy of attrition. This meant attacking the thinly manned German lines at numerous *Schwerpunkte* without worrying about casualties in the hope of wearing the Germans down so much so as to spoil their offensive capability for 1942. Theoretically speaking, the enemy had the following options:

a) a counteroffensive with ambitious goals, either at the boundary between Army Group Centre and North with the aim of driving deep into the rear of the former

---

[58] 'Beurteilung der Gesamtfeindlage und ihrer Entwicklungsmöglichkeiten am 1.5.42', BA-MA RH 2/2047, fol. 5-6, 19.
[59] Glantz and House, *Gates of Stalingrad*, p. 79.
[60] 'Auswirkung des Winterfeldzuges auf die sowjetrussische Wehrkraft und Kampfführung; derzeitige Feindlage im grossen und Schlussfolgerungen', BA-MA RH 2/2047, fol. 11, 15.

towards Smolensk, or a thrust by a large operational group from Elets towards Kiev in order to cut off a retreat towards the river Dnepr by the southern flank of Army Group South

b) smaller solutions in a defensive strategy, such as the possibility of a limited offensive against Army Group Centre with the hope of tying down forces expected to be used for the main operation in the south

The offensive solutions cited in a) did not seem likely because the striking power of the Red Army was such that it would not be able to engineer wholesale frontal successes, while the reserves needed to take advantage of initial breakthroughs were not available. Indeed, the lack of operational reserves practically precluded *any* large offensive solution. FHO believed that the enemy would instead most likely opt for solution b). If the Soviets expected an attack from the southern wing of Army Group Centre in the direction of Moscow from its southern approaches, a possible Soviet operation against Army Group Centre – probably in connection with secondary operations against Army Group South – was 'not improbable' (*nicht unwahrscheinlich*). If the Soviets decided that the main German thrust would come from Army Group South, on the other hand, it was 'conceivable' (*denkbar*) that they would attack in this area with several fragmentary operations in order to drive into the suspected German concentration areas and pre-empt any attack.[61]

Positive FHO estimates indicating the end of Soviet replacements were now having a significant effect on the opinion of the German high command. Towards the last week of May Halder suspected that the Soviets had thrown practically all of their remaining reserves into battle. Hitler also seemed willing to believe the intelligence reports which he was receiving. He suspected that the final reserve left to the Soviets was the large grouping which had been identified to the south of Moscow, and he was convinced (not unrealistically) that the majority of the new divisions which the enemy had activated during the previous winter had now been lost during the recent battles on the Kerch' Peninsula (Crimea) and at Izjum (south-east of Khar'kov).[62] His conviction that these preliminary operations had wiped approximately eighty divisions from the Soviet order of battle consequently led him to

[61] 'Gedanken über mögliche russische Operationsführung (Vortrag bei Ic-Besprechung (21.5.1942))', BA-MA RH 2/3125, fol. 1, 2-3, 7-10.
[62] *KTB OKW*, vol. 2, pp. 379-80 (24 May 1942).

believe that the initial stages of Blau would now go more smoothly than originally anticipated.[63]

Intelligence reports from the front were also supporting the generally held view of the poor state of the Red Army and its waning capabilities. Four days before the launch of the offensive a report from 6th Army suggested that the enemy's defensive strength had 'abated significantly' (*wesentlich nachgelassen*) in comparison to the previous year. It further noted that it was evident from the most recent encounters that the German tank arm was clearly superior to its opponent.[64]

On the day that Blau began the figures for estimated enemy rifle divisions along the front had changed considerably from previous appraisals. Quite significantly, FHO now identified only 57 facing the massed forces of Army Group South (as opposed to 83 in the centre and 75 in the north).[65] These estimates can also be attributed to the losses incurred by the Red Army during the operations preceding Blau, confirming Hitler's suspicions. The *actual* figures for rifle divisions in the three sectors around this time were 55 (in South-Western and Southern Fronts), 125 (Kalinin, West and Brjansk Fronts) and 80 (Leningrad, Volkhov and North-Western Fronts) respectively.[66]

If Hitler was confident of success then it could be said that FHO was positively light-headed at the prospect of the victories and potential numbers of prisoners which lay ahead. On the day the offensive began it sent a memorandum to the Operations Department at the OKH outlining the possible strength of the Red Army come winter. It was stated at the outset that as a precondition to the thoughts entailed in the report it was to be presumed that the operational goal of the summer offensive would indeed be achieved by and large, but that it must also be assumed that this would not lead to the *complete* destruction of the enemy in the southern sector. FHO had counted 85 rifle divisions, 8 cavalry divisions and 23 armoured units facing Army Group South on 10 June, and to these could be added the 32 rifle divisions, 8 cavalry divisions and 3 armoured formations in the Caucasus, for a total of approximately 160 enemy formations in the southern area of the Soviet Union (from an overall total of 469 along the Eastern Front, excluding Finland). It was also presumed that the Soviets had a reserve of somewhere in the region of forty rifle divisions and a similar number of other units

---

[63] Ziemke and Bauer, *Moscow to Stalingrad*, p. 297 (25 June 1942).
[64] 'Beurteilung der Feindlage am 24.6.', BA-MA RH 20-6/174, fol. 23.
[65] 'FHO Feindbild' (28 June 1942), BA-MA RH 2/2095, fol. 91.
[66] Grylev (ed.), *Boevoj sostav*, pp. 119-27 (1 July 1942). The figures for Leningrad Front exclude the six rifle divisions of 23rd Army, which faced the Finns on the Karelian Isthmus to the north of the city. It should be noted that slight differences must be taken into account between the FHO estimates and actual figures shown above, as the boundaries of German army groups and Soviet *fronts* overlapped somewhat.

in the Russian hinterland. It was practically a foregone conclusion that the majority of these units would be sent to the southern sector once Blau was under way, giving an absolute total of approximately 200 formations expected to become operational in this area.[67] It is interesting to note that despite the department's own previous misgivings about strategic intelligence, FHO figures for Stavka reserves were actually quite realistic: the Soviets did indeed have 40 rifle divisions as a strategic reserve at the beginning of the month, as well as a combined total of 26 rifle divisions, 8 cavalry divisions and 5 tank brigades between North Caucasus and Transcaucasus Fronts.[68] With the call-up of the class of 1924, plus the addition of convalescents returning to the front, the Soviets would have a further 1.4 million men as reserves, which would make up roughly forty rifle divisions plus other units. It was suspected, though, that half of these conscripts had already been called up between January and April. Nevertheless, by winter the Soviets would still have approximately 330 rifle divisions and a similar number of other units in the field. The conclusion therefore was that the Red Army would not be sufficiently weakened to hasten a military collapse; in fact, FHO actually believed that during the winter its strength would gradually approach what it had been before the summer campaign.[69] This report certainly contained enough thought-provoking information to change the minds of those in the German military leadership who might have felt that a defensive posture was the best strategy on the Eastern Front for the remainder of the year.

FHO then turned its attention to 'probable' enemy losses for the summer campaign, which, it was admitted, were difficult to predict and would ultimately depend on how the enemy responded. Recent events had shown that he most probably would not retreat completely, even though this would be particularly unfavourable for him. Observations had suggested that he was preparing a defence in depth in expectation of a German offensive. This in turn led to the belief that the Soviets would more than likely give up some ground and then attack the advancing Germans in flank. The partial operations which were envisaged against the enemy would probably not lead to the complete destruction of the forces opposite Army Group South in the same manner as the previous year, and it could not be ruled out that the Soviets would escape these encirclements in large quantities. Nevertheless, the report continued, it seemed reasonable that a total of 80-90 enemy formations could be destroyed in

---

[67] 'Gedanken über die vermutliche Kampfkraft der sowjetischen Armee bei Winterbeginn 1942', BA-MA RH 2/932, fol. 117, 118-19.
[68] Grylev (ed.), *Boevoj sostav*, pp. 107, 113.
[69] 'Gedanken über die vermutliche Kampfkraft der sowjetischen Armee bei Winterbeginn 1942', BA-MA RH 2/932, fol. 121-2; Wegner, 'Krieg gegen die Sowjetunion', p. 863.

the course of the operation, yielding an expected figure of roughly 700-800,000 captives. It was suggested that the 55 formations destroyed at Kiev the previous summer gave an actual figure of considerably less than the 665,000 prisoners reported because of inevitable duplication as they were being processed; nevertheless, FHO now expected that almost double the number of prisoners taken at Kiev would be captured during Blau. It also anticipated that the other two army groups would knock out a further 20-25 enemy formations, giving a total of at least 100 expected to be eliminated from the Soviet order of battle during the summer offensive.[70]

Once Blau was under way, more Red Army units were appearing in the front line which were not being detected by German intelligence. On 30 June FHO reported that the enemy had 266 rifle divisions, 109 rifle brigades, 27 cavalry divisions and 85 tank brigades facing the Germans.[71] However, the actual figures around this time (excluding Karelian Front and 23rd Army) were 300 rifle divisions, 111 rifle brigades, 29 cavalry divisions and 128 tank brigades.[72] As the disparities suggest, while German estimates were very accurate for some types of formations, they were considerably flawed for others.

One month after Blau began, with German formations standing on either side of the river Don poised to continue their advance southward, FHO produced the following comprehensive breakdown of figures for probable enemy formations facing the German Army directly at the front and for reserve formations in the rear:

---

[70] 'Gedanken über die vermutliche Kampfkraft der sowjetischen Armee bei Winterbeginn 1942', BA-MA RH 2/932, fol. 119-21; Wegner, 'Krieg gegen die Sowjetunion', p. 863. Herring (*Aid to Russia*, pp. 31-2) puts the number of prisoners taken at Kiev as low as 200,000, though this figure is exaggerated in the opposite direction.
[71] BA-MA RH 2/2577, fol. 5.
[72] Grylev (ed.), *Boevoj sostav*, pp. 119, 130 (1 July 1942).

Table 18: FHO Estimates, 27 July 1942[73]

		Rifle Divisions		Rifle Brigades		Cavalry Divs		Tank Brigades		Reserves	
Army Group	Type	Number	CP	Number	CP	Number	CP	Number	CP	TR	OR
A	RD RB	60	27⅙	7	4⅓					11 6	- 2
	CD					5	3⅓			8	-
	TB							18	10⅔	5	-
B	RD RB	42	25½	14	8⅔					10 7	- 2
	CD					5	2⅓			-	2
	TB							39	15⅔	16	2
Centre	RD RB	81	45	21	12⅔					16 6	8 14
	CD					-	-			5	2
	TB							13	5⅔	16	6
North	RD RB	67	38	31	22					13 8	- 8
	CD					1	⅓			1	2
	TB							10	5⅔	4	2
TOTAL	FRONT	250	136	73	48	11	6	80	38		
	AR	50		27		14		41			
	HR	8		26		6		10			
TOTAL		**308**		**126**		**31**		**131**			
	FRONT	317		105		26		151			
	Reserve	23		1		0		5			
TOTAL		**340**		**106**		**26**		**156**			

[73] *Notes*: Figures in red are for *actual* Soviet units on 1 August; CP = combat power; FRONT (*FHO estimates*) = units in the front line (excluding Finland), FRONT (*Soviet figures*) = units of the operational army (exluding Karelian Front and 23rd Army); OR = operational reserve (*Heeresreserve*); Reserve (*Soviet figures*) = reserves directly under Stavka control; TR = tactical reserve (*Armeereserve*): BA-MA RH 2/2308, fol. 29; Grylev (ed.), *Boevoj sostav*, pp. 140, 153, 157.

As a comparison of the actual numbers of Red Army formations at the beginning of July and August shows, even though the Germans had scored considerable successes and advanced rapidly in the intervening month, the enemy was still managing to activate more and more units and – just as crucially – get them speedily to the front.

On 28 July, following a conference attended by the chief political officers of the Soviet Union as well as the political representatives at *front* and army levels, Stalin issued Order No. 227, which contained the famous command-cum-threat, 'Not one step back!' (*Ni shagu nazad!*) This order has since been generally regarded as a highly motivational piece of propaganda, which boosted the morale of Red Army soldiers and strengthened their resolve to defend their homeland.[74] However, it was no mere slogan, but rather a declaration of 'stern and inescapable realities'. The Red Army soldier was now expected to fight fanatically and to hold on to every square inch of ground that he occupied.[75] This sense of desperation was also identified by German intelligence at the time. FHO stressed Stalin's warning to his compatriots that the Soviets were no longer superior to the Germans in either human reserves or grain stocks.[76] This supported Halder's earlier conviction that Soviet manpower resources were far from limitless. The alleged pitiful state of enemy morale was also significant. Two weeks after it was issued, the intelligence department at 1st Panzer Army headquarters noted that Stalin's order had actually made a bad impression on the Soviet troops and had strengthened the overall perception in their ranks of the hopelessness of the situation.[77]

By mid-August FHO reported that the combat power of the Soviets troops before Army Group A had fallen sharply. The 27 rifle divisions it faced were deemed to have an actual combat strength of just 7⅓, while the 6 rifle brigades which had been detected had an overall strength of only 2⅙. Significantly, in the previous two weeks there had also been a huge increase in the number of rifle divisions and tank brigades before Army Group Centre, with a concomitant decrease in the numbers identified before Army Group A[78]:

---

[74] See, for example, Geoffrey Roberts, *Victory at Stalingrad: The Battle that Changed History* (London, 2002), p. 67, and Bellamy, *Absolute War*, p. 471. The full text of this important order is given in English translation in Glantz, *Companion to Colossus Reborn*, pp. 17-21.

[75] Erickson, *Road to Stalingrad*, p. 371.

[76] 'Übersetzung Befehl des Volkskommissars für die Verteidigung der U.d.S.S.R. Nr. 227 vom 28.7.1942', BA-MA RM 7/700, fol. 16.

[77] 'Gefangenenvernehmung' (11 August 1942), BA-MA RH 21-1/447, fol. 1.

[78] BA-MA RH 2/2308, fol. 29, 47.

Table 19: Differences in FHO Estimates for 27 July and 13 August 1942				
Army Group	Date	Rifle Divisions	Rifle Brigades	Tank Brigades
A	27 July	60	7	18
A	**13 August**	**27**	**6**	**0**
B	27 July	42	14	39
B	**13 August**	**56**	**16**	**27**
Centre	27 July	81	21	13
Centre	**13 August**	**98**	**33**	**30**

These figures leave no doubt that Hitler's decision to pursue the retreating troops of the Red Army into the North Caucasus region and beyond was fully justified in terms of the strength of the enemy facing Army Group A.

On 16 August FHO reported that the sixty enemy divisions which had been anticipated in previous reports had mostly arrived at the front and would be 'used up' (*aufgebraucht*) in the course of coming operations. The Soviet leadership's operational objective of slowing down the German advance while simultaneously attempting to fight a tenacious rearguard action and retreat in good order had not succeeded. Instead, the report suggested, the Soviet front had been cut to pieces by the ferocity and speed of the German advance. The enemy had also failed to build a continuous front along the Don because of the fact that the Army had succeeded in creating bridgeheads and had taken Rostov rapidly. This suggested that it would now be impossible for the Soviets to hold the entire North Caucasus region. It was also unlikely that the Soviet leadership would try to form a reserve for the winter battles, considering the importance of the areas currently being contested. Though there had not been as many prisoners taken as in the previous year, the report concluded optimistically, the Soviets had suffered far more with respect to losses in *matériel* – above all tanks.[79]

At the beginning of September the following figures were given for enemy formations facing the Army:

[79] 'Lageorientierung Russland', BA-MA RH 2/2047, fol. 20, 21, 22-3.

Table 20: FHO Estimates, 1 September 1942

		Rifle Divisions		Rifle Brigades		Cavalry Divs		Tank Brigades		Reserves	
Army Group	Type	Number	CP	Number	CP	Number	CP	Number	CP	TR	OR
A	RD RB	32	12⅙	10	3⅔					14 8	6 2
	CD					7	3⅙			-	4
	TB							-	-	3	2
B	RD RB	75	36⅚	14	5⅚					22 18	4 2
	CD					5	1⅚			6	1
	TB							30	9⅓	36	9
Centre	RD RB	107	56⅚	30	16⅔					7 13	- 7
	CD					3	1			5	-
	TB							38	21⅓	36	-
North	RD RB	71	42⅓	27	17⅓					10 12	- 3
	CD					-	-			2	-
	TB							9	5⅓	4	1
TOTAL	FRONT	285	148	81	43½	15	6	77	36		
	AR	53		51		13		79			
	HR	10		14		5		12			
TOTAL		**348**		**146**		**33**		**168**			
	FRONT	334		109		23		154			
	Reserve	18		15		0		6			
TOTAL		**352**		**124**		**23**		**160**			

Significantly, not one of the 49 major formations facing Army Group A was believed to have full combat power. They were all split more or less evenly between a valuation of ⅔ (17 units), ⅓ (14 units) and ⅙ (18 units).[80] By mid-September only 3 rifle brigades from the 46 facing Army Group A were deemed to be at full strength; the remaining units were again divided more or less equally between valuations of ⅔ (19 units), ⅓ (12 units) and ⅙ (12 units). Beyond these, FHO also suspected that there were a further 21 rifle divisions, 1 rifle brigade, 1 cavalry division and 1 tank brigade in the Caucasus, plus a further 2 or 3 rifle divisions and 2 cavalry divisions in Iran.[81]

In September, just when Hitler was correctly sensing that the offensive into the Caucasus was reaching a critical point, Gehlen was feeling ebullient about future operations in the region. He proclaimed before an audience at the *Kriegsakademie* in Berlin that both Stalingrad and the oil-producing area of the Caucasus would be in German hands before the onset of winter.[82] This optimism was based on the reports which he continued to receive about the state of the Red Army. At the beginning of the month FHO submitted a report which suggested that the Russians had 'no sizeable reserves' in any sector of the entire front line. As a matter of fact, in order to create *Schwerpunkte*, the report continued, the enemy would have to transfer units over great distances. It was also argued that the formations currently in the process of being activated would not be ready for commitment to the front any time soon. With this information Halder concluded without hesitation that the Soviets were completely lacking a strategic reserve.[83]

By late October FHO continued to prevaricate with respect to Soviet options and potential strategy. It was suggested that the chances of the enemy winning the conflict in spring 1943 were fading, leading to the conclusion that he would therefore try for a knockout blow during the coming winter. This seemed like the most logical strategy because:

a) manpower reserves were running out
b) food supply problems were increasing
c) armaments production would probably decrease
d) oil supply would become problematic once the Caspian Sea was cut off
e) internal 'difficulties' were most likely being exacerbated in many different areas

[80] BA-MA RH 2/2309, fol. 1; Grylev (ed.), *Boevoj sostav*, pp. 163, 176, 180.
[81] BA-MA RH 2/2309, fol. 15 (15 September 1942).
[82] Wilhelm, 'Prognosen', p. 47.
[83] Blau, *German Campaign*, pp. 165-6.

In conclusion, FHO was certain that the main Soviet winter offensive would take place in the area to the south of the line Kaluga–Rzhev–Toropets (i.e. the Rzhev salient), though it added the caveat that Leningrad might also be a possible target.[84]

By the beginning of November a large-scale Soviet offensive was still expected against Army Group Centre in the area between Toropets and Sukhinichi (350 km) as the terrain here was considered more suitable for deployment. This would have the further advantage of pre-empting the anticipated German offensive against Moscow in 1943.[85] The estimates produced by FHO give credence to such an analysis. The following table indicates clearly why the Germans might have inferred that there would be a large-scale enemy operation against Army Group Centre (the figures for infantry and armour reserves in this sector are particularly significant):

[84] 'Zusammenfassende Beurteilung der militärischen Gesamtlage der S.U. im Hinblick auf die zu erwartenden Operationen im Winter 1942/43 auf Grund der aus dem Hinterland verliegenden Meldungen (Stand Oktober 1942)', BA-MA RH 2/2558, fol. 4-5, 8.
[85] Wilhelm, 'Prognosen', pp. 47-8.

Table 21: FHO Estimates, 1 November 1942

		Rifle Divisions		Rifle Brigades		Cavalry Divs		Tank Brigades		Reserves	
Army Group	Type	Number	CP	Number	CP	Number	CP	Number	CP	TR	OR
A	RD	27	11⅔							9	8
	RB			26	14					10	4
	CD					5	2½			1	-
	TB							3	1⅔	-	1
B	RD	87	32⅔							10	15
	RB			17	7⅙					14	8
	CD					1	⅙			6	2
	TB							11	3⅚	40	28
Centre	RD	81	46⅙							38	3
	RB			16	10					22	14
	CD					1	⅔			8	1
	TB							2	⅔	49	24
North	RD	63	34							11	1
	RB			19	13					11	3
	CD					-	-			1	-
	TB							1	⅔	7	3
TOTAL	FRONT	258	125	78	44	7	3	17	7		
	AR	68	45	57	38	16	11	96	64		
	HR	27	18	29	19	3	2	56	37		
TOTAL		**353**	**188**	**164**	**101**	**26**	**16**	**169**	**108**		
	FRONT	349		120		24		119			
	Reserve	27		6		0		15			
TOTAL		**376**		**126**		**24**		**134**			

By this time intelligence suggested that the Soviets had few remaining units left in the Caucasus region or Iran. It was believed that there were 8 rifle divisions and 1 tank brigade in the former, plus 1 rifle division and 2 cavalry divisions in the latter.[86]

On 6 November FHO reported on information sent by an agent (known as 'Max') outlining the content of a meeting in Moscow chaired by Stalin two days previously. The Soviets had decided, *inter alia*, that heavy casualties should be avoided in the coming battles, losses of territory were unimportant, and all attacks which had been planned were to be carried out (if possible before 15 November, weather permitting). These offensives would take place in the south at Groznyj (towards Mozdok) and at Nizhnij and Verkhnij Mamon on the middle Don (roughly halfway between Voronezh and Rostov); at Voronezh and Rzhev in the central sector; and south of Lake Il'men' and at Leningrad in the north.[87] Significantly, there is no mention of Stalingrad. The reason is that Max, believed by the Abwehr to be a reliable source of information emanating directly from the Soviet General Staff, was actually a Russian double agent called Aleksandr Dem'janov – known to his NKVD handlers as 'Gejne' ('Heine') – whose efforts completely fooled both Gehlen and the head of the SD foreign intelligence department, SS-Standartenführer (later Brigadeführer) Walther Schellenberg.[88]

The sheer number of Soviet reserves and their deployment on the lower Volga came as a shock to just about everybody. In fact, as late as 9 December (almost three weeks after the beginning of the Soviet counteroffensive at Stalingrad) FHO still felt that it would be easier for the enemy to concentrate the main effort of his winter offensive against Army Group Centre as opposed to further south.[89]

In trying to estimate the numbers and positions of Soviet units in 1942, FHO essentially conducted a guessing game. Even the former German military attaché in Moscow, the Russianist General Ernst-August Köstring, was of no help to intelligence efforts.[90] In

---

[86] 'Feindkräfteberechnung. Stand: 1.11.1942', BA-MA RH 2/2310, fol. 1; Grylev (ed.), *Boevoj sostav*, pp. 207, 220, 224.

[87] 'Wichtige Abwehrmeldungen', BA-MA RH 2/2128, fol. 5.

[88] For an account of Dem'janov's work in 1941-2, see P. A. Sudoplatov, *Spetsoperatsii: Lubjanka i Kreml' 1930-1950 gody* (Moscow, 1997), pp. 240-9. Schellenberg held this post until the end of the war.

[89] Wilhelm, 'Prognosen', p. 49. Operation Uran (Uranus) was the code name given to the plan to encircle 6th Army at Stalingrad involving South-Western, Don and Stalingrad Fronts. The northern wing began its attack on 19 November, linking up with the southern wing four days later to the south-east of the town of Kalach-na-Donu to complete the encirclement.

[90] Schramm, *Geheimdienst*, pp. 119-20. Köstring served his second term as Germany's military attaché to the Soviet Union from late 1935 until the outbreak of hostilities between the two countries in June 1941. Later, from

September 1940 he had suggested that the Red Army would need four years to recover from its recent travails and regain its former reputation. Eight months later, Colonel Hans Krebs (deputizing for the ill Köstring) opined that the process would take twenty years. Similarly, a handbook on the armed forces of the Soviet Union issued by FHO on 15 January 1941 concluded that the Red Army was simply a mass of troops without modern equipment and proper leadership. Improvements would gradually increase its fighting efficiency, but these would take years, or even decades.[91] Just as significantly, FHO also underestimated the range and rigorousness of Soviet mobilization. The potential of women for the war effort was not taken into account, nor was the speed and extent to which those born in 1924 were called up. To exacerbate matters, the Wehrmacht was no longer inflicting casualties at the rate it had done the previous year.[92]

Nevertheless, FHO information on the number and position of Red Army formations shown above clearly suggests that the German Army believed it would be in a position to inflict significant losses on the southern sector of the Eastern Front in 1942. On countless occasions Hitler was given information which intimated that there was a large influx of Soviet troops into the region in anticipation of an attack there. On 5 April – the day on which he initiated Blau with Directive No. 41 – FHO believed that a third of all Soviet rifle divisions were facing Army Group South (79 from a total of 246), while cavalry divisions and tank brigades were evenly and predominantly divided between the central and southern sectors.[93] It is therefore incorrect to suggest that Hitler's strategy inevitably led to a situation where the Wehrmacht was not in a position to bring about a major defeat for the Red Army. It was telling, however, that the Army reported considerable enemy losses in *matériel*, even if prisoner numbers were not in the quantities which were anticipated. Just one month after Barbarossa was launched Hitler had made it clear to Halder that the main objective of the campaign was to be the industrial areas of the Soviet Union, as the Russians always had people 'to spare' (*übrig*).[94]

Despite being considerably weakened as a result of giving up formations to other sectors, Army Group Centre remained strong enough to withstand all Soviet assaults on its

---

1 September 1942 until the following spring, he served as an adviser to Army Group A for matters concerning the Caucasus region and peoples.

[91] Cited in Kahn, *Hitler's Spies*, pp. 456-7. Krebs later became the last Chief of Staff of the German Army when he succeeded Guderian on 29 March 1945, a position he held until his suicide in the *Führerbunker* in Berlin on 1 May.

[92] Wegner, 'Tottering Giant', p. 301.

[93] 'FHO Feindbild', BA-MA RH 2/2095, fol. 5.

[94] 'Grundlagen für weitere Entschliessungen' (23 July 1941), BA-MA RH 2/129, fol. 105.

positions throughout 1942. On 4 April its commander-in-chief (Field Marshal Günther von Kluge) phoned the Operations Department at the OKH to inform the high command that he was in the process of building up the defences with all means available along his entire front, especially in those places where a Soviet offensive was most likely to take place.[95] The success of his measures is evidenced by the fact that the Germans held the Rzhev salient – despite Soviet attempts to eliminate it – until Hitler ordered its evacuation in March 1943 in order to create an operational reserve after the defeat at Stalingrad.[96] Prior to this setback he had been able to continue the advance into the Caucasus (and indeed towards Stalingrad) with the knowledge that his strategy would not be jeopardized by a significant threat to either the central or the northern sector.

If it was difficult to ascertain strategic information on the armed forces of the Soviet Union, it was proving just as difficult at the front. At the sub-strategy levels, Soviet concealment and disinformation measures (*maskirovka*) negated all battlefield advantages that superior German fighting power or the supposed operational abilities of the senior German commanders might have produced.[97] Its influence on operations was often devastating. On 11 November local radio surveillance located 5th Soviet Tank Army opposite 3rd Romanian Army, whereas FHO had maintained that it was somewhere else entirely.[98] This formation played a major role in encircling 6th Army at Stalingrad a short time later.

Taking a defensive posture in 1942 was simply out of the question for Hitler. Intelligence had suggested that large operational reserves were no longer available to the Soviets, and the threat of American and British intervention on the Continent the following year was very real. The German Army could therefore hardly have been expected to remain passive while the Soviets rebuilt their armed forces unhindered. Even though the Wehrmacht would now come up against an enemy which was already capable of fighting a protracted conflict – much more so than the Germans suspected – Hitler had no choice but to try to take the initiative once again.[99]

---

[95] BA-MA RH 2/431, fol. 191. Kluge held this position from 19 December 1941 until 28 October 1943 (he had been on sick leave following injuries received in a road accident sixteen days previously). He committed suicide on 19 August 1944 because of his knowledge of the assassination attempt on Hitler the previous month.

[96] For a summary of the series of planned German withdrawals in this sector – known as Büffelbewegung (Buffalo Movement) – see Wegner, 'Krieg gegen die Sowjetunion', pp. 1087-9.

[97] Murray, 'Problem of German Military Effectiveness', p. 223. For a detailed discussion of *maskirovka* at all levels, see Charles L. Smith, 'Soviet Maskirovka', *Airpower Journal*, 2 (1) (spring, 1988), pp. 28-39.

[98] Magenheimer, *Hitler's War*, p. 162.

[99] See, for example, Wegner, 'German Campaigns in Russia', p. 114; Tarrant, *Stalingrad*, p. 27; and Citino, *Death of the Wehrmacht*, p. 157.

Contrary to the current consensus, Hitler seldom took decisions without first evaluating thoroughly the advice being given to him by his subordinates. Once he had analysed the information presented to him, his decisions were often in agreement with specialists who were ostensibly better informed than him.[100] It would be an oversimplification to regard him as a frenzied or unreasonable commander who ignored his military advisers. Indeed, with respect to Blau the opposite was the case: he was backed by them in his decision to go on the offensive once again in spring 1942, and German intelligence supported his conviction that the Soviets would offer only minimal resistance. The basic concept for the operation – if not the details of the final draft – came from Halder, Jodl and their staffs.[101]

Hitler dismissively called Gehlen the 'storyteller' (*Märchenerzähler*), while Zeitzler noted that he simply did not believe what the Army's intelligence chief put before him.[102] Yet, as has been shown above, there was some basis for his distrust of intelligence work and its proponents – a trait he shared with many other political and military leaders. As the examples of FHO reports clearly show, Gehlen equivocated when predicting Soviet intentions. He rarely specified the timing of attacks, and he listed all possibilities – including the least likely ones – thereby concealing any inaccuracies. His reports described enemy movements in vague terms such as 'limited goals' or 'exceed local proportions', thus allowing himself to expand their meanings to cover whatever the Soviets subsequently did. If the enemy took a course of action other than that predicted by FHO, it was simply suggested that he had changed his mind or that his original intention had failed. In effect, this vagueness helped Gehlen to exculpate himself from any perceived incompetence.[103] Thus, while his organization had some degree of success in the period immediately prior to Blau with respect to identifying Soviet dispositions and strengths, an understanding of the enemy's operational intentions was not always evident.[104]

It is a fallacy to suggest that Hitler was out of touch with what was going on at the front. He was in regular contact with field commanders by telephone, or else he would have them report to him directly. He understood a great deal about intelligence in general and everything about how the work was conducted. As a result, he was mindful of enemy

[100] Wilhelm, 'Prognosen', p. 8.
[101] Glantz and House, *Gates of Stalingrad*, p. 19.
[102] Pahl, *Fremde Heere Ost*, p. 211.
[103] Kahn, *Hitler's Spies*, p. 437.
[104] Thomas, 'Foreign Armies East', p. 289.

attempts at deception and would question reports that seemed too good to be true. He also made efficient use of intelligence in tactical and operational areas.[105]

The teachings of Clausewitz on the need for commanders to be resolute were as important for twentieth-century warfare as they were when they were first set down in theory. A leader must be open-minded yet steadfast enough to resist the urge to continually revise his plans once his mind is made up.[106] Hitler was simply pragmatic enough to realize the deficiencies in his own intelligence services and was therefore cautious in his approach to their work. He was far from being irrational with respect to his wanting to be his own intelligence analyst: most political and military leaders in the same situation act in a similar, self-confident way.

Good intelligence alone is never a panacea for problems of a strategic nature. A powerful army with poor intelligence can defeat a weaker one, whereas a weaker army with excellent intelligence cannot always be guaranteed success.[107] Hitler's conviction that the German Army was still far superior to its foe – especially after the winter battles of 1941-2 – was enough to convince him to go on the offensive once again without agonizing about Soviet capabilities. His intuition in the face of uncertainty came from the Prusso-German military tradition, which had produced countless strong-willed commanders who went on the offensive instead of submitting to the enemy. Their mantra had always been that if they did not accept that they were beaten, then they were not beaten. In Hitler, the German Army found the type of leader who 'thought less and fought more' – the type of leader that it could admire.[108]

Production Figures

The failures of FHO with respect to estimations of the production figures of the Soviet armaments industry prior to Barbarossa have been well documented. However, a brief summary of certain miscalculations is important in order to give an indication of their consequences.

---

[105] Kahn, *Hitler's Spies*, pp. 537-8.
[106] Handel, 'Intelligence and Military Operations', p. 37.
[107] Ibid., p. 33.
[108] Citino, *Death of the Wehrmacht*, pp. 155-6.

Taking the figures for three key armaments types as examples, the disparity between German estimations and actual production figures is striking. Total Soviet military output for 1941 included approximately 24,500 tanks and 33,000 artillery pieces; FHO, however, had only estimated 11,000 and 7,800 respectively.[109] Estimations of aircraft production were just as fanciful. In May of the same year the chief intelligence officer of the Luftwaffe (Major Rudolf Wodarg) had suggested that the Soviets were only capable of producing between 3,500 and 4,000 front-line machines a year, yet even these figures were too whimsical for the Commander-in-Chief of the Luftwaffe. Göring was dismissive of the work carried out by his general staff and its Ic, especially when they tried to warn him with estimations of numbers of aircraft in the VVS, which he simply dismissed as too optimistic.[110]

On 15 February 1942 FHO informed Halder that the Soviet armaments industry was producing artillery pieces up to a calibre of 10.5cm at a rate of 310 a month, enough to equip 310 batteries from the beginning of the year until the end of April. If there were to be 50-60 newly activated divisions by this time, this meant that there would be sufficient batteries (5-6) for each one. Tanks were being constructed at a rate of 360 and 525 a month for light and medium/heavy types respectively. This meant that 35 tank brigades could be outfitted with 100 tanks each from the production figures which were anticipated. It was further suggested that Soviet industry was producing 420 fighter aircraft and 140 bombers a month.[111]

Almost two months later Hitler expressed the view to Halder that it was improbable that the Soviets would be able to activate any new armies of note (*namhafte neue Armeen*) because of their current industrial capacity.[112] Assessments carried out by the WiRüAmt seemed to confirm this opinion. A report by FHO based on these findings dated 28 May indicated that Soviet armaments production had decreased sharply in the previous three months. Lack of coke was still a major impediment, but so too was the reduction in iron and steel production which was a direct consequence of the loss of the western areas of the Donbass. The Soviets had managed to continue production up to that point by falling back on reserves of raw materials, but these were now thought to be exhausted. It was also noted that there were in all probability no stockpiles of finished *matériel*, as weapons built in 1942 had already been identified as early as March. The number of guns being produced had fallen, while tank factories could not work to full capacity because of the lack of raw materials. It

[109] Magenheimer, *Hitler's War*, p. 139.
[110] Boog, *Luftwaffenführung*, pp. 78, 113. Wodarg held various intelligence roles in the Luftwaffe from March 1940 until October 1944 (with brief intermissions).
[111] 'Mit wie vielen russischen Verbänden müssen wir Anfang Mai ds. Jrs. rechnen?', BA-MA RH 2/2582, fol. 54, 57.
[112] *KTB OKW*, vol. 2, p. 314 (2 April 1942).

was believed that 400 T-34s and 100 KVs were being produced a month, as well as up to 760 front-line aircraft.[113]

Information reaching Hitler from disparate sources was often contradictory – even from within the Army itself. The following is an interesting set of figures produced by FHO and the Quartermaster General of the Army (Lieutenant-General Eduard Wagner) which gives some indication of the difficulties involved in determining the true numbers of enemy prisoners taken and *matériel* knocked out during the campaign in the Soviet Union prior to Blau:

Table 22: Comparison of Prisoner and Booty Figures between FHO and QMG to 31 May 1942[114]

Prisoners		Tanks	
FHO	3,837,730	FHO	26,192
QMG	3,760,288	QMG	17,639
Difference	**77,442**	**Difference**	**8,553**
Guns (including anti-aircraft and anti-tank)		Aircraft (shot down or captured by the Army)	
FHO	38,813	FHO	2,646
QMG	30,414	QMG	1,083
Difference	**8,399**	**Difference**	**1,563**

[113] 'Zusammenstellung über Rüstungsindustrien in der UdSSR nach dem Stande vom Mai 1942', BA-MA RH 2/3126, fol. 41, 42-3, 44. The KV-1 was a heavy tank, which first saw action in the Winter War against Finland in 1939. It was named after a former Soviet People's Commissar for Defence, Kliment Voroshilov.

[114] 'Vergleich der Gefangenen- und Beuteziffern nach Unterlagen Generalquartiermeister und Abteilung Fremde Heere Ost vom 22.6.41 - 31.5.42' (n.d.), BA-MA RH 2/2773, fol. 353. Wagner served as Quartermaster General from 1 August 1940 until his death by suicide on 23 July 1944, having been implicated in the plot to assassinate Hitler three days previously.

Substantial disparities are also evident in the figures given below for the whole of 1942:

Table 23: Comparison of Prisoner and Booty Figures between FHO and QMG for 1942[115]

	Prisoners	Tanks	Artillery Pieces	AT Guns	AA Guns	Aircraft
FHO	1,653,058	21,728	13,457	7,204	1,066	1,018
QMG	1,518,698	8,036	7,938	3,685	348	371
Difference	**134,360**	**13,692**	**5,519**	**3,519**	**718**	**647**

On 28 June FHO noted that while estimates for the strength of the Red Army in terms of personnel might be reasonably accurate for the coming months, the effects of the impending battles on Soviet industry would be harder to surmise. Nevertheless, the report stated, it could be assumed that it would be so adversely affected that there would be severe repercussions for the continued resistance of the Soviet Union. In spite of this, however, it was suggested that the Soviets would at least be able to equip their current forces for their own winter offensive. The report concluded that perhaps one positive point of note was that the enemy would have to maintain a strong presence in the field for 1943 until the anticipated support from the United States finally came into effect in Europe.[116] This final remark would suggest that FHO was initially confident that the Red Army would not attempt anything too ambitious for its winter offensive for fear of being left defenceless before a second front could be opened by the Western Allies.

Six weeks into the summer offensive and the Germans were still confident about their earlier assessments of the potential of Soviet industry. On 16 August FHO suggested that though the number of Soviet aeroplanes was estimated to be approximately 2,000 at this time, those already destroyed were not going to be replaced. This conclusion was supported by the fact that a steady reduction in aircraft numbers had been observed at the front. The majority of machines were in the south, while the most important aircraft works were on the Volga

[115] 'Gefangenen- und Beutezahlen vom 1.1.-31.12.1942' (10 January 1943), BA-MA RH 2/2621, fol. 41.
[116] 'Gedanken über die vermutliche Kampfkraft der sowjetischen Armee bei Winterbeginn 1942', BA-MA RH 2/932, fol. 122.

and in the Caucasus. This, the report concluded, would have a considerable effect on the combat strength of the VVS.[117]

Köstring wrote six months after his arrival in Moscow that it was practically impossible to get information on issues relating to the Soviet war industry, even with respect to the 'most harmless things'.[118] Instead, only *estimates* on Soviet war production potential were produced because FHO simply could not provide accurate information. These figures, which were constantly revised, showed that the Germans were overestimating their own potential while still underestimating that of the Soviets.[119] The miscalculations were truly staggering: in March 1942 the Germans estimated that the Soviets would produce approximately 6,600 aircraft that year, while the actual number approached 22,000; tank numbers were estimated at 6,000, but were really in the region of 25,000; and the figure for artillery pieces was also out by a factor of four – just over 33,000 as opposed to the estimated 7,800.[120] This intelligence failure was only rivalled in its magnitude in the annals of German military history by the underestimation of Soviet strength prior to Barbarossa.[121]

Both the quality *and* quantity of Soviet armaments were improving. By May 1942 new aircraft types such as the LaGG-3, Jak-1, Jak-9 (all fighters), and Tu-2 (bomber) made up approximately 50% of VVS front-line aircraft.[122] Furthermore, despite the fact that the Soviets had lost the Donbass region, factories in the Ural Mountains further east produced more than 4,500 tanks, approximately 3,000 aircraft, almost 14,000 guns, and more than 50,000 mortars in the winter months of 1941-2 alone.[123] Army intelligence estimations with respect to the calibre and numbers of Soviet armaments proved to be wrong on both counts.

Hitler was completely unaware of Soviet economic capabilities thanks to the incompetence of FHO.[124] It might seem that his decision to proceed with Blau despite the intelligence failures of the previous summer was foolhardy, especially as the advisers now telling him that Soviet economic and manpower potential had been exhausted by the fighting during the previous winter were from the same departments responsible for these earlier miscalculations. However, a year of war and the concomitant devastation which this had

---

[117] 'Lageorientierung Russland', BA-MA RH 2/2047, fol. 25-6.
[118] Kahn, *Hitler's Spies*, p. 455.
[119] Magenheimer, *Hitler's War*, pp. 138-9.
[120] Wegner, 'Krieg gegen die Sowjetunion', p. 806.
[121] Citino, *Death of the Wehrmacht*, p. 153.
[122] Glantz, *Colossus Reborn*, p. 315.
[123] Erickson, *Road to Stalingrad*, p. 341.
[124] Tarrant, *Stalingrad*, p. 27.

brought on the infrastructure of the Soviet Union was enough to convince even Western leaders that the state was on the verge of collapse once the new offensive had begun to make ground. In fact, it was only after the two battles at Stalingrad and Kursk the following year that Churchill finally believed that the Allies would ultimately be victorious.[125]

Operation Kreml

In early 1942 the Germans initiated an operation devised to deceive the Soviet high command into believing that their strategy for the forthcoming campaign would be a renewal of the offensive against Moscow. This plan – code-named Operation Kreml (Kremlin) – has not been given the full attention in either Western or Russian postwar historiography and memoirs that its importance warrants.[126]

Planning for Kreml was under way almost as soon as it was for Blau. On 12 February Keitel issued a directive entitled 'Guidelines for Enemy Deception' (*Richtlinien für die Feindtäuschung*). As part of this undertaking, German counter-intelligence agents were tasked with convincing the Soviets that Moscow and the industrial areas of the middle Volga region would be the primary targets of the renewed German offensive.[127] The operation was so secretive that even Germany's Axis partners (principally Romania, Italy and Hungary) were not to be privy to the details. On 1 April Halder raised the question of how operational intentions in the southern sector could be disguised while at the same time continuing the pretence of a renewal of the assault on the Soviet capital. Hitler ordered, among other things, that extreme caution was to be exercised during preliminary talks with the representatives of Germany's allies and that the goals of the forthcoming operations were not to be mentioned.[128]

Halder was generally reticent about the whole matter, even when confiding in his own diary. However, on 3 May he noted that he had had a meeting with the Deputy Chief of the General Staff (Major-General Günther Blumentritt) about the deception measures being initiated for Blau. Nine days later he wrote that the Chief of Staff of Army Group Centre (Major-General Otto Wöhler) had received instructions that day from both Hitler and himself

[125] David Carlton, *Churchill and the Soviet Union* (Manchester; New York, 2000), p. 103.
[126] Wegner, for example, mentions the operation in 'Krieg gegen die Sowjetunion', p. 867, but does not discuss it.
[127] Blau, *German Campaign*, p. 116; 'Feindtäuschung', BA-MA RW 4/678, fol. 58.
[128] *KTB OKW*, vol. 2, p. 313.

concerning these plans, but does not go into any further detail. Finally, almost two weeks before Blau began, he noted that outstanding issues had been discussed with Wöhler, especially with respect to implementing measures for Kreml. The plan, he concluded, was straightforward: 'Mislead the enemy'.[129]

Three months after Keitel's order was issued Jodl supplemented it with more specific information on the situation as it stood. Present circumstances, he declared, were favourable for Kreml for a number of reasons. Significantly, intentions would be largely hidden from the enemy because of the fact that deployments for Blau stretched well into the area held by Army Group Centre. There was an east to west movement of troops (which suggested that they were being redeployed away from the southern sector), and a localized regrouping of units in Army Group South and Centre was currently being implemented (which would doubtless add to the enemy's uncertainty with respect to German intentions). Jodl further noted that there were plans to increase promulgations in military journals and in the foreign press (as well as in the German press to a limited degree) about the significance of Moscow as the focal point of Soviet resistance, its importance as a communications hub, and the fact that it was the centre of Soviet armaments production. The general theme of such proclamations was to be that the capture of Moscow would tear a gap in the enemy line while at the same time depriving the Soviet leadership of much of its flexibility. The loss of the capital would also deny the Soviets the ability to regroup and continue the struggle west of the Volga. From 25 May, Jodl suggested, it would be inevitable that the enemy would have some sort of clarification about German force dispositions. From the end of the month, therefore, it would be especially important to draw his attention away from Army Group South to Army Group Centre. It would also be imperative to feign weakness in many sectors of Army Group South by substituting units of the satellite armies for German formations. This would have the added benefit of giving a period of rehabilitation to the troops which would be withdrawn. Even the German soldiers at the front were to be misled into believing that Moscow would be the target of the offensive. Where possible, intermittent reinforced artillery fire was to be carried out in certain areas. The remaining sectors of Army Group Centre and North were to busy themselves with lively reconnaissance and deceptive

[129] Cited in Anon., 'Operatsija 'Kreml'', p. 81. Blumentritt served as Deputy Chief of the General Staff (officially known as *Oberquartiermeister I*, Quartermaster (Operations)) from 17 January to 24 September 1942. Wöhler served as Chief of Staff of Army Group Centre from 1 April 1942 until 1 March 1943. Before this he had served as Chief of Staff of 11th Army under Manstein.

measures, as well as the preparation of local feints in order to conceal the true defensive posture of these positions and to tie down as many enemy units as possible.[130]

On 9 May an Abwehr report based on information taken from the *Exchange Telegraph* news agency in Moscow suggested that the preparations being carried out by Army General Georgij Zhukov in anticipation of a German offensive towards Moscow were 'completed'.[131] The same agency also noted around this time that large troop movements had been observed by the Soviets to the south-west of Moscow in the Brjansk–Orël–Kursk area.[132] Halder suggested at a situation conference two weeks later that judging by what was being reported in the foreign press, deceptive measures with respect to Blau had 'worked well'.[133]

On 29 May the Commander-in-Chief of Army Group Centre (Kluge) finally signed the order which ostensibly made Moscow the target of the German summer offensive. Some copies were deliberately allowed to fall into the enemy's hands in different ways, such as on dead officers or on aircraft which had apparently deviated from their flight paths. Aerial reconnaissance was carried out on defensive positions in and around Moscow, as well as further eastward around the cities of Vladimir, Ivanovo, Tambov, Gor'kij (Nizhnij Novgorod) and Rybinsk. False information was disseminated over the radio and agents were sent over the front line in increased numbers in this sector. A complete regrouping and transfer of troops and command posts also took place.[134] Army staffs were instructed to develop plans for their operations up to 5 June, while corps headquarters were to have their work completed five days later. From 10 June a meeting was to be scheduled by each unit in order to discuss forthcoming operations. Those required to attend were the chiefs of staff, chiefs of operations and the chief intelligence officers of the corps and divisions involved.[135] The order stated that the armies were to be ready to begin their attacks no later than the end of June. In order to allow the Luftwaffe to stagger its support, 4th Army and 2nd Panzer Army (in the south) would begin their operations on 'X-Day', while 3rd Panzer Army (on the northern wing) would, according to developments, more than likely join battle five days later. 2nd Army was to move on Elets (350 km due south of Moscow), while Army Group North was either to stay on the defensive or, in the case of an enemy withdrawal, to advance with its southern wing

---

[130] 'Feindtäuschung' (7 May 1942), BA-MA RW 4/678, fol. 57, 58-9, 60.
[131] 'Zur Lage an der Ostfront', BA-MA RH 2/2116, fol. 16-17. Zhukov (promoted to Marshal of the Soviet Union on 18 January 1943) was commander-in-chief of the forces of Western Direction from February to May 1942. A Soviet *direction* corresponded roughly to a theatre or axis, and comprised two or more army groups.
[132] BA-MA RH 2/2116, fol. 18 (n.d.).
[133] *KTB OKW*, vol. 2, p. 380 (24 May 1942).
[134] Chevela, 'Novye Ispytanija', p. 323. For Kluge's complete order plus three addenda in Russian translation, see Anon., 'Operatsija 'Kreml'', pp. 82-87.
[135] Anon., 'Operatsija 'Kreml'', p. 81.

towards Peno–Ostashkov. On the northern flank of the attack front, infantry reserves were to be brought in to help take Klin (80 km north-west of Moscow), while 9th Army was to remain on the defensive. All maps, plans and aerial reconnaissance photographs were only to be issued to corps headquarters for the moment.[136] The Luftwaffe, meanwhile, was given the task of reconnoitring the rear area of the sector as far as the Volga along the line Kazan'–Vol'sk (700 km east of Moscow).[137]

In the first addendum to Kluge's order it was stated that the enemy in the sector around Tula (170 km south of the capital) was expected to remain on the defensive, as it was believed that there were insufficient forces available to him to conduct wide-ranging operations. However, units which had been taken out of the front line for rehabilitation could very well reappear at any place where the Soviets believed there was an immediate threat. Along the front of the army group it was suspected that they had withdrawn approximately 14 rifle divisions, 5 rifle brigades, 16 tank brigades and 6 cavalry divisions. Intelligence reports had suggested that a 'mobile' army was situated to the south-east of Moscow, ready to advance in either a southerly or westerly direction as the situation dictated. In addition to the Red Army formations, it was also believed that numerous units of irregulars would be available for the coming battle. The Soviets would undoubtedly defend the area with all means possible in their fortified positions, leading to the conclusion that an encirclement of the city would be the best solution as – despite the construction of fortifications further east – it was not expected that they would conduct a large-scale retreat.[138]

The second addendum to Kluge's order addressed German dispositions. Units already under Army Group Centre would more or less remain where they were for the coming offensive, but they could expect more reinforcements. 2nd Panzer Army would have 5 infantry divisions, 1 motorized infantry division and 2 panzer divisions, while 4th Army would get 12 infantry divisions, 1 motorized infantry division and 2 panzer divisions from 2nd Panzer Army to add to the units already under its command. Further north, 3rd Panzer Army would have a total of 12 infantry divisions, 4 motorized infantry divisions and 5 panzer divisions (including units taken over from adjacent 9th Army).[139]

On 5 June, 4th Army issued an order for Kreml to its subordinate units. Apart from the information issued by Army Group Centre a week previously, the army revealed more

---

[136] 'Prikaz na nastuplenie na Moskvu', cited in Anon., 'Operatsija 'Kreml'' (doc. 1), pp. 82-4.
[137] 'Zajavki VVS po aèrofotorazvedke russkikh ukreplenij', cited in Anon., 'Operatsija 'Kreml'' (doc. 4), p. 87.
[138] 'Polozhenie protivnika pered frontom gruppy armij 'Tsentr'', cited in Anon., 'Operatsija 'Kreml'' (doc. 2), p. 84.
[139] 'Raspredelenie sil i sredstv dlja nastuplenija', cited in Anon., 'Operatsija 'Kreml'' (doc. 3), p. 86.

specific tasks which it had been ordered to carry out. Its primary goal was the destruction of the enemy units in the Sukhinichi salient, while 2nd and 3rd Panzer Armies would drive on Moscow on either flank (from Tula and north of the main highway to Smolensk respectively). The three divisions of LIII Corps were to break through north of Bolkhov (300 km south-west of Moscow) and advance via Belëv in order to win bridgeheads over the river Oka on either side of the village of Likhvinka. From there they were to attack towards the important road juncture of Kaluga (170 km south-west of Moscow). As might be expected, every detail was taken into account, including cooperation with the Luftwaffe and the boundaries between the corps. However, the order stipulated that only corps commanders were to be informed at this time of the preparations.[140]

Disinformation at this level was also stepped up. XXXXVII Panzer Corps would try to do what Guderian had failed to do the previous winter and take the important town of Tula (175 km due south of Moscow). For this operation it was to have two panzer divisions (4th and 17th) as its spearhead, in addition to 25th Motorized Infantry Division and 112th Infantry Division on the left wing plus two more divisions to be added on the right.[141] This would have amounted to an exceptionally strong contingent for a short frontage of approximately 25 kilometres. Another example of such disinformation might very well be a telex from LIII Corps to 4th Army dated 7 June in which it was stated that the expected warning order for Kreml had not arrived at the corps headquarters and was feared lost. An inquest was requested in order to determine when and how the order had been sent.[142]

With less than a month to go before the start of Blau batches of maps of the Moscow area were sent to commanders at Army Group Centre down to regimental level, which were not to be opened until 10 June. Only the chiefs of staff of the headquarters in question knew that the whole operation was merely an elaborate ruse.[143] On 5 June, 2nd Panzer Army ordered that only once the maps had been opened five days later were the plans to be discussed – in secret – by the corps and divisional staffs. Other measures were then to be implemented, such as increasing the number of agents beyond the line Tula–Moscow and preparing leaflets with information regarding intentions. Sufficient amounts of these were then to be sent to corps headquarters to be handed out to the troops.[144]

---

[140] 'Kreml. Befehl für den Angriff auf Moskau', BA-MA RH 20-4/344, doc. 121.
[141] BA-MA RH 21-2/896, fol. 129 (map, n.d.).
[142] BA-MA RH 20-4/363, doc. 5.
[143] Ziemke, 'Operation Kreml', p. 76.
[144] 'Kreml', BA-MA RH 21-2/896, fol. 38-9.

Towards the end of the first week of June the deception was beginning to take shape according to the orders which had been issued. 4th Army sent Army Group Centre its operational intentions and intended force employment on a 1:300 000 scale map together with a detailed list of requests for additional reserves. It also requested air support concentrated in the sector of LVI Corps.[145] By 9 June Army Group Centre had received all operational intentions from its subordinate armies, and Wöhler ordered that further work on Kreml could continue. Plans were now disseminated for the arrival of headquarters, units and auxiliary troops.[146] On the same day, 2nd Army was informed that Army Group Centre would be feigning its attack towards Moscow within the next twenty-four hours.[147]

On 12 June, 4th Army ordered that attack units were to be stocked with the following:

1½ infantry munitions reserves
2 artillery munitions reserves
5 days provision of fuel
10 days provision of rations[148]

LIII Corps made specific requests of 4th Army headquarters for additional units in order to help it carry out its task of cutting off the routes leading eastwards out of the Sukhinichi salient, which would then expedite the proposed advance on Kaluga. These included one infantry division, an assault-gun battalion, and one corps engineer battalion.[149] By now the armies involved were working hard together to try to give the impression that they were working on a genuine operation. On 14 June, 4th Army informed 2nd Panzer Army that the orders to be attended to by XXXXVII Panzer Corps (which would make up the southern pincer for the proposed elimination of the Sukhinichi salient) were urgently needed. The corps was asked to intensify its work on the orders and to inform 4th Army when this would be completed.[150]

Two days later Army Group Centre issued an order stating that X-Day would be exactly one week later. The measures involved in Kreml were to be directed in such a way so that they would reach their peak of intensity on that date in the southern sector (2nd Panzer

[145] 'Kreml', BA-MA RH 20-4/363, doc. 4 (5 June 1942).
[146] BA-MA RH 20-4/363, doc. 6.
[147] BA-MA RH 20-2/160, fol. 68.
[148] 'Besondere Anordnungen für die Vorbereitung der Versorgung für den Angriff auf Moskau', BA-MA RH 20-4/363, doc. 7.
[149] 'Kreml' (12 June 1942), BA-MA RH 21-2/896, fol. 70.
[150] BA-MA RH 20-4/363, doc. 6.

and 4th Army), followed five days later by 3rd Panzer and 9th Army further north. The measures were to be maintained with the same vigour for several days, but then gradually abate a few days after that again (until 1 July in the south and 5 July in the north).[151]

On 18 June, 2nd Panzer Army headquarters informed its subordinate units that most of the troops to be brought in would arrive by rail and would detrain at Orël (about 50 km behind the front line).[152] Even the provision of the requisite number of road signs for conversion to the Latin alphabet was addressed. These were to be provided for the towns along the lines of advance right up to those places which were ostensibly the goals of the operation.[153]

Three days before Blau commenced the armies in the central sector were informed of slight changes to their own plans. 2nd Panzer Army notified its subordinate units that there would either be a temporary cancellation of Kreml or a completely new assignment, as reserves which were originally intended for the army were now needed more urgently elsewhere. Preparations were to continue as normal, though the redeployment of units was not yet to be carried out. Further orders were to follow. However, even as late as 2 July Army Group Centre informed 2nd Panzer Army that the OKH had ordered that the measures which had originally been set out were to be implemented with the same vigour as before until further notice.[154] By this time, however, Kreml was finally being wound down.

Only two short paragraphs are dedicated to Kreml and its impact in the twelve-volume official Soviet history of the Second World War. It states simply that the operation was chronologically closely bound with the preparations and execution of Blau, but that it did not achieve its desired effect.[155] This was also the case with respect to memoirs. Lieutenant-General Ivan Bagramjan, the Chief of Staff of South-Western Direction, dismisses the effects of Kreml out of hand after discussing it in three of the briefest of paragraphs.[156]

Certain historians have treated the results produced by this operation with the same underestimation as Bagramjan did. Nevertheless, the facts are self-evident: even weeks after the major Soviet defeat at Khar'kov in May, Stalin was still riveted to the German threat to

---

[151] 'Kreml' (16 June 1942), BA-MA RH 21-2/896, fol. 85.
[152] 'Kreml', BA-MA RH 21-2/896, fol. 86.
[153] 'Kreml. Neubeschilderung der Straßen und Wege', BA-MA RH 21-2/896, fol. 89; Anon., 'Operatsija 'Kreml'', p. 81.
[154] BA-MA RH 21-2/896, fol. 108.
[155] *IVMV*, vol. 5, p. 121.
[156] I. Kh. Bagramjan, *Tak shli my k pobede* (Moscow, 1977), pp. 79-80. Bagramjan served as Marshal Semën Timoshenko's chief of staff until the debacle at Khar'kov, though he later rose again to command 1st Baltic Front from 20 November 1943 until 24 February 1945 and became a Marshal of the Soviet Union in 1955.

Moscow. Only after the collapse precipitated by Blau did he finally acknowledge the threat to the southern sector.[157] He was not alone. Soviet intelligence had identified the large concentration of German forces and their preparations for an offensive on this strategic axis. It duly informed the Stavka and the General Staff of the German intention to strike from this area towards Stalingrad and the Caucasus. However, according to the official Soviet history of the Great Patriotic War, the Stavka continued to believe that the main German thrust would be made towards Moscow.[158]

The influential Chinese military thinker, Sun Tzu, wrote over two and a half millennia ago that if the enemy does not know where to expect an attack he must make defensive preparations in many different places. Thus, he will be weakened wherever he is engaged.[159] This was the principal tenet behind Operation Kreml. The objective of Blau remained the destruction of the main Soviet forces, but having these forces in position and expecting an attack would have been especially disadvantageous for the German commanders.[160] This is where Kreml proved its worth: when the offensive was finally launched the Soviets had twenty-eight armies between Leningrad and Tula, but only eighteen in the southern sector between Tula and the Caucasus.[161] The success of the deception is further evidenced by the fact that the Soviets had 80% of their tanks and 60% of their aircraft in the central sector when Blau began.[162] Indeed, even British and American intelligence reports at the beginning of 1942 suggested that the German summer offensive would be aimed at Moscow.[163]

Hitler's misgivings about his Axis partners – especially their political and military reliability – has often been cited as an example of how senior partners in an alliance can quickly alienate their collaborators. This was not, however, paranoia or condescension on Hitler's part, and he was certainly not the only person in the higher echelons of the Wehrmacht to express such apprehension. General (later Field Marshal) Erwin Rommel, who had more experience of working with non-German formations than most other commanders, noted in January 1942 that the Italians could never maintain secrecy regarding operations in Africa, with the unfortunate consequence that every piece of information which they wired

---

[157] Glantz, *Kharkov 1942*, p. 35.
[158] Cited in Anon., 'Operatsija Kreml'', p. 82.
[159] Cited in Michael I. Handel, *Masters of War: Classic Strategic Thought* (London; Portland, OR, 2001 [1992]), p. 160.
[160] Ziemke and Bauer, *Moscow to Stalingrad*, p. 329.
[161] Walsh, *Stalingrad*, p. 38.
[162] V. I. Semenko and L. A. Radchenko, *Velikaja Otechestvennaja vojna: kak èto bylo...* (Belgorod; Khar'kov, 2008), p. 160.
[163] Hayward, *Stopped at Stalingrad*, p. 14.

back to Rome was picked up by British intelligence.[164] It was an inescapable fact that Germany simply could not confide in its Axis partners in the same way as, for example, the United States and Britain could trust one another as equals (though even the latter relationship was often fraught). Indeed, Hitler's preventing his Romanian and Hungarian allies from fighting each other as opposed to the common enemy until Romania's defection in August 1944 was one of his more significant diplomatic achievements.

The counter-espionage measures which Hitler laid out before Blau add further weight to the argument that intelligence was not something that he took lightly. After orders, maps and details of deployments for the first stage of Blau had been captured by the Russians from the chief of operations of 23rd Panzer Division (Major Joachim Reichel), who had crash-landed behind Soviet lines nine days before the beginning of the offensive, Hitler set in place a strict code of conduct with respect to security issues. These measures have been described as an example of his 'crazy insistence on supersecurity'.[165] However, he was fully justified in being angry over the whole episode.[166] In an addendum to the Blau directive he had already specifically laid out guidelines for security measures. These included no telephone calls concerning planning and execution forward of the army group and Luftwaffe command posts and of VIII Fliegerkorps; all necessary clarifications were to be done either in person or by teleprinter (which had to be coded so that the signals personnel would not know their content); and the satellite armies were not to be told of the most important details of the forthcoming operation (such as German deployment areas).[167] The day after the so-called 'Reichel Affair' the Commander-in-Chief of Army Group South (Bock) told his army commanders of this 'irresponsible behaviour' and warned them to adhere strictly to the orders which had been given to them with respect to security measures.[168] The fact that Hitler had even felt it necessary to issue such orders was indicative of his sensitivity to security in general.

Hitler has routinely been charged by historians with either refusing to make good use of the advice given to him by his intelligence experts or with ignoring such information altogether. It is undoubtedly true that he was often sceptical of the veracity of reports and was wary of becoming over-reliant on them as a function of command, but in this regard he differed little

[164] Cited in Michael Dewar, *The Art of Deception in Warfare* (Newton Abbot, 1989), p. 62.
[165] Edwin Hoyt, *199 Days: The Battle for Stalingrad* (London, 1993), p. 95.
[166] Glantz and House, *Gates of Stalingrad*, p. 103.
[167] 'Besondere Bestimmungen über die Geheimhaltung und Propaganda' (5 April 1942), BA-MA RH 20-2/160, fol. 7-8.
[168] BA-MA RH 20-2/160, fol. 69 (20 June 1942).

from his contemporaries or, indeed, from present-day political and military leaders. He was also especially receptive to the merits of counter-espionage and insisted on stringent measures which would protect his own forces, even if this often included giving only limited information to his allies about impending operations.

Though Hitler was aided by significant improvements made in the intelligence department of the OKH, he was regularly misinformed with gross underestimations of Soviet strategic, operational and economic strengths and capabilities. He was particularly hampered by the inability of FHO to produce definitive, accurate summations of where and when the Red Army would initiate major offensive operations, which resulted from a combination of German ineptness and Soviet *maskirovka* measures. This ultimately produced a continual conviction on the part of the German Army command that the enemy was much weaker than he actually was, which inevitably reinforced its offensive attitude on the Eastern Front in 1942.

It is unfortunate from a historical perspective that there are scant extant records of the genesis of Operational Kreml. However, it can be assumed with relative certainty that Hitler had a significant role in its inception and intended outcome. The resultant deception was particularly valuable for Blau in that the Soviet leadership was transfixed by the threat of a resumption of the assault on Moscow and deployed its forces and reserves accordingly.

Chapter 6: The Campaign

Krieg führen heißt angreifen.

Colmar Freiherr von der Goltz[1]

Introduction

In early 1941 the German leadership was prepared to invade the Soviet Union despite the economic advantages which the relationship currently conferred on the Reich. There were several reasons for this apparently foolhardy decision: firstly, by January of that year deliveries of agricultural produce were no longer enough to cover German shortages; secondly, as payment the USSR had a preference for industrial and military hardware, which Germany could ill afford to relinquish; and, thirdly, Hitler believed that it was especially objectionable that the country was becoming ever more dependent on the Russians for deliveries of important goods, which might cease at any moment.[2] Shortly before the outbreak of hostilities, a study conducted by the OKW suggested that it was necessary to examine the possibility of an operation involving all three arms to occupy the oil-producing areas of the Caucasus as soon as the invasion was under way.[3]

The fact that the 'economic' option was taken ahead of a renewed offensive against Moscow came as little surprise. The original plan for Barbarossa had envisaged a future operation along the eastern littoral of the Black Sea and into the Caucasus in autumn 1941 as a precursor to the envelopment of Asia Minor and the Middle East.[4] Hitler believed that it was imperative to capture the oilfields of southern Russia, but also suggested that the drive should be continued into Iraq in order to deny the oil wells around Mosul to the British – a development which, to his mind, would end the war.[5] This strategy – simple but coherent –

---

[1] 'To wage war is to attack', from *Das Volk in Waffen* (1883), cited in Groß, 'Dogma der Beweglichkeit', p. 146. Von der Goltz was a German field marshal and military writer, whose famous work argued for the need to accept that the masses would have to be militarized and shoulder the fighting in any future conflict.
[2] Kay, *Exploitation*, p. 39.
[3] 'Das kaukasische Ölgebiet' (4 May 1941), BA-MA RW 4/577, fol. 5. See also Chapter 2 above for Hitler's strategic, political and ideological reasons for war against the Soviet Union.
[4] Glantz and House, *When Titans Clashed*, p. 108.
[5] Cited in Wegner, 'Krieg gegen die Sowjetunion', p. 117 (5 August 1942).

was initially formalized eleven days before the invasion of the Soviet Union as Directive No. 32.[6]

By August 1941 Hitler had already declared that Moscow was now no longer of much significance as an operational target. Indeed, studies had shown that the Ukraine and the Caucasus region were more important to the Soviet Union with respect to the reconstruction of its armed forces. He also believed that industrial centres captured could be replaced relatively quickly, whereas raw materials were almost impossible to substitute.[7] Thus, the notion that Hitler only decided around this time or later to forego an immediate attack on Moscow in favour of economic considerations is incorrect.[8] The following month, the OKW issued an overview of the strategic situation to the heads of the three services and to Foreign Minister Joachim von Ribbentrop, which had been approved by Hitler personally. It stated that the supreme command had always believed that the campaign would not lead to the complete destruction of Soviet resistance.[9] In Hitler's opinion there were important issues to be decided in the south. Firstly, the Russians could not avoid a decisive battle here as the region was economically and logistically crucial to them; secondly, Soviet supply lines to the West would be cut; thirdly, the area could act as a base for a future attack on British interests; and, finally, there was the hope of persuading the Turks to join the Axis cause if a resounding victory was achieved on their border.[10]

There was an important, fifth reason for such a strategy. The German naval command was adamant that the entry of Japan into the war on 7 December 1941 would considerably alleviate the situation in both the Atlantic and the Mediterranean, particularly for the Italians. The Naval War Command (Skl.) was of the opinion that the areas around Australia and India–East Asia were of decisive importance for the economy and viability of both Anglo-Saxon powers, meaning that the British and Americans would therefore now have to split their forces.[11] The OKW concluded around the same time that the strategic initiative had now been taken away from Britain and the United States, who had hoped to carry out their

---

[6] For the full text of this directive, entitled 'Preparations for the Period after Barbarossa', see Hitler, *War Directives*, pp. 130-4.
[7] Cited in Wegner, 'Krieg gegen die Sowjetunion', p. 772.
[8] For such an opinion, see, for example: Schüler, 'Eastern Campaign', p. 213; Lee Baker, *The Second World War on the Eastern Front* (London; New York, 2009), p. 58; Tieke, *Caucasus and the Oil*, pp. 2-3.
[9] 'Die strategische Lage im Spätsommer 1941 als Grundlage für die weiteren politischen und militärischen Absichten' (27 August 1941), BA-MA RM 7/258, fol. 20. Ribbentrop held this post from 4 February 1938 until he was replaced by Arthur Seyß-Inquart (the incumbent Reich Commissar for the Netherlands) in Hitler's Political Testament of 29 April 1945.
[10] Wegner, 'German Campaigns in Russia', p. 116.
[11] Cited in Bernd Wegner, 'Hitlers Strategie zwischen Pearl Harbor und Stalingrad', in *DRZW*, vol. 6, p. 106; 'Betrachtung der allgemeinen strategischen Lage nach Kriegseintritt Japan/USA', BA-MA RM 7/258, fol. 72.

preparations and plans to disrupt Germany until at least autumn 1942 without hindrance. The Western Allies – with complete mastery of the world's oceans – had been able to concentrate all their efforts against the Reich up to that juncture. Now, however, this advantage was gone. Furthermore, important connections to the Soviet Union and China had now also been further constricted.[12] Two months later, in a meeting with Jodl in Berlin, Vice-Admiral Nomura (the principal Japanese naval attaché in Europe) made it clear that his country saw an eventual union with the Axis powers as of the utmost importance in combating the main enemy – Great Britain. Lieutenant-General Ichiro Banzai, the military attaché, questioned Jodl as to whether the Germans intended to enter the Middle East from the Caucasus or Egypt, to which the OKW chief of operations replied that the former was the easier solution.[13] Even his deputy, Warlimont, and the First Admiral Officer in the *Wehrmachtführungsstab*, Frigate Captain Wolf Junge, were convinced that the plan to meet up with the Japanese in the Indian Ocean could result in the collapse of all enemy offensive plans and force him to cease hostilities.[14]

A strong German force in the Caucasus offered the very real chance of just such a union between Germany and Japan in the Indian Ocean.[15] By early July 1942 both Sevastopol' in the Crimea and Tobruk in Libya had fallen. As far as the Americans were concerned, a subsequent link-up between these German forces in the Middle East would have been undesirable, but a German-Japanese combination in the Indian Ocean would have been an even greater portent. The US Army Chief of Staff, General George C. Marshall, was so concerned at the prospect that he referred to this period of the war as a 'very black hour'.[16] Just how important this area was in terms of supplying the USSR with much needed Lend-Lease equipment tends to be overlooked in Western literature in favour of British and American shipments to the northern Russian ports of Arkhangel'sk and Murmansk. However, as the following table shows, the route via Iran proved to be a particularly important lifeline for the Red Army in the first years of the campaign:

---

[12] Cited in Wegner, 'Hitlers Strategie', p. 101; 'Vortragsnotiz zu Überblick über die Bedeutung des Kriegseintritts der USA und Japans' (14 December 1941), BA-MA RM 7/258, fol. 164.
[13] 'Rücksprache Chef WFSt. General der Artl. Jodl mit japanischen Offizieren am 13.2.42 in der Reichskanzlei', BA-MA RH 2/2917, fol. 37, 38. Banzai served in this position from November 1940 until January 1943.
[14] Cited in Salewski, *Seekriegsleitung*, vol. 2, p. 79. Fregattenkapitän Junge held this post from April 1939 until 24 August 1943, and again from 4 November 1944 until 10 January 1945.
[15] Weinberg, *World at Arms*, p. 410.
[16] Cited in John Toland, *The Rising Sun: The Decline and Fall of the Japanese Empire, 1936-1945* (Barnsley, 2005 [1971]), p. 348. Marshall served as Chief of Staff from 1 September 1939 until his resignation on 18 November 1945.

Table 24: Shipments from the Western Hemisphere to the Soviet Union, 1941-1943[17]			
	1941	1942	1943
Persian Gulf ***millions of tons*** **%**	**.02** **3.7**	**.79** **28.8**	**1.80** **33.5**
Far East *millions of tons* %	.22 53.6	.82 29.9	2.68 49.8
Northern Russia *millions of tons* %	.17 42.7	1.06 38.7	.76 14.2
Black Sea *millions of tons* %	.00 0.0	.00 0.0	.00 0.0
Soviet Arctic *millions of tons* %	.00 0.0	.07 2.6	.13 2.5
Total *millions of tons*	.41	2.74	5.37

Throughout the entire conflict, approximately 70% of all Lend-Lease goods came via the Persian Gulf and the Far East. Though they were the longest routes, they also proved to be the safest. Only one quarter of all supplies came via the shorter but dangerous shipping lanes from the North Atlantic to the two main northern ports.[18]

While the eastern Ukraine was vital for coal and steel production, the Caucasus was of crucial significance to the Soviet economy as the most important source of fuel for the machinery and weaponry coming out of the steelworks and vehicle factories. It is noteworthy, too, that Hitler believed that up to 92% of Russian oil production in 1942 came from the

[17] Tuyll, *Feeding the Bear*, p. 164. President Franklin D. Roosevelt's 'Lend-Lease' Bill of January 1941 was enacted on 11 March. It allowed the United States to lend, lease or sell *matériel* to friendly countries whose security was deemed vital to American interests.
[18] Butenina, *Lend-liz*, pp. 110-11.

region.[19] His economic experts also pressured him into his decision for a renewed offensive. They warned that Germany could not go on without the oil, wheat and ores that were available in the south-western areas of the Soviet Union. He was responsive to their arguments as they coincided with his own positive and aggressive military instincts. Indeed, the idea of a withdrawal at this point was completely against his nature.[20] General Thomas (head of the WiRüAmt) argued at the beginning of 1942, for example, that the occupation of the Ukraine was not enough by itself, but that the oilfields of Baku would also have to be taken. He was supported in this view by Göring as head of the Four-Year Plan.[21]

Thomas would not be disappointed. As early as the second week of February Hitler had already made it explicitly clear that the summer offensive was to be conducted on the right flank of the front. Army Group South was to prepare itself for the coming offensive by holding the line that it already occupied, while the subsequent destruction of the extensive Soviet bridgehead to the south of the river Donets at Izjum and the clearing of the Crimea would release valuable resources for operations elsewhere.[22] On 11 April he once again stressed the importance of taking the Caucasus oilfields and suggested that only the best leaders should be employed in the units which would take part.[23] With the winter crisis finally mastered, the apparently hopeless situation in which the Wehrmacht found itself left but one option – attack.[24]

---

[19] Hitler, *Table Talk*, p. 615 (5 August 1942). For the German prognosis of what the loss of southern Russia would mean for Soviet raw material potential, see Wegner, 'Krieg gegen die Sowjetunion', pp. 804-15. For Germany's own tenuous fuel situation both before and during the campaign in the USSR, see Rolf-Dieter Müller, 'Die Mobilisierung der deutschen Wirtschaft für Hitlers Kriegführung', in Bernhard R. Kroener et al., *DRZW*, vol. 5: *Organisation und Mobilisierung des deutschen Machtbereichs*, part I: *Kriegsverwaltung, Wirtschaft und personelle Ressourcen, 1939-1941* (Stuttgart, 1988), pp. 434-6, and Rolf-Dieter Müller, 'Albert Speer und die Rüstungspolitik im totalen Krieg', in Bernhard R. Kroener et al., *DRZW*, vol. 5: *Organisation und Mobilisierung des deutschen Machtbereichs*, part II: *Kriegsverwaltung, Wirtschaft und personelle Ressourcen, 1942-1944/45* (Stuttgart, 1999), pp. 438-42. For the importance of Russian oil for *all* the Axis powers, see 'Unterlagen für die Prüfung eines Vorgehens gegen das kaukasische Ölgebiet' (4 May 1941), BA-MA RW 4/577, fol. 7-9.

[20] Liddell Hart, *Second World War*, p. 255.

[21] Cited in Wegner, 'Krieg gegen die Sowjetunion', p. 771 (26 February 1942). For the strategic significance of the area for Germany, see also Peter Hoffmann, 'The Gulf Region in German Strategic Projections, 1940-1942', *Militärgeschichtliche Mitteilungen*, 44 (1988), pp. 61-73.

[22] 'Weisung für die Kampfführung im Osten nach Abschluß des Winters' (12 February 1942), BA-MA RH 2/929, fol. 264.

[23] *KTB OKW*, vol. 2, p. 319.

[24] Citino, *Death of the Wehrmacht*, p. 52.

Preliminary Operations: Khar'kov

On 23 February Hitler ordered that Soviet breakthroughs were to be cleared up as soon as possible, especially at Izjum. This salient, he explained just over a week later, would have to be eliminated before any operations in the Crimea could continue so that a strong concentration of aircraft could be assured.[25] On 28 March Armeegruppe von Kleist noted that it was important to have enough troops available for this task (code-named Operation Fridericus), suggesting that it was even more preferable to have too many for this particular assignment as the attack could not afford to falter. Any halting of the offensive, it argued, would have the severest psychological consequences for Blau later on.[26] The importance of the offensive spirit and morale as a force multiplier was recognized by Hitler. The former dispatch runner of the Great War described some years later how the October Revolution and military collapse in Russia coupled with the Italian defeat at Caporetto in late 1917 had given renewed hope and courage to the soldiers at the front.[27] Now, as Supreme Commander in the present conflict, he noted that the travails of the previous winter dictated that confidence had to be restored in the ranks once again. As a consequence, he suggested that the first victories of the new campaign would have to be 'easy'.[28]

The following month Army Group South informed Armeegruppe von Kleist that Hitler had ordered that the point of main effort for Fridericus would be further north with 6th Army.[29] On the eve of the battle two weeks later most combat units in Army Group South were near full strength, unit cohesion and morale were good, while the flexibility and initiative of lower-level commanders meant that German quality overcame Soviet quantity.[30] On 12 May, however, the Red Army struck towards Khar'kov in the hope of disrupting what it regarded as German concentration areas from which there would be a resumption of the attack on Moscow. Three days later 17th Army informed its corps that now only the southern group (of which they were a part) would be involved in Fridericus. The resounding success of

---

[25] 'KTB OKH/Organisationsabteilung vom 1.1.42-31.7.42', BA-MA RH 2/821, p. 96; BA-MA RW 4/678, fol. 13 (5 March 1942).
[26] BA-MA RH 21-1/457, fol. 11, 12.
[27] Hitler, *Mein Kampf*, p. 176. The Bolshevik October Revolution in Petrograd (Leningrad) on 7-8 November 1917 led to the collapse of the Provisional Government and the birth of the world's first socialist state. The Battle of Caporetto (also known as the Twelfth Battle of the Isonzo) was fought between a combined Austro-German force and the Italian Army from 24 October to 19 November 1917, resulting in approximately 320,000 losses (primarily prisoners and deserters) for the latter.
[28] Glantz and House, *Gates of Stalingrad*, pp. 31-2.
[29] BA-MA RH 21-1/457, fol. 48 (27 April 1942).
[30] Glantz, *Kharkov 1942*, p. 110. See Map 6 for the German front line on 7 May.

this attack, it continued, was therefore even more decisive, both for the new situation arising from the unexpected enemy offensive and for German operations as a whole.[31]

Two days after the initial Soviet attack Halder expressed to Hitler the wish of the Commander-in-Chief of Army Group South (Bock) to be allowed to use units from Kleist's armoured group earmarked for the southern sector of Fridericus to be thrown against the Soviet breakthrough on the right wing of 6th Army. Hitler, however, abruptly refused, suggesting instead that the southern operation as originally envisaged (Fridericus Süd) was the quickest way of alleviating the pressure further north. Until then, he ordered that increased Luftwaffe support at the breakthrough sectors would have to suffice. That afternoon, Bock rang Hitler in an attempt to force a change of mind, but to no avail. Instead, he ordered Bock to begin Fridericus Süd three days later. On the 18th, Bock requested a second time the freedom of action to use the units set apart for Blau in order to try to stem the Soviet advance and plug the gaps which had been created in parts of the sector held by 6th Army. Hitler again refused, arguing that the divisions were, in any case, not even in place, so that a decision on their use could only be made later.[32] The resultant catastrophe for the Red Army confirmed the correctness of Hitler's calm decision, notwithstanding the pressure which was put on him by both the Chief of the General Staff and the front-line commander in question. The official statistics reported by South-Western Direction (Timoshenko) recorded 266,927 troops removed from its order of battle in addition to 652 tanks and 4,924 guns and mortars. Just over 200,000 men were believed to have gone into captivity (the German estimate was closer to 240,000). A Soviet postwar commission concluded that a total of 277,190 men were lost during the operation.[33] Hitler's decision to overrule Bock and proceed with the Khar'kov operation was undoubtedly fraught with danger. In spite of the risks, however, it paid off in spectacular fashion, once more convincing him that his military nous was superior to that of his leading generals.[34]

The Supreme Commander was not about to rest on his laurels. Army Group South was to begin the destruction of the enemy forces to the west and south-west of Volchansk in a tight encirclement within the next six days (Operation Wilhelm).[35] On 1 June, with mopping-

---

[31] 'Fridericus' (15 May 1942), BA-MA RH 20-17/126.
[32] *KTB OKW*, vol. 2, pp. 355-6, 365. See Map 7 (17 May). Wagener (*Heeresgruppe Süd*, p. 128) incorrectly gives credit to Halder for the plan to use Armeegruppe von Kleist as originally intended and not further north.
[33] Glantz, *Kharkov 1942*, p. 218. See Map 8 (22 May). Timoshenko commanded South-Western Direction (Southern, South-Western and – later – Brjansk Fronts) from 13 September 1941 until it was disbanded on 23 June 1942.
[34] Murray and Millett, *War to be Won*, p. 278.
[35] Wegner, 'Krieg gegen die Sowjetunion', p. 860; 'Fernschreiben' (28 May 1942), BA-MA RH 2/431, fol. 134. Operation Wilhelm was ultimately conducted between 10 and 15 June.

up operations still ongoing at Izjum, Hitler – this time speaking before the commanders in the army group headquarters at Poltava – once again reiterated his desire to use the unexpectedly favourable situation to destroy as many Soviet units as possible. The principle behind this decision was that anything destroyed now would be of no future hindrance once Blau began.[36] With barely a week to regroup after Wilhelm, Army Group South launched Operation Fridericus II (22-25 June). Both operations culminated in a severe weakening of 28th Army and 38th Army in the centre of Soviet South-Western Front, and an advance of approximately 50-60 kilometres to perfect jumping-off positions for the main offensive.[37] Significantly, neither operation had a detrimental effect on stocks of munitions and provisions for Blau, while fuel supplies were secured for at least the first two phases.[38]

Towards the end of the month Hitler declared that the loss of approximately eighty divisions in the recent battles gave the strong impression that the Soviets would not have the same strength as in the previous year. This meant that the second phase of Blau could possibly be carried out faster than expected, thereby allowing the release of two panzer divisions in order to eliminate the enemy salient around Sukhinichi on the right flank of Army Group Centre. The advantages of a successful effort here would be a good winter position and base of operations for a future attack towards Moscow.[39] The Soviet capital had not been completely neglected just yet.

Preliminary Operations: The Crimea and Sevastopol'

From the Army's perspective, as one German officer wrote at the time, the southern wing of such a far-reaching and ambitious plan as Blau would have been constantly endangered if the Crimea was not cleared beforehand. The Soviets were in a position to carry out potentially disastrous operations against the flank or rear of Army Group South, while even the mere presence of enemy forces in this area constituted a perpetual threat to the lines of communication of the German units to the north of the Sea of Azov.[40] This was no idle threat.

---

[36] *KTB OKW*, vol. 2, p. 396. See Map 9 (10 June) and Map 10 (15 June).
[37] Glantz and House, *Gates of Stalingrad*, p. 104. See Map 11 (27 June). 28th Army was commanded by Lieutenant-General Dmitrij Rjabyshev from 4 March to 4 July, and then by Major-General Vasilij Krjuchënkin. 38th Army was commanded by Major-General Kirill Moskalenko from 6 March until it was disbanded on 24 July.
[38] 'Beurteilung der Versorgungslage für Aufmarsch „Blau", Stand 10.6.42', BA-MA RH 2/431, fol. 94-5.
[39] *KTB OKW*, vol. 2, p. 448 (25 June 1942).
[40] Cited in Citino, *Death of the Wehrmacht*, p. 52.

On 3 January, 11th Army reported that it believed that the recent Soviet landings on the Kerch' Peninsula were not just diversionary attacks aimed at relieving the defenders of Sevastopol'; rather, they were viewed by the army staff as a plan to win back the entire Crimea for use as a centre of operations for future offensives against the flank of Army Group South. The army also reported that Russian intelligence had disseminated information revealing that the plan had been conceived by Stalin himself, suggesting therefore that everything possible would be done in order to ensure its success.[41]

The area was also of crucial importance from a naval perspective. Admiral Schwarzes Meer (Fleischer) informed his superiors at Marinegruppenkommando Süd at the beginning of the year that Sevastopol' had to be taken soon if there was to be a renewal of effective supply by sea to Odessa, Nikolaev and Kherson, as well as to the Crimea at a later date. As long as this area remained to the enemy, it represented a strong threat to the flanks of the supply routes – a precarious situation which was simply unjustifiable. Fleischer further argued that the longer this state of affairs persisted, the more damaging it would be for future ground operations in the south.[42] To further exacerbate the situation, Soviet aircraft using the Crimea as a base posed a serious threat to one of Germany's most vulnerable weak points – the Romanian oilfields at Ploieşti.[43] They were also in a position to attack shipping in the Black Sea more easily.[44] Finally, the Crimea had to be cleared in order to deny the Soviet Black Sea Fleet the use of its principal base, Sevastopol'.[45] The importance of both town and peninsula for land and naval operations was significant. The Crimea was the key to the Black Sea, while Sevastopol' was the key to the Crimea.[46] Indeed, it was so pivotal to the plans of the Soviet high command that, according to captured Russian prisoners, on 27 May an order from Stalin had been circulated by the *politruki* (political commissars) stating that Sevastopol' was to be held at all costs.[47] While the ports of Novorossijsk, Tuapse and Poti could still serve as fleet bases, they only had minimal ship-repair capacities. Finally, taking the Crimea also gave

---

[41] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 1.-15.1.42 (Anlagen)', BA-MA RH 19-I/235, fol. 28.

[42] 'Kriegstagebuch Deutsche Marinemission in Rumänien bzw. des Admiral Schwarzes Meer vom 1. Dezember 1941 bis 30. April 1942' (15 January 1942), BA-MA RM 45-V/113, fol. 56.

[43] Citino, *Death of the Wehrmacht*, p. 52.

[44] Ready, *Forgotten Axis*, p. 200.

[45] David M. Glantz, 'Prelude to German Operation Blau: Military Operations on Germany's Eastern Front, April-June 1942, *Journal of Slavic Military Studies*, 20 (2) (2007), p. 172.

[46] Marolda, 'Failure of German World War II Strategy', p. 44.

[47] 'Kriegstagebuch der Abt. Ic/AO im AOK 11. Begonnen am 1.4.42. Beendet am 31.7.42' (29 May 1942), BA-MA RH 20-11/266. *Pace* Weinberg (*World at Arms*, p. 411), who argues that the Soviet forces in the Crimea should simply have been bypassed if the ultimate German goal in any case was to deny the Black Sea Fleet ports from which to operate. A *politruk* (from *politicheskij rukovoditel'*, 'political instructor') was responsible for political questions in units of the Soviet armed forces below army level. In armies and higher commands the position was known as *chlen voennogo soveta* ('member of the military council').

the Germans the opportunity to attack the ships and bases of the Black Sea Fleet.[48] This was a significant force, which was estimated by the Skl. in mid-June to comprise the following vessels:

1 battleship (*Parizhskaja Kommuna*)
6 cruisers plus 1 auxiliary cruiser
2 flotilla leaders (with a further 4 under construction)
14 destroyers
63 submarines of different types

There were also 2 E-boat brigades and 3 special divisions along with other various smaller craft.[49]

At the beginning of February Manstein reported to the General Staff that a precondition to any assault on Sevastopol' was the commitment of large forces. He believed that his army needed at least 8 German infantry divisions and 1-2 Romanian mountain brigades (the current figures were 6 and 1 respectively). If these additional units were not made available, he opined, the operation was destined to fail. One distinct advantage of an attack in this sector was that it could be carried out at a time when major operations on other sectors of the front were not possible because of the weather (i.e. April). If the assault on the fortress was to be attempted, it would have to be done within this time frame.[50] However, Army Group South noted that 11th Army could only proceed against Sevastopol' once the forces allotted to that sector had first helped to clear the Kerch' Peninsula, despite the fact that Manstein would actually have preferred to move against the city first. Finally, operations further east needed a certain amount of mobility as a precondition to success, so it was decided to wait until after the *rasputitsa* to proceed.[51]

During a meeting on 17 April to discuss the coming operations, Hitler left the staff of 11th Army to formulate a plan on how best to breach the Red Army defences known as the Parpach Line, and accepted its solutions when they were finally put to him. However, he took personal responsibility for the direction of air support. Dealing specifically with the

---

[48] *IVMV*, vol. 5, p. 201.
[49] 'Gliederung der russischen Seestreitkräfte (Stand 10.6.1942)' (12 June 1942), BA-MA RM 7/700, fol. 8-10. The *Parizhskaja Kommuna* was given its former name of *Sevastopol'* on 31 May 1943.
[50] 'Wiederaufnahme des Angriffs Ssewastopol', BA-MA RH 19-I/237, fol. 136, 140. In the end, 7½ German and 1½ Romanian divisions took part in the initial assault on Sevastopol' on 7 June.
[51] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 4, 1.2.42-28.2.42' (12 February 1942), BA-MA RH 19-I/233, fol. 74-5.

disposition of Luftflotte IV, he insisted on having as much strength as possible concentrated for the upcoming battle on the Kerch' Peninsula. This was to be achieved even if it meant leaving the remainder of Army Group South without air support for the duration of the operation. The air fleet also received an increased number of aircrews as well as a promise from Hitler that it would have VIII Fliegerkorps under its command, which had been refitting in Vienna and was originally intended for Army Group Centre.[52] This specialist formation had been entrusted with the task of air support during some of the most important operations in the past because of its experience and competence with respect to wide-ranging cooperation with the Army.[53]

In the Crimea Manstein destroyed twenty-one Russian divisions, removing two thirds of the 300,000 Soviet troops which had been operating in this theatre.[54] The victories of May and June had done much to restore German confidence and morale – just as Hitler had intended. An added boon was that Soviet ineptitude had given the Germans good reason to expect an easy advance towards the Caucasus. The disasters which befell the Red Army at Khar'kov and the Kerch' Peninsula had cost the Soviets almost 450,000 losses.[55]

Later the following month the Chief of Operations at the OKH, Major-General Adolf Heusinger, finally ordered that the bulk of 11th Army was to be sent to the Leningrad sector at the opposite end of the front, starting that same day.[56] It has been suggested that the withdrawal of these formations was one of the main reasons why Operation Edelweiß ultimately came to a standstill in the Caucasus later that year.[57] However, Hitler evidently felt that the experience of siege warfare gained by 11th Army at Sevastopol' would now be of particular benefit in the attempt to storm Leningrad.[58] Furthermore, there were logistical problems to consider. In mid-July the Skl. informed the OKH that it could not have the required 80-100 additional ferry barges (MFPs) needed to transport the army across the Kerch' Strait in place by 10 August because of problems moving them down the Danube from Germany. Taking into account expected losses to existing vessels already in the Black

---

[52] Richard Muller, *The German Air War in Russia* (Baltimore, MD, 1992), p. 70. The Parpach Line was a series of strong fortifications stretching for approximately 18 kilometres across the narrow strip of land separating the Kerch' Peninsula from the rest of the Crimea.
[53] Anon., *German Air Force*, p. 178.
[54] Evans, *Third Reich at War*, p. 405.
[55] Glantz and House, *Gates of Stalingrad*, p. 104. See Maps 6-12.
[56] BA-MA RH 2/432, fol. 29 (26 July 1942). Heusinger served in this position from 15 October 1940 until 20 July 1944.
[57] See, for example, Heinz Magenheimer, 'Hintergründe und Wurzeln der Kriegswende, 1942/43: Der Weg nach Stalingrad und El Alamein', *Wehrwissenschaftliche Rundschau*, 31 (1) (Jan.-Feb., 1982), p. 154.
[58] Jukes, *Hitler's Stalingrad Decisions*, p. 30. One of the main goals which Hitler set for the Army in 1942 was to break Soviet resistance at Leningrad and to link up with the Finns, thereby freeing up German forces for use elsewhere (see below for the genesis of Directive No. 41).

Sea, a total of only twenty could be secured.[59] Finally, the Navy argued that yielding more MFPs for such an operation would necessarily result in a complete cessation of supply by sea to the Crimea and a reduction in shipments to Nikolaev and Kherson.[60]

Operation Blau: Planning

On 29 February Bock informed his army commanders that operations for the coming summer would include taking the oilfields at Majkop and securing the area around Stalingrad. However, he suggested that a frontal assault extending 450 kilometres would not be successful. Considerable forces would be needed, especially as it would be preferable to secure the north flank as a precondition to success. He foresaw a double envelopment of the enemy to the west of the Don in the first phase, with one arm of the pincer directed against Voronezh and the other further south with the aim of encircling the forces to the north-east of Belgorod. The flank of the latter attack would be covered by a third thrust, aimed at Pavlovsk on the Don via Artëmovsk. The second part of the overall operation would involve a frontal assault eastward by 17th Army over Shakhty (80 km north-east of Rostov) combined with a drive from the position gained in the first phase roughly along the line Starobel'sk–Novaja Kalitva in a south-easterly direction in order to encircle the enemy in the Donets bend. The final stage – crossing the lower Don and, if possible, into the area around Stalingrad – depended on how the previous operations developed.[61] There are two points of interest in this preliminary study: firstly, Hitler's final draft of Blau coincided largely with Bock's suggestions, even though actual operations ultimately took the changing battlefield situation into consideration; secondly, Bock advocated the idea of simultaneous operations against Stalingrad and the Caucasus if events created the favourable conditions needed to do so.

The plan for Operation Siegfried (the initial code name for Blau) was conceived by Halder and his subordinates according to specific instructions which they had received from Hitler.[62] On 4 April the first draft was finally put before the Supreme Commander, who proceeded to make wholesale changes throughout and add important new sections of his own dealing principally with the main operation. This document was formally issued as Directive

[59] 'Fernschreiben SKL', BA-MA RH 2/431, fol. 24.
[60] 'Abschrift von Fernschreiben', BA-MA RH 2/431, fol. 25.
[61] 'Fortführung der Operationen im Sommer 1942', BA-MA RH 19-I/238, fol. 4, 5-6.
[62] Blau, *German Campaign*, p. 121.

No. 41 on the following day.[63] The most striking feature of the new operational plan was Hitler's unease at the possibility of large numbers of enemy troops evading capture and his insistence on smaller, tighter encirclements as a consequence.[64] Even before the crushing German victory at Kiev in 1941 he had been convinced that this concept must be adhered to in order to counter the imperviousness of Red Army formations to being captured once they had been surrounded. Indeed, previous encirclement operations had proven to be too ambitious.[65] Despite the obvious huge successes, the Germans consistently failed in the first year of the campaign to seal off large pockets of enemy troops properly, allowing thousands of potential prisoners to escape back to their own lines or to the burgeoning ranks of the partisan movement.[66]

An operational order issued by Army Group South several weeks later highlighted this issue clearly.[67] Hitler also expressly stated in an addendum to this directive that it was important for the tank and motorized units not to lose contact with their infantry neighbours, and to be available if required to attack the enemy in the rear. In each individual case, he argued, it was of the utmost importance to ensure the destruction of all units engaged.[68] He was particularly cautious at this point not to be overly ambitious: the principle was to learn from the experiences of the previous year and to concentrate on eliminating as many hostile formations as possible.

Hitler also agreed with Bock that the northern sector should be significantly strengthened. The area between Orël and Voronezh was seen as critically important, and enemy attacks could be expected here, especially with tanks. For this reason, units were to be well supplied with mines, anti-tank and 8.8cm anti-aircraft guns, and the corresponding ammunition. Most crucially, the fact that the satellite armies had little experience of tank warfare meant that they would be best employed within the framework of German units, while their complement of anti-tank weapons would have to be increased severalfold.[69] On 12 May he ordered that approximately 350-400 anti-tank guns were to be sited in the defensive front around Voronezh. In addition, seventy-two 7.5cm FK(f) mounted anti-tank guns were to

---

[63] *KTB OKW*, vol. 2, pp. 315, 316. For the complete text of this directive, see Hitler, *War Directives*, pp. 178-83.
[64] Hitler, *War Directives*, p. 180.
[65] Creveld, *Supplying War*, p. 169.
[66] Robert M. Citino, *The German Way of War: From the Thirty Years' War to the Third Reich* (Lawrence, KS, 2005), p. 293.
[67] 'Weisung Nr. 1 für den Ostfeldzug 1942 im Bereich der H.Gr.Süd' (30 April 1942), BA-MA RH 20-2/160, fol. 31, 32.
[68] 'Anlage 2: Richtlinien für die Kampfführung', BA-MA RH 20-2/160, fol. 20.
[69] Ibid., fol. 18-19.

be supplied to either German or allied units as the need arose in addition to the weapons in their current tables of organization.[70]

Interdiction missions and close support of the ground forces by the Luftwaffe would take on an even more important role during Blau than had been the case for Barbarossa the previous summer.[71] Despite claims to the contrary, the Luftwaffe had taken strategic bombing seriously in the interwar years. Significantly, however, it had learned from its experiences in the Spanish Civil War and had become acquainted with other *modi operandi*, such as air superiority and defence, reconnaissance, close air support, and transport and interdiction missions in support of the ground forces. Such a variety of competences also helped it to forge ahead of its contemporaries in terms of joint operations.[72] Now, though, its operational use was being determined by events in the Soviet Union. The defeat along the entire front the previous winter had firmly established the notion in the Luftwaffe that it was best used in a ground-support role.[73] However, bombers were also used to buttress Army operations because there was simply a lack of close-support aircraft, thus limiting any potential strategic use of the air arm.[74]

The operational plan for Blau was complex, but there was very likely no alternative. The Luftwaffe, however, would concentrate on successive, relatively limited operations – the most important lesson which had been gleaned from the successful preliminary operations at Khar'kov.[75]

---

[70] 'Ausstattung mit s.Pak (mot.Z)', BA-MA RH 2/429, fol. 118. The 7.5cm FK 231(f) was a French field artillery piece (the famous 7.5cm Model 1897 cannon) which was later reconfigured by the Germans and used in an anti-tank capacity.
[71] Murray, *War in the Air*, p. 136.
[72] Murray, 'Problem of German Military Effectiveness', p. 223.
[73] Weinberg, *World at Arms*, p. 298.
[74] Plocher, *German Air Force*, p. 13.
[75] Citino, *Death of the Wehrmacht*, p. 157.

Blau I

At 0215hrs on 28 June the German summer offensive struck the weakest point of the entire Soviet front with complete surprise.[76] Two days later, with the northern wing making good progress, the overall operation was renamed Braunschweig ('Brunswick'). The second and third phases would now be code-named Clausewitz and Dampfhammer ('Steam Hammer') respectively.[77]

Three days into the operation FHO reported that 21st Soviet Army and the northern wing of 28th Army were retreating in the face of the onslaught of 6th Army. However, tenacious rearguard action was to be expected to the east and north-east of Belgorod. The enemy was also expected to retreat before the northern wing of the army, though it looked as though he was trying to create a new defensive line further east along the river Oskol.[78] It seemed at this early stage that the Soviets might attempt to stand fast and, as in the previous year, once again try to hold ground at all costs.

From the outset there were signs that the General Staff wished to remain in complete control of the operation. On 2 July Halder informed Army Group South that it could not carry out its mission as in the past because it lacked strength in depth in terms of *matériel* and personnel. Therefore, he warned, it was important for the headquarters to keep the OKH informed as much as possible with respect to losses (especially of tanks) and unit combat strengths.[79]

The following day Hitler arrived, accompanied by Halder, at the headquarters of Army Group South in Poltava (120 km west of Khar'kov). He suggested that the units which had appeared before the northern wing of Armeegruppe von Weichs were doubtless part of the group intended to defend Moscow, but these would now more than likely be used up in an attack towards the south. This, Hitler declared, would actually be advantageous for the Germans. Army Group South had been built up with modern weapons and, crucially, anti-tank guns at the expense of the other two formations to such an extent that it was in a far better position to be able to defend itself than Army Group Centre. Besides, the Luftwaffe was concentrated in the south – a prerequisite to defending against massed attacks. He expected the Soviets to engage Weichs's northern wing as the Germans advanced. However, he also feared that even more attacks would be directed against the lines further east.

---

[76] Overy, *Why the Allies Won*, p. 66.
[77] *KTB OKW*, vol. 2, p. 460.
[78] 'Kurze Beurteilung der Feindlage vom 1.7.42', BA-MA RH 2/1956, fol. 1.
[79] 'Fernschreiben OKH', BA-MA RH 2/431, fol. 76.

Therefore, he concluded, it was not in keeping with the overall operational goals to stiffen up the defence around Voronezh. It was far more important to avoid extensive, time-consuming battles and instead get the armoured units to the Don south of Voronezh with their northern flank protected by infantry. The city itself was of no decisive importance, while the railway line running from Moscow just to the east could be disrupted south of the river. It was imperative, however, that armoured units drive southward along the right bank of the Don as quickly as possible. He also emphasized the importance of the simultaneous deployment of tanks at the beginning of the second phase as he feared that the thrust would become a 'blow into thin air' (*Luftstoß*) without them.[80]

When they left, both Hitler and Halder were under the impression that their position on the matter had been clarified. Bock, however, thought that he had been left with discretion to proceed as he saw fit. The fact that Hitler had told him of his desire to reach the Caucasus oilfields, plus the fact that a separate army group was now heading in that general direction, should have left Bock knowing that Voronezh was not an important target. Halder felt that the commander of the panzer units in the area, Colonel-General Hermann Hoth, had decided to use all his forces at Voronezh in the hope of finishing the job quickly – a job which he had only reluctantly taken on from Bock in the first place.[81] Despite all this, however, Bock ignored Hitler's signal to break off the battle for Voronezh.[82] Instead, on 6 July he ordered Weichs to take Voronezh and destroy its industry, yet in the same communiqué he reiterated Hitler's belief that a swift advance down the Don was 'decisive' for future operations.[83]

On the same day, Halder noted ebulliently in his diary that the German high command had either overestimated the strength of the enemy and that he had been completely routed, or – as Hitler believed – that Timoshenko was now employing an elastic defence. Halder suspected that the latter alternative was unlikely as the loss of the area to the west of the Don would have serious implications for the Soviets in general. Besides, he observed, the enemy front immediately to the north of the Sea of Azov was so strong that it could not be withdrawn in a 'flexible' fashion without considerable disruption.[84] However, Hitler's

---

[80] 'Führerbesprechung am 3. Juli 1942 bei Heeresgruppe Süd in Poltawa', BA-MA RW 4/880, fol. 6-7, 8. Armeegruppe von Weichs was comprised of 4th Panzer Army, LV Corps and 2nd Hungarian Army under the command of 2nd Army headquarters. It was a temporary operational grouping of Army Group South for the first few weeks of Blau.

[81] Jukes, *Hitler's Stalingrad Decisions*, pp. 36-7. Hoth commanded 4th Panzer Army from May 1942 to December 1943.

[82] Samuel W. Mitcham, *Hitler's Field Marshals and their Battles* (London, 1988), p. 158.

[83] BA-MA RH 20-6/174, fol. 11-12.

[84] Franz Halder, *The Halder War Diary, 1939-1942*, eds. Charles Burdick and Hans-Adolf Jacobsen (Novato, CA, 1988), p. 635 (6 July 1942). See Map 12 (8 July).

assessment of the situation ultimately proved to be correct. At just that time, the new Soviet Chief of Staff (Vasilevskij) had convinced Stalin to allow fighting withdrawals.[85] This would have far-reaching consequences for operations in general.

Halder informed the commanders of Army Group South and Küstenstab Asow (Army Group A) that the 'decisive' goal for the coming operations was now the destruction of the forces north of Rostov and to prevent them withdrawing *east*; all other actions which did not directly support this intention were therefore secondary. Time had also become a significant factor now: each day spared during the new assignment would be of the utmost importance to operations for the remainder of the year.[86]

On the 11th, the OKW announced the end of fighting at Voronezh. A total of 89,000 troops, over 1,000 tanks, approximately 1,700 guns, and 570 aircraft were removed from the Soviet order of battle in the first phase of Blau. An additional setback for the Soviets was the fact that their T-34s suffered high losses as a result of the practice of committing them piecemeal to battle.[87] Despite their reputation, these formidable tanks were by no means invincible.

Blau II (Clausewitz)

The second phase of the summer offensive began when 1st Panzer Army and 17th Army on the right flank of the front attacked eastward on 9 July. Bock noted bitterly in his diary that operations should have remained in his hands alone as the offensive would be cut in two and that the high command was still looking to encircle an enemy that was no longer there. Despite this, however, the retreating Soviet armies began to lose their organization and communications. Hitler's Directive No. 43 signed two days later stipulated that part of 11th Army would now cross the Kerch' Strait in order to secure the ports of Anapa and Novorossijsk and to assist in the drive into the North Caucasus. These changes were

[85] Weinberg, *World at Arms*, p. 415.
[86] Telephone call, BA-MA RH 2/431, fol. 71 (6 July 1942). The staff of Army Group A was set up in Germany as Stab Anton on 24 April. It was known by the code name Küstenstab Asow from 22 May, and took command of the southernmost sector of the front on 7 July as Army Group A.
[87] Wilhelm Arenz, introduction to M. Kasakov, 'Die Abwehrkämpfe der sowjetischen Brjansk-Front vor Voronez im Juni-Juli 1942', *Wehrwissenschaftliche Rundschau* 16 (1966), p. 475. We now know that intense fighting around Voronezh continued for a month: Glantz and House, *To the Gates of Stalingrad*, p. 165. In fact, even by late September, 2nd Army indicated that the Soviets were still trying hard to make an impression here. The report stated that large numbers of enemy tanks were dug in and being used as close-support artillery: 'Auszug aus Tagesmeldung H.Gr.B. vom 22.9.42', BA-MA RH 2/129, fol. 148.

unambiguous: it was understandably evident to the Germans – from Hitler down to the infantry private – that the Soviets were nearing the end of their combat capability.[88]

Late in the evening of the 13th – on the day that 4th Panzer Army was put under the command of Army Group A and Bock was informed that he was to be relieved as commander of Army Group B – Hitler intimated to both army groups that it was important to take the town of Tsimljansk in order to prevent Soviet troops escaping across the lower Don as well as to break the railway connection from Sal'sk to Stalingrad. This would also allow armoured units to operate on the southern bank of the river. Nevertheless, he was not willing to see mobile units tied down in this area. Their primary goal was to reach the line from Kamensk-Shakhtinskij to the mouth of the Donets in order to prevent Red Army formations from retreating eastward, but they were then to be released as early as possible to carry out further operations.[89]

Two days later, forward elements of 3rd Panzer Division (4th Panzer Army) and 14th Panzer Division (1st Panzer Army) met 40 kilometres south of Millerovo, encircling the remnants of five Soviet armies in the process. However, though List had every reason to believe that this was the beginning of a large encirclement, even this relatively small pocket was porous to the east, allowing enemy troops to escape.[90]

It appeared at this point that the Red Army formations were withdrawing in an orderly fashion in order to avoid further encirclements. This was reported back to Halder by a General Staff officer, Colonel Johann Adolf Graf von Kielmansegg, who had recently flown a reconnaissance mission along the entire southern front. However, the Chief of Staff dismissed this notion out of hand, saying that the officer concerned had let himself be influenced by local impressions.[91]

Hitler already had one eye on the Caucasus before the offensive was finally split towards the end of the month. He had explicitly stated on the 17th that the Don was to be crossed in as many places as possible so that the Russians could not build strong defensive positions along the river. This was still the main operation, which was to be covered by the swift advance of Army Group B towards Stalingrad.[92] Later that day he ordered that certain

---

[88] Glantz and House, *Gates of Stalingrad*, pp. 163, 186, 195-6. For the complete text of Directive No. 43 ('Continuation of Operations from the Crimea'), see Hitler, *War Directives*, pp. 187-91.
[89] 'Fernschreiben OKH', BA-MA RH 2/431, fol. 17-18. Bock relinquished his command to Weichs two days later.
[90] Glantz and House, *Gates of Stalingrad*, p. 198. See Map 13 (15 July).
[91] Cited in Philippe Masson, *Die deutsche Armee: Geschichte der Wehrmacht, 1935-1945* (Dießen, 1997 [1996]), p. 220. Kielmansegg later served as NATO Commander-in-Chief Allied Forces Central Europe (CINCENT) from 28 June 1966 until 1 April 1968.
[92] Telex from the OKH to Army Group A, BA-MA RH 2/431, fol. 7-8.

units from 4th Panzer Army would assist in destroying the Soviet forces to the north of Rostov. After all, he noted, the staff of Army Group A had itself insisted that this would have a decisive impact of further operations. These elements were to move directly on the city, though they were also permitted to force crossings over the Don if there was a possibility of seizing bridges and other areas without much effort.[93]

On the 21st, FHO reported that a captured general staff officer of 56th Soviet Army had stated that it had been ordered to hold Rostov. Further north, however, the enemy seemed to be disintegrating before 1st Panzer Army, therefore making it possible to enter the city from the north-east and to cut off any retreat before 17th Army. The situation further east was also favourable. 4th Panzer Army had crossed the Don quickly and with relative ease at Nikolaevskaja and Tsimljansk, which indicated that the enemy had not succeeded in building up a continuous defensive line on the southern bank of the river. 91st Rifle Division had been identified at both crossings, suggesting that the unit was holding a broad front (at least 50 kilometres). If the Germans succeeded in getting enough units over the river they could anticipate further immediate gains, as up to that point no enemy formations had been detected in place along the river Sal.[94]

By the final week of July Soviet South-Western Front (now renamed Stalingrad Front under the command of Lieutenant-General Vasilij Gordov) and approximately one quarter of Southern Front (Lieutenant-General Rodion Malinovskij) had been nullified as combat-effective forces. Both German army groups between them had captured 158,000 Soviet troops during the first two stages of operations, and Russian sources put losses from 28 June to 24 July as 568,347 casualties from a total of 1,310,000 troops engaged. The four southern *fronts* also lost 2,436 tanks, 13,716 guns and mortars, and 783 combat aircraft.[95] Though numbers were not as great as in the previous year, there was every reason for Hitler and the General Staff to believe that further German advances would meet with little resistance.

---

[93] Telex from the OKH to Army Group A, BA-MA RH 2/431, fol. 15-16 (17 July 1942).

[94] 'Kurze Beurteilung der Feindlage vom 21.7.42', BA-MA RH 2/1956, fol. 85. 56th Army was commanded by Major-General Aleksandr Ryzhov from 1 July 1942 until 5 January 1943.

[95] Glantz and House, *Gates of Stalingrad*, p. 204. Gordov commanded Stalingrad Front from 23 July to 12 August, when he was succeeded by Colonel-General Andrej Erëmenko, who commanded the *front* until 2 February 1943. Future Marshal Malinovskij commanded Southern Front from 24 December 1941 until it was disbanded on 28 July 1942. Its remnants were placed under the command of North Caucasus Front, which was commanded by Marshal Semën Budënnyj from 19 May until the end of August.

On 23 July, the day that Rostov fell, Hitler issued Directive No. 45. This document specified that the weak Soviet forces which had evaded capture to the north of the Don must now be destroyed to the south and south-east of the city. Hitler believed that these stragglers would more than likely be reinforced by troops from the Caucasus but, as has been shown, the German high command did not put much store in either the capability or reliability of these formations. Army Group A was then tasked with taking the Black Sea coast and driving on to the oilfields of Baku. Before Army Group B, however, the Soviets were beginning to concentrate troops along the approaches to Stalingrad. It now became clear to Hitler that both problems would have to be confronted simultaneously.[96]

Military historians have generally tended to be more scathing about this new operational plan than any other decision made by Hitler on the Eastern Front up to that point.[97] It has been suggested that this directive eschewed the idea of a systematic advance according to consecutive phase lines in favour of two simultaneous thrusts on divergent axes.[98] Others have argued that Hitler was unwilling to acknowledge the fact that both army groups were evidently too weak for their allotted tasks, particularly in terms of mechanized units.[99] He is further charged with mistakenly assuming that the Red Army before Stalingrad was in a state of disintegration – a groundless error in judgement which would ultimately prove to be fatal.[100]

While some of the above accusations might be true to a limited degree, any study which views the situation from Hitler's perspective in late July 1942 reveals convincing explanations for his actions. Primarily, he divided the offensive into two separate operations in order to capitalize on the remarkable successes which his troops had accomplished during the previous month of fighting.[101] The state of the enemy in terms of leadership, combat

---

[96] Citino, *Death of the Wehrmacht*, p. 224. See Map 14 (25 July). For the full text of this important document, 'Continuation of Operation Braunschweig', see Hitler, *War Directives*, pp. 193-7. It was also stated in this directive that future operations to be conducted by Army Group A towards the Caucasus would be carried out under the code name *Edelweiß*. The edelweiss (*Leontopodium alpinum*) is a flower which is indigenous to the Alps and other similar regions of Europe and Asia. It was used as the symbol of the mountain units in the German armed forces.

[97] Masson, for instance, argues that it was Hitler's greatest and most consequential operational mistake (*Deutsche Armee*, p. 216).

[98] See, for example, Blau, *German Campaign*, p. 153.

[99] See, for example, Schlemmer, *Italiener an der Ostfront*, p. 59, and Wegner, 'Krieg gegen die Sowjetunion', p. 880.

[100] See, for example, Noakes and Pridham (eds.), *Nazism*, vol. 3, p. 841, and Manfred Kehrig, *Stalingrad: Analyse und Dokumentation einer Schlacht* (Stuttgart, 1974), p. 27.

[101] Glantz, *Colossus Reborn*, p. 29.

effectiveness and morale were also mitigating factors. It therefore seemed opportune to force the issue south of the Don as quickly as possible. On the 25th, for instance, FHO reported that crossing the Don on either side of Rostov and the expansion of the bridgehead at Nikolaevskaja should prevent the enemy from building up a continuous defensive position along the river or from restoring the situation with local measures on the southern bank.[102] There was enough evidence from the front to support the view that pursuit of the defeated enemy in the time-honoured Prussian tradition was still the best option in the current situation.

Three days after Directive No. 45 was issued FHO noted the strong defence to the south of Rostov before 17th Army, though resistance was abating before 1st Panzer Army. It inferred from this development that the enemy intended to hold the line eastward from Rostov along the river Manych.[103] By the end of the month, however, intelligence now suggested that the Red Army formations before 1st Panzer Army appeared to be in a state of disintegration, despite attempts by higher commands to intervene.[104] The situation now invited an operation to pin the enemy forces situated to the south of Rostov against the Sea of Azov.

As Army Group A was still the focus of the offensive at this time, Hitler had explicitly ordered that it was to be given strong air support. The Ju 88 multi-role aircraft and He 111 bombers of the formations III./LG 1, KG 51, KG 55 and I./KG 100 were deployed against Soviet rearward communications, while the Bf 110 heavy fighters of ZG 1 were used in a close-support capacity and the Bf 109 fighters of JG 52 hunted down the haggard remnants of 4th Soviet Air Army (Major-General Konstantin Vershinin). Altogether, IV Fliegerkorps (General Kurt Pflugbeil) had over 500 aircraft for the initial assault towards the Caucasus. Given the state of its Red Air Force opponent, this number was more than adequate. On 29 July the Luftwaffe reported that the VVS was so weak on the right wing of the army group that dive-bombers could operate without interference from enemy fighters. In contrast, however, there was fierce combat on the road to Stalingrad. Hitler therefore redirected I./JG 53 together with 4th Panzer Army to this sector (see below). Nevertheless, this had no immediate ramifications for the rate of advance of Army Group A.[105]

---

[102] 'Kurze Beurteilung der Feindlage vom 25.7.42', BA-MA RH 2/1956, fol. 103.
[103] 'Kurze Beurteilung der Feindlage vom 26.7.42', BA-MA RH 2/1956, fol. 106.
[104] 'Kurze Beurteilung der Feindlage vom 30.7.42', BA-MA RH 2/1956, fol. 119.
[105] Bergström, *Stalingrad*, p. 67. A *Fliegerkorps* was divided into several *Geschwader*; a *Geschwader* was roughly equivalent to an RAF Group and was usually divided into three *Gruppen* (Groups). The designation III./LG 1 means the third *Gruppe* of Lehrgeschwader 1. Each *Gruppe* comprised 30-40 aircraft. Some of the more common types of *Geschwader* were: JG = Jagdgeschwader (Fighter Group), KG = Kampfgeschwader

In the period from 8 to 28 July the divisions of 1st Panzer Army covered 450-500 kilometres during their advance beyond the Don. The army also noted that it had received 'exemplary' support from units of both German air corps in the region, and that it had captured 83,228 prisoners, 132 tanks, 488 artillery pieces, 6 anti-aircraft and 135 anti-tank guns, locomotives and other rolling stock, 20 aeroplanes, and numerous infantry and small-arm weapons. The prisoners and stragglers came from approximately fifty enemy formations, half of which had been destroyed, with a further large proportion reported as severely mauled.[106] At about this time armoured and motorized units persistently requested airdrops of fuel, though when these were not forthcoming they inevitably slowed down on occasions. Nevertheless, the general rate of advance was unexpectedly quick and deceived the Soviet high command.[107]

On 29 July the Germans cut off the last railway connection to the Caucasus, and Hitler now believed that it was only a matter of time before the region was taken. Later that evening, Halder informed List of the possibility of his losing three corps to Army Group B. He further noted that Hitler did not believe that the eastern flank of Army Group A was in any way threatened – an assessment which was not shared by the commander or his staff. List also argued that any success in the Caucasus would depend on a constant supply of petrol, oil and lubricants. Finally, he expressed the opinion that Hitler's plan – to be executed with weakened forces and an open flank – was a considerable gamble.[108]

Nevertheless, Hitler had reason to feel that the Soviets before Army Group A were in a weakened state. In a telex to both southern army groups on the last day of July he declared that the enemy front south of the Don was torn in two now that the railway line had been cut. He was also confident enough to declare that while the Soviets would try to prevent the Germans from crossing the Caucasus, sizeable reinforcements from the Russian interior would not be available to the enemy in order to prevent this. He expected instead that the Soviets would throw all available reinforcements into the Stalingrad sector in order to hold the 'lifeline' (*Lebensader*) that was the Volga. He therefore reiterated his order that the

---

(Bomber Group), LG = Lehrgeschwader (Training Group), NJG = Nachtjagdgeschwader (Night Fighter Group), StG = Sturzkampfgeschwader (Dive-Bomber Group), ZG = Zerstörergeschwader (Heavy Fighter Group). Future Marshal Vershinin commanded 4th Air Army from 7 May until 8 September 1942, when he took control of all Soviet air forces in southern Russia, before returning to 4th Air Army in May the following year. He later served two terms as commander of the VVS after the war. Pflugbeil commanded IV Fliegerkorps from 20 August 1940 until 3 September 1943.

[106] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (3 August 1942), BA-MA RH 21-1/409, fol. 12.

[107] Seaton, *Russo-German War*, p. 282.

[108] Cited in Blau, *German Campaign*, p. 156.

immediate and most important task for Army Group A was the swift capture of the Black Sea coast. This would have the double advantage of eliminating the Soviet naval threat while at the same time expediting the supply of the German troops by sea. Elements of 1st Panzer Army would attack towards Majkop in order to cut off a retreat by the Soviets towards the Caucasus. Later, mobile units would attack towards the line Voroshilovsk–Petrovskoe (120 km further east) in order to cover the flank of the advance into the eastern Caucasus.[109] On the same day, Halder noted that the Russians before Army Group A would try to stop the advance, but he was doubtful if they had the necessary forces to do so.[110]

On 1 August, 4th Panzer Army was once again put under the command of Army Group B, though Army Group A was still given most of the fuel stocks and transport which were available.[111] This would at least have placated List somewhat for the immediate future, as would the FHO report the following day which declared that there was no discernible uniform resistance of the Soviet forces before the entire front of his army group. The enemy continued to resist in the highlands to the north-east and east of Leningradskaja before the centre of Armeegruppe Ruoff (17th Army and 3rd Romanian Army), though the units facing 1st Panzer Army continued to retreat.[112] However, Kleist suggested that his planned advance over the Kuban' in a south-westerly direction should lead to the complete collapse of the enemy front before 17th Army.[113] His operations here were also being supported by twin-engine fighters and bomber units as his army approached the upper reaches of the river.[114]

From 30 June to 3 August the ammunition expenditure for 17th Army was 3,942 tonnes (a daily average of 112.6). The current situation was deemed as secured, however, with 80-100% of the most important types of munitions per division.[115]

On the 7th, 1st Panzer Army was informed that it was to continue its march beyond the Kuban' as the possibility might arise that it would have to open up the road to Krasnodar and Novorossijsk from the rear. However, the army command argued against the advance on Krasnodar as the town was not deemed to be important and the assignment would cost fuel.[116] This is significant as, even with the possibility of an encirclement battle at hand, the tank

---

[109] BA-MA RH 2/432, fol. 43-4.
[110] Cited in Blau, *German Campaign*, pp. 156-7 (31 July 1942).
[111] Citino, *Death of the Wehrmacht*, p. 233.
[112] 'Kurze Beurteilung der Feindlage vom 2.8.42', BA-MA RH 2/1956, fol. 127. See Map 15 (1 August) and Map 16 (5 August).
[113] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (3 August 1942), BA-MA RH 21-1/409, fol. 11.
[114] Plocher, *German Air Force*, p. 224.
[115] 'Versorgungs-Lage der 17. Armee, Stand vom 7. August 1942', addendum 2 ('Munitionswesen'), BA-MA RH 20-17/585, fol. 107.
[116] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42', BA-MA RH 21-1/409, fol. 23.

commanders wanted to adhere to their original operational plan by advancing eastward instead. This constituted a flagrant disregard for Hitler's principle of destroying enemy units first before continuing to the next objective, particularly at this crucial period when decisive battles were being sought. On the same day, FHO noted that the position of the Soviets in the north-western Caucasus region had most likely become untenable. There was further evidence that the enemy was retreating southward under cover of strong resistance along the line of the lower Kuban' and the Belaja via the Krasnodar bridgehead. Of further significance was the fact that aerial reconnaissance had suggested that there would be no enemy action against the eastern flank of Army Group A for the present.[117]

The Soviet retreat from the Don at the beginning of August threatened to turn into a catastrophe at any moment, with not a single mechanized unit facing five German armoured and four motorized divisions. However, 1st Panzer Army was temporarily obstructed when the Vesëlovskoe dam was blown up, turning the river Manych into a lake 3-4 kilometres wide. Nevertheless, North Caucasus Front continued to find itself in a quandary, with the German tank army covering approximately 250 kilometres in a week at the beginning of the month.[118] On 9 August, the day that Krasnodar, Ejsk and Majkop all fell, FHO reported that the impression that the Soviet leadership was no longer in overall control of the forces operating against Army Group A was being continually reinforced. It hardly seemed possible that the enemy could put up a sustained defence of the north-western Caucasus, especially as prisoner statements suggested that the combat power of his units here was sinking on each successive day. Instead, it was presumed that he would try to pull back towards the coastal road to Batumi under cover of rearguards on the Kuban' and in the mountain passes. Alternatively, he might attempt to withdraw his forces by sea, though this had not yet been observed. Before 1st Panzer Army, the loss of Pjatigorsk combined with the poor combat effectiveness of the enemy troops seemed to preclude the creation of a defensive line along the river Kuma. 50 kilometres further east, air reconnaissance had indicated that the Soviets were pulling away from Prokhladnyj to the south and east, especially through the Georgian Military Road. This suggested that the Germans could initially expect a strong defence only at the river Terek if the situation continued to develop as quickly as before, though possibly also in the mountain passes and the area Groznyj–Makhachkala.[119]

---

[117] 'Kurze Beurteilung der Feindlage vom 7.8.42', BA-MA RH 2/1956, fol. 149.
[118] *VOV*, vol. 1, pp. 256, 257.
[119] 'Kurze Beurteilung der Feindlage vom 9.8.42', BA-MA RH 2/1956, fol. 158.

On the following day, I Flak Corps (Deßloch) noted that the only railway line through the Caucasus (Armavir–Belorechensk–Tuapse) was of particular importance to the Soviets. It could now be assumed that the persistent air attacks on the final stretch running to the coast – which disrupted traffic on it several times a day – would make the retreat of Soviet troops to Tuapse particularly difficult.[120]

During the midday conference at FHQu *Werwolf* near Vinnitsa in the Ukraine on 12 August, Hitler vetoed the use of 1st Mountain Division (Major-General Hubert Lanz) and 4th Mountain Division (Major-General Karl Eglseer) east of Mount Elbrus, arguing that this would lead to an unnecessary dispersion of forces, though he did leave both units in the high mountains. He ordered that the right wing of Army Group A should be given priority with respect to fuel so that it could fulfil its task of taking the Black Sea coast.[121] Two days later he ordered 13th Panzer Division and 16th Motorized Infantry Division to XXXX Panzer Corps (1st Panzer Army) because it appeared that the enemy was gathering strong forces around Makhachkala as a forward defence of Baku.[122] It seemed, however, as though this would not adversely affect operations towards the south. In fact, at this juncture most commanders in Army Group A were certain that Soviet resistance in the Caucasus would collapse within a matter of weeks.[123] This buoyancy was justified by an FHO report dated 16 August which confirmed that around 500,000 prisoners had been captured and approximately 5,000 enemy tanks, over 5,000 guns, and 220 aircraft put out of action by ground forces alone since the beginning of Blau. The Russian infantry was no longer showing the hardness and stamina in the offensive that it had once possessed. Instead, infantry assaults were now only conducted with armour support. Artillery was weaker than before and units had a tendency to save ammunition, though the report suggested that this could possibly be because of stockpiling for larger operations or due to shortages. In the tactical conduct of armoured warfare, Soviet commanders were still far inferior to their German counterparts. Drivers tended to be good, but gunners were particularly bad, most likely because of the insufficient

---

[120] 'Lagebeurteilung Nr. 1' (10 August 1942), BA-MA RL 11/160, fol. 254-5.

[121] Jukes, *Hitler's Stalingrad Decisions*, pp. 50-1. Lanz commanded 1st Mountain Division from 25 October 1940 until 17 December 1942. 4th Mountain Division was commanded by Eglseer from 1 November 1940 until 22 October 1942, and then by Lieutenant-General Hermann Kreß until his death in the Kuban' bridgehead on 11 August 1943.

[122] *KTB OKW*, vol. 2, p. 587 (14 August 1942). XXXX Panzer Corps was commanded by General Leo Freiherr Geyr von Schweppenburg from 21 July to 30 September 1942. 13th Panzer Division was commanded by Major-General Traugott Herr from 1 December 1941 until he was severely wounded on 31 October 1942. 16th Motorized Infantry Division was commanded by Lieutenant-General Sigfrid Henrici from 15 March 1941 until 13 November 1942, when he took command of XXXX Panzer Corps.

[123] Walsh, *Stalingrad*, p. 120.

four-week training that they apparently received.[124] These sentiments were supported by OKW figures, which showed that in the six weeks from 1 July to 10 August Army Group A *alone* took almost 310,000 enemy prisoners and captured or destroyed 522 tanks, 1,555 artillery pieces, 637 anti-tank guns, and 141 anti-aircraft guns.[125]

From 1 to 13 August Armeegruppe Ruoff received 3,307 cbm of fuel. From this amount, 239 cbm went to 3rd Romanian Army, 781 to the Luftwaffe, and 746 to the army supply troops. When all allocations had been distributed, only one third of the original amount of fuel remained for the corps and divisions.[126] On one day alone around this time it expended 258 tonnes of ammunition. Excluding 3rd Romanian Army, it also used up 155 cbm of petrol and 69 cbm of diesel. Supplies brought by road combined with captured stocks amounted to 49 cbm of petrol.[127]

By mid-August Luftwaffe aircraft were operating practically unhindered over the Caucasus, resulting in more and more units being sent to where there was deemed to be a greater necessity. On the 14th, I./JG 52 was sent to Luftwaffenkommando Ost (Greim) in the central sector before Moscow, which was the site of particularly strong Soviet relief offensives. The majority of the remaining units of IV Fliegerkorps were sent to Stalingrad a few days later. However, just as the German command was making these operational changes the Soviets were regrouping. Though fuel and ammunition shortages were responsible somewhat for the reduced rate of advance of 1st Panzer Army, the effect of Soviet air attacks was also a significant contributory factor. The new *Schwerpunkt* at Stalingrad meant that Army Group A was now only left with fighter support in the shape of 15.(kroat.)/JG 52 in the west (facing 5th Soviet Air Army and the VVS ChF along the Black Sea coast) in addition to two thirds of JG 52 plus the headquarters squadron of JG 77 in the south-east. Nevertheless, many German pilots were dominant over their adversaries, inflicting devastating losses on 4th Soviet Air Army further east (149 aircraft shot down in September alone). However, they were too few in number to be everywhere at once in the vast expanses of the Caucasus.[128]

---

[124] 'Lageorientierung Russland', BA-MA RH 2/2047, fol. 24.
[125] *KTB OKW*, vol. 2, p. 583 (13 August 1942).
[126] 'Anlagenband XVII/2 zum Kriegstagebuch der Oberquartiermeister Abt./AOK 17, Nr. 215-507 vom 14.8.-31.8.42', document 219, BA-MA RH 20-17/592.
[127] Ibid., document 258 (14 August 1942).
[128] Bergström, *Stalingrad*, pp. 67-8. Each *Gruppe* was further divided into three or more *Staffeln* (a *Staffel* was roughly equivalent to an RAF Squadron). The designation 15.(kroat.)/JG 52 means the fifteenth (Croatian) *Staffel* of Jagdgeschwader 52. Major-General Sergej Gorjunov commanded 5th Air Army from its creation on 3 June 1942 until after the end of the war. The VVS ChF (*Voenno-vozdushnye sily Chernomorskogo flota*) was the air force of the Soviet Black Sea Fleet. It was commanded by Major-General Nikolaj Ostrjakov from 14 October 1941 until his death on 24 April 1942 at Sevastopol', and then by Major-General Vasilij Ermachenkov until the end of the war.

Occasionally, German aircraft also had to provide much needed assistance for the other Axis ground forces. On the 14th, for instance, approximately 100 aircraft of Luftwaffenkommando Don (Lieutenant-General Günther Korten) supported 2nd Hungarian Army during its defensive battles on the Don at Korotojak (75 km due south of Voronezh).[129]

On 16 August, 1st Panzer Army noted that XXXX Panzer Corps was to receive one battalion of 1st Mountain Division and a small mountain infantry staff as guidance for the light infantry and mountain artillery units and the establishment of communications for the coming operations in the mountains. It would also be given command of 2nd Romanian Mountain Division (Brigadier Ioan Dumitrache) in addition to special German formations comprised of mountain specialists with purpose-built equipment. Members of the Caucasian peoples would make up the remainder of its personnel.[130] On the same day, however, FHO reported that the enemy had most likely already withdrawn the bulk of his forces beyond the mountains to the Black Sea ports. Nevertheless, it was to be expected that the evacuation of these troops by sea would be screened by the determined opposition of strong rearguards, especially on the road leading through the mountains from Khadyzhensk to Tuapse. Before XXXXIX Mountain Corps further east, however, there was only slight resistance from widely scattered enemy groupings.[131] That night the Soviets retreated further south and gave up the most important route leading into the Caucasus, the Klukhorskij Pass, which is the highest point on the Sukhumi Military Road (2,781 m), 75 kilometres from the town as the crow flies. The road to Sukhumi and the Black Sea coast – only a two-day march away – now appeared open.[132] The final drive against the Black Sea ports was at hand.

Around the middle of the month the Soviet forces were poorly deployed. The main forces of 46th Army (Major-General Vasilij Sergatskov) were at the foot of the ridge, closer to the sea, while there were only small units in the passes themselves. The Marukhskij Pass between Russia and Georgia (50 km from Sukhumi in a straight line) was being defended by only one reinforced rifle company, while the Klukhorskij Pass further east had been screened by only two rifle companies and an engineer platoon. Soon the latter was taken by the

---

[129] 'OKW/WFSt Lageberichte, Teil 1 (1.8.1942-15.8.1942)', BA-MA RW 4/93, fol. 308. Luftwaffenkommando Don was formed from I Fliegerkorps on 26 August 1942 and returned to its original designation on 17 February 1943. Korten commanded the formation from 23 August 1942 until 11 June 1943. He became Chief of Staff of the Luftwaffe on 24 August 1943 but died on 22 July 1944 from injuries sustained in the assassination attempt on Hitler two days previously.

[130] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42', BA-MA RH 21-1/409, fol. 54-5. General de Brigadă Dumitrache commanded this division (until 15 March 1942 it was called a brigade) from 10 May 1941 until 20 August 1944.

[131] 'Kurze Beurteilung der Feindlage vom 16.8.42', BA-MA RH 2/1956, fol. 188.

[132] Meyer, *Blutiges Edelweiß*, p. 86. The Sukhumi Military Road runs over the Caucasus ridge between Cherkessk and Sukhumi for a distance of 349 kilometres. Its construction was completed in 1894.

Germans, who subsequently advanced 10-25 kilometres down the southern slopes of the mountains to threaten the town of Sukhumi itself.[133] An Army Group A intelligence report dated 19 August suggested that the Soviets also only had weak forces in the mountain passes between the river Laba sector and Mount Elbrus further east (17th Army). The enemy had not expected such a quick advance by the Germans and was hoping that the mountains alone would be enough for a defence. However, now he was beginning to strengthen here, especially in the eastern sector. The Terek bend (1st Panzer Army) would also be strongly defended in order to deny the military roads to the Germans. Nevertheless, large movements of troops to the south and east suggested that the Soviets were not expecting to hold the northern Caucasus. Most importantly, the twenty or so divisions in Transcaucasia did not appear to have been thrown into the battle, clearly suggesting that they only had limited combat power. It was therefore a possibility that the Caucasian reserves were indeed viewed as unreliable by the Soviet high command. The report further noted that there was no danger to the east flank from the direction of Astrakhan'. In summing up, the army group concluded that the enemy had 'completely written off' (*völlig abgeschrieben*) the Transcaucasus area. However, it also warned that time-consuming and exhaustive battles might still lie ahead because of the longer supply lines, the large area of operations, limited fuel, and the increasingly difficult terrain.[134] This less than optimistic prognosis was confirmed at the front. 17th Army noted that any advance in the western Caucasus would be long and difficult because of stiff enemy resistance here. It seemed as if he was not just looking to bide time to bring in more men and *matériel*; he was, rather, trying to stall German operations completely for the coming winter.[135]

On 22 August the staff of Army Group A incurred Hitler's wrath. He again repeated his demand that a major port would have to be taken in order to help supply its two armies.[136] The troops in the mountains, meanwhile, were fully committed and advancing inexorably towards the Black Sea. Up to the 23rd, XXXXIX Mountain Corps managed to take the most important passes despite tenacious enemy resistance and to cross the high-mountain ridge on a 150-kilometre front down to the southern slopes. The furthest advance was made by III

---

[133] *VOV*, vol. 1, p. 257. Sergatskov commanded 46th Army from 28 April until 28 August 1942. He was succeeded by Lieutenant-General Konstantin Leselidze.
[134] 'Beurteilung der Feindlage', BA-MA RH 2/2582, fol. 69-70.
[135] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (20 August 1942), BA-MA RH 20-17/132, fol. 15.
[136] Jukes, *Hitler's Stalingrad Decisions*, p. 55. See Map 17 (23 August).

Battalion of 91st Regiment (4th Mountain Division), which found itself only 20 kilometres in a straight line from the coast.[137]

Recriminations were soon coming from both armies, too. On the 22nd, 1st Panzer Army noted that the Soviets had air superiority because the Luftwaffe had been so weak up to that point.[138] Two days later 17th Army claimed that it had not had a single combat-effective mobile unit since crossing the Don. Recalling the enemy situation at the time of his retreat over the Kuban', the war diary noted, including the massive destruction and chaos in his ranks on the mountain roads, one would have been forgiven for believing that a successful thrust to the coast should have been possible. In fact, the army suggested that even long before the Kuban' crossing it had had no support from the Luftwaffe, thus giving the Russians time to set up a defence in the mountains unhindered. There was, however, one slight acknowledgement of the difficulty of the overall situation: the army staff stressed that this was not a critique of the higher command, which had to decide on the distribution of forces and commitment of the Luftwaffe according to other considerations.[139]

Tensions were not confined to the Wehrmacht. The head of the administration department at 3rd Romanian Army headquarters suggested to 17th Army that if the Germans were not in a position to supply fuel they should at least report this in good time so that the Romanians could act accordingly.[140] Four days later, however, the quartermaster of 17th Army gave an overview of the supply situation for the *Armeegruppe*. Addressing the recent complaint from the Romanians with respect to the supply of fuel, the army pointed out that it distributed its allocation according to needs. It was also noted that the Romanian units had always been particularly favoured over their German counterparts. It therefore requested that the same economy and supervision measures which applied to the German Army should also apply to its allies. The quartermaster further suggested that supplies of ammunition and provisions were secured, though fuel stocks were sinking further.[141]

---

[137] Meyer, *Blutiges Edelweiß*, p. 88; 'Der Angriff des XXXXIX. (Geb.) A.K. auf und über den Hauptkamm des westl. Kaukasus in den Grundzügen', BA-MA RH 24-49/81, attachment 566.
[138] II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42', BA-MA RH 21-1/409, fol. 65.
[139] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (24 August 1942), BA-MA RH 20-17/132, fol. 24.
[140] 'Anlagenband XVII/2 zum Kriegstagebuch der Oberquartiermeister Abt./AOK 17 Nr. 215-507 vom 14.8.-31.8.42' (23 August 1942), attachment 415, BA-MA RH 20-17/592.
[141] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17' (27 August 1942), BA-MA RH 20-17/591, fol. 13.

On 26 August Hitler ordered 17th Army not to advance into the high mountains but instead to simply block the two military roads (Ossetian and Georgian), especially as both would be closed due to snow by mid-September.[142]

Four days later, during a meeting between List and the commanders of 17th Army and its constituent corps, it was noted that air strikes were not as effective in the forests as they were in more open, flatter terrain, but at least they would help to undermine enemy morale while simultaneously giving encouragement to the German troops.[143] The records show, however, that air support was consistent, even if it was not available everywhere at once. Throughout July and August German air units were continuously harassing and dispersing the retreating Soviets in support of the advance on the ground.[144]

Differences of opinion were not confined to questions of efficient employment of aircraft. On the 23rd, FHO noted that the continuous strong traffic from Groznyj towards Makhachkala in the eastern sector suggested that the Soviets might not necessarily attempt to hold the Terek position at any cost. Instead, they might try to defend the mountain passes on the ridge of the Caucasus while simultaneously blocking the road to Baku at Makhachkala with all available forces. This opinion was based on the observation of lively traffic on the Caspian Sea travelling northbound from Makhachkala to Astrakhan' transporting, *inter alia*, men and horses. It now seemed possible that the Red Army troops which would be left over once the Caucasus region was surrendered – for which there were definite signs – would be sent to the focal point of the coming battles, possibly around Stalingrad or the lower Volga.[145] On the following day, however, 1st Panzer Army reported that the Soviet command seemingly wanted to hold the oil-producing areas of Groznyj in the Terek bend as well as the Georgian Military Road with all means available to it, including heavily manned and improved defensive positions on the southern bank of the river.[146]

On 30 August Hitler once again showed his disquiet at the rate of advance of Army Group A. He had not been displeased at the original commitment of forces; rather, he was unhappy that the staff had not regrouped its forces once it realized that the offensive had stalled. He saw the slimmest chance of success in the Tuapse sector compared to elsewhere, though still refused to take XXXXIX Mountain Corps from the Sukhumi axis and redeploy it

---

[142] *KTB OKW*, vol. 2, pp. 641-2.
[143] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (30 August 1942), BA-MA RH 20-17/132, fol. 38.
[144] Plocher, *German Air Force*, p. 223; Murray, *Strategy for Defeat*, p. 124.
[145] BA-MA RH 2/1956, fol. 216.
[146] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (24 August 1942), BA-MA RH 21-1/409, fol. 72.

further north. He also tacitly conceded that Makhachkala and Astrakhan' would now be the targets for the end of 1942; Baku and its oilfields would have to wait until the following year.[147] Nevertheless, both cities were still important targets. Makhachkala, for example, was as significant to the Soviets as Baku because of the importance of shipping on the Caspian Sea and of removing local inhabitants as well as material of industrial and economic value from the grasp of the advancing Germans. It also acted as a disembarkation point for troops heading to the front.[148] On the following day, Hitler sanctioned List's plan to concentrate at three separate points in the sector held by 17th Army: Anapa and Novorossijsk, followed by a drive southward along the coast; both sides of the road to Tuapse, where as strong a force as possible was to be deployed in order to prevent any stalling of the attack; and on the road to Sukhumi, where XXXXIX Mountain Corps would concentrate the units freed up by reducing the number of troops holding the passes further east.[149]

It has been suggested that it was a fundamental error of military strategy on Hitler's part to send the Italian Alpini Corps (Lieutenant-General Gabriele Nasci) to the Don bend – where it would ostensibly be of little use – instead of into the mountains.[150] Indeed, certain commanders fighting in the Caucasus were frustrated by this seemingly incongruous decision, which went against the original operational plan. The commander of 1st Mountain Division still believed thirty-five years after the war that Edelweiß could have been brought to a successful conclusion if Hitler had not sent these divisions to the Don, where Lanz believed they were effectively 'sacrificed' (*verheizt*).[151] It must be remembered, however, that the Alpini divisions were perfectly suited to combat in non-mountainous terrain. At the beginning of the year Army Group South requested two new Italian divisions to arrive before April in order to rebuild the expeditionary corps (CSIR) into a fully combat-effective force once again. The army group specified its preference for Alpini divisions as they were more suited to the rigours of war in the east than the two divisions currently comprising the corps (9th Semi-Motorized Division *Pasubio* and 52nd Semi-Motorized Division *Torino*) because of their personnel, structure and mobility. *Pasubio* and *Torino* could then be used in a

---

[147] Cited in Helmuth Greiner, *Die Oberste Wehrmachtführung, 1939-1943* (Wiesbaden, 1951), p. 407; *KTB OKW*, vol. 2, p. 658.
[148] A. S. Sawjalow and T. J. Kaljadin, *Die Schlacht um den Kaukasus, 1942-1943* (Berlin, 1959), p. 26. For examples of units being landed at Makhachkala on five separate days between 15 and 26 September, see the intelligence reports from 1st Panzer Army: BA-MA RH 21-1/437, fol. 106, 115, 127, 131, 139.
[149] *KTB OKW*, vol. 2, p. 662.
[150] See, for example, Magenheimer, *Hitler's War*, p. 153, and Hayward, *Stopped at Stalingrad*, p. 149. The first Alpini companies were formed in 1872 from local inhabitants of the mountainous northern border regions of the Kingdom of Italy. Generale di Corpo d'Armata Nasci commanded the Alpini Corps from 20 March 1942 until 1 May 1943.
[151] Cited in Meyer, *Blutiges Edelweiß*, p. 98.

security capacity in the rear.[152] The Commander-in-Chief of 8th Italian Army (Gariboldi) was also particularly grateful to see the Alpini Corps take up defensive positions along the Don on 19 August as he felt that his sector was too long, even after the arrival of 3rd Romanian Army to his right.[153] Finally, one must also acknowledge the fact that the corps was sent to the Stalingrad axis rather than the Caucasus because the *Comando Supremo* wanted all Italian units in the east to serve under a single command.[154]

It is not within the remit of the present work to discuss in detail the steps taken by the German high command to strengthen allied armies on the Stalingrad axis. However, some points are important as they affected operations further south and are often overlooked. For instance, Hitler was incensed when he discovered that the majority of 22nd Panzer Division, which he had ordered on four separate occasions to be deployed behind 8th Italian Army, was still fighting in the Don bend further south at the end of August.[155] Three weeks later Army Group B issued directions for the stiffening of the front being held by the satellite armies, especially in the Italian and Hungarian sectors (where an enemy offensive was anticipated). Defensive strength was to be enhanced by all means possible, beginning with an increase in the number of prisoners of war and locals employed in building defensive positions. As much firepower as possible was to be sited in the front line, with reserves so tight behind that they could be ready within hours to react to any breakthrough. Lastly, German units in the area were to be used as a mobile reserve.[156] In an addendum to the above, it was stated that there was to be day and night air reconnaissance of the railway lines opposite the satellite armies so that the deployment of fresh troops by the enemy could be monitored. Continuous observation of the enemy bridgeheads around Serafimovich (3rd Romanian Army) was also ordered.[157] Furthermore, the OKH ordered that from mid-October four German tank destroyer battalions were to be rested and refitted and each reinforced with 7.62cm Pak 36(r) self-propelled anti-tank guns (known as the Marder). Rehabilitation was to be completed by the end of December, with the units to be specifically used by Army Group South to support

---

[152] 'Heeresgruppe Süd, Ia: Kriegstagebuch, Teil III, Band 3, 16.-31.1.42 (Anlagen)' (27 January 1942), BA-MA RH 19-I/236, fol. 198. The *Pasubio* division was commanded by Generale di Divisione (Major-General) Vittorio Giovanelli from August 1940 until December 1942. *Torino* was commanded at this time by Major-General Roberto Lerici.
[153] Schlemmer, *Italiener an der Ostfront*, pp. 59-60.
[154] As explained by Warlimont in *KTB OKW*, vol. 2, p. 647 (annotation to entry for 27 August 1942).
[155] Jukes, *Hitler's Stalingrad Decisions*, pp. 55, 59.
[156] 'Abwehr am mittleren Don' (23 September 1942), BA-MA RH 20-2/160, fol. 235-7.
[157] 'Anträge für die Luftaufklärung', BA-MA RH 20-2/160, fol. 231-2.

the satellite armies.[158] Throughout October, 3rd Romanian Army repulsed several strong Soviet probing attacks with the help of fresh second-echelon divisions, which profited from better training and equipment plus the fact that the army held a shorter frontage than VI Corps (4th Romanian Army) to the south of the city, all of which led to higher morale. The Germans – pleased with Romanian performances here – no longer believed it was necessary to weaken their forces at Stalingrad in order to reinforce this sector.[159] This, however, was not the case on every front. A month earlier, III Panzer Corps (1st Panzer Army) had complained bitterly that the many Romanian desertions were an instructive measure of their combat worth, particularly in the defensive. Similarly, the many casualties were a result of the frequent withdrawals in the face of Soviet attacks and the subsequent efforts to regain this lost territory.[160]

By the end of August the Germans had taken 625,000 prisoners and had captured or destroyed approximately 7,000 tanks, 6,000 guns and over 400 aircraft. This resulted in a more cautious approach by the Stavka – notwithstanding Stalin's Order No. 227 – which saw the Soviet high command now more anxious than ever to retain as many forces in the field as possible. German losses, however, were more significant, rising to approximately 200,000 men for the entire *Ostheer* in August alone, only about half of whom were replaced.[161] Nevertheless, Russian casualties were not inconsequential if one considers that their manpower reserves were, according to FHO, by no means inexhaustible (see Chapter 5).

On 3 September Hitler ordered that the advance of XXXXIX Mountain Corps would continue as before, despite protestations from List, who wanted the bulk of its forces redeployed to Majkop on the Tuapse axis. However, Hitler tried to assuage him by suggesting that the battles in this sector would develop more quickly now, especially as strong air formations could soon be expected (a promise which was later realized).[162] On the following day at Pjatigorsk, List met with Kleist, who also believed that progress depended primarily on air support. 1st Panzer Army noted that if the German fighter, bomber and anti-aircraft formations were reinforced in order to overcome Soviet air superiority, Ordzhonikidze (Vladikavkaz) and Groznyj could be reached. The army also felt that taking Makhachkala before the end of the year was still decisive, though reinforcements would be needed for this

---

[158] 'KTB OKH/Organisationsabteilung vom 1.8.42-31.12.42', BA-MA RH 2/824, fol. 79, 89. Certain versions of the Marder II and III tank destroyers were fitted with highly effective captured Russian 7.62cm field or anti-tank guns.
[159] Axworthy, *Third Axis, Fourth Ally*, p. 86.
[160] BA-MA RH 21-1/423, fol. 177 (10 September 1942).
[161] Roberts, *Stalin's Wars*, p. 126; Wegner, 'Krieg gegen die Sowjetunion', p. 957.
[162] 'Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.9.42-30.9.42', BA-MA RH 19-V/106, fol. 21.

task. List could offer at best a further Romanian mountain division from the Crimea, though units given up to 4th Panzer Army would only become available once again if the situation at Stalingrad permitted.[163] An indication of the difficulties faced by 1st Panzer Army at this time is evident from its expenditure of ammunition, which amounted to approximately 1,000 tonnes in just two days at the beginning of the month along its entire front.[164]

Meanwhile, in the high-mountain sector, XXXXIX Mountain Corps summarized that despite obvious supply problems, it felt that it was possible to get to the coast with the greatest commitment of man, beast and machine. It also noted, however, that this should not be tried if contact could not be expected in a short time with another group coming south along the coast. The staff concluded that the best plan of action was to take four or five reinforced battalions and send them to XXXXIV Corps (General Maximilian de Angelis) on the Tuapse axis.[165] On the 7th, Jodl met with the Chief of Staff of Army Group A (Greiffenberg) and the Commander in Chief of XXXXIX Mountain Corps (Konrad) at the headquarters of the army group in Stalino (Donetsk). They agreed that the corps should not continue the attack towards the coast but should instead block the passes and give up all remaining forces to its neighbour as suggested. A decision from the OKH was to arrive on following day.[166]

When Jodl returned and proclaimed that he fully concurred with List's assessment of the overall situation, Hitler was apoplectic with rage. Though the nature of his complaint against Jodl is still somewhat in doubt, it is quite possible that Hitler believed that the OKW chief of operations was blaming him for the weaknesses which had become apparent in the campaign. He refused for some time afterwards to shake hands or dine with Jodl or Keitel, and even considered relieving them of their positions. He also insisted on having two stenographers present at every situation conference and briefing in future so that the generals could not – as he saw it – misconstrue his words in their favour.[167] The first three were

---

[163] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (4 September 1942), BA-MA RH 21-1/409, fol. 101-2.
[164] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42' (3 and 4 September 1942), BA-MA RH 21-1/449, fol. 67.
[165] 'Allgemeine Beurteilung über mögliche Richtungen' (5 September 1942), BA-MA RH 20-17/134, fol. 123-4, 126-7. De Angelis commanded this formation from 26 January 1942 until 22 November 1943.
[166] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 53.
[167] Megargee, *Inside Hitler's High Command*, pp. 179-80.

brought to his headquarters from the Reichstag and sworn in on 12 September. Their subsequent records of these meetings amounted to approximately 500 pages every day.[168]

On the 9th, Greiffenberg reported that Hitler had decided that a separate thrust by XXXXIX Mountain Corps to the coast should be abandoned. Instead, as many elements of the formation as possible were to be sent to XXXXIV Corps as recommended by the front-line commanders. A directive to this effect was issued the following day.[169]

Meanwhile, further east, Army Group A reported to the OKH that it first intended to let the Soviets attack its bridgehead in the Terek bend before riposting. Hitler believed that this proposal was 'completely wrong' (*völlig falsch*) as it would lead to the loss of these hard-won positions, especially if the enemy was allowed to bring in strong reinforcements.[170] On the following day he dismissed List and effectively took personal command of the army group. He had already had strong reservations about the field marshal's personality, which had now been confirmed in the previous two months by List's pessimistic attitude towards the assigned operational goals, the deployment of ground and air forces, and the fuel situation.[171] If there was one characteristic that Hitler could not forgive in an officer it was any tendency to take a gloomy view of troublesome situations. For instance, he would later admonish Rommel after the Normandy campaign in 1944 by suggesting that though Germany's most revered field marshal was a fine and spirited leader of men, he turned completely fatalistic at the slightest hint of perceived difficulties. A man could not be a military commander, Hitler opined, if he was not an optimist.[172]

Greiffenberg remained as chief of staff in Stalino and flew to OKH headquarters on the 12th for a two-day visit in order to be briefed on the new command situation.[173] On the 14th, Halder ordered that 17th Army and 1st Panzer Army would, as before, report via the chief of operations to the army group. However, they would now also have to supply any situation assessments and intentions which were not in the daily reports directly to the Operations Department of the General Staff. Each day, Army Group A would have to send a 1:200 000 or, if necessary, a 1:100 000 scale map by courier to Vinnitsa. Fundamental operational decisions were to be sanctioned by the OKH first; then, the chief of staff of the army group

---

[168] Irving, *Hitler's War*, p. 484. For the extant verbatim records of these discussions in English translation, see Adolf Hitler, *Hitler and his Generals: Military Conferences, 1942-1945 – the First Complete Stenographic Record of the Military Situation Conferences, from Stalingrad to Berlin*, ed. David M. Glantz (London, 2002).
[169] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 57, 59.
[170] *KTB OKW*, vol. 2, p. 703 (9 September 1942).
[171] Wegner, 'Krieg gegen die Sowjetunion', pp. 952-3.
[172] Cited in Warlimont, *Inside Hitler's Headquarters*, pp. 451-2.
[173] 'Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.9.42-30.9.42', BA-MA RH 19-V/106, fol. 101.

was empowered to make decisions based on the orders which he received from the General Staff. It was further stressed that in order to allow the Army command to come to quick decisions it was necessary to make the reports more detailed than before. Finally, both armies were to send officers back to Army headquarters on a regular basis in order to report in person to the OKH.[174] The corps, meanwhile, were to send a 1:200 000 scale map every second day to the armies which showed the exact positions of their constituent battalions. Details of the dispositions of the artillery, anti-aircraft and rocket-launcher battalions plus the siting of anti-tank weapons were also to be included.[175]

Hitler also lost little time adjusting to his new role. Armeegruppe Ruoff informed XXXXIX Mountain Corps that he wanted a sample of a combat report on the battles which the forward elements of 4th Mountain Division had recently fought. This was also to comprise a comprehensive account of the course of events – especially orders given by the corps and division – as well as the dispatches sent by the division to the corps about its own and the enemy situation, including dates and times. Reconnaissance reports on the condition of roads and tracks were especially important and were also to be contained in the report.[176]

Meanwhile, on the left wing of the army group, intelligence seemed to confirm the German assumption that the Soviets were in full retreat. Aerial reconnaissance noted strong activity on the road from Groznyj to Makhachkala in both directions (approximately 2,000 trucks and 400 animal-drawn vehicles), but the greater part of the traffic was heading south-eastward.[177] A Red Army deserter also claimed just over a week later that a significant number of transport vehicles were leaving Ordzhonikidze in a southerly direction along the Georgian Military Road.[178]

In mid-September Army Group A gave its actual strength at the beginning of the month as 9,698 officers, 3,219 clerks, 53,622 NCOs, and 279,675 men.[179] These figures – from the German reporting category *Ist-Stärke* – were an indicator of the overall number of personnel in a given formation, including convalescents due to return within four (later eight) weeks, units given up temporarily to other commands, and soldiers on leave. The shortfall in personnel at this time was a total of 44,154 officers, NCOs and men.[180] Numbers were similar

---

[174] 'Fernschreiben an H.Gr.A, AOK 17, Pz.AOK 1', BA-MA RH 2/432, fol. 83. Between 31 October and 1 November Hitler's headquarters were moved back to FHQu *Wolfsschanze* near Rastenburg in East Prussia.
[175] BA-MA RH 21-1/423, fol. 265 (13 September 1942).
[176] BA-MA RH 24-49/80, attachment 473 (13 September 1942).
[177] 'Ic-Zwischenmeldung' (10 September 1942), BA-MA RH 21-1/437, fol. 155.
[178] 'Ic-Tagesmeldung' (19 September 1942), BA-MA RH 21-1/437, fol. 128.
[179] 'Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.9.42-30.9.42' (12 September 1942), BA-MA RH 19-V/106, fol. 104.
[180] Ibid., fol. 120 (14 September 1942).

for the Red Army, with a total of 109,134 men comprising the Black Sea Group of Forces (in the western half of the sector) towards the end of the month.[181]

On the 13th, Hitler decided to send the Slovak Mobile Division (General Jozef Turanec) eastward immediately.[182] This unit was to bolster 1st Panzer Army as no others could be spared from Army Group B as originally intended. On the same day a further order was issued, this time forcing 17th Army to give up the Slovak heavy artillery regiment to its neighbour. However, the chief of operations of the former argued that this would have a detrimental effect on the drive on Tuapse.[183] Nevertheless, the Soviets were increasing their strength before 1st Panzer Army, resulting in a critical situation emerging north of the Terek, which would mean having to take armoured formations out of the bridgehead further south and reinforcing the northern flank even though the army group believed this to be an undesirable solution.[184] Consequently, on the following day Hitler instead ordered that SS Division (mot.) *Wiking* would be sent as reinforcement – a definite improvement as far as the staff of Army Group A was concerned.[185]

The hopes expressed in August that the Soviets seemed resigned to losing the Caucasus were now dissipating somewhat by mid-September. FHO noted that the appearance of units originally withdrawn from the northern sector around Vologda in July gave an indication of how important the defence of the Caucasus had become for the Soviet leadership. On a more positive note, though, it also suggested that the units available to the Red Army in the region appeared to be insufficient for the task at hand.[186]

On the 16th, having visited both LII Corps and XXXX Panzer Corps, the quartermaster of 1st Panzer Army noted that neither had any concerns with respect to fuel. Ammunition, however, was still being used at a considerably high rate. Nevertheless, the situation had been mastered following the unexpected early arrival of the first two munitions trains.[187]

---

[181] *IVMV*, vol. 5, p. 220.
[182] 'Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.9.42-30.9.42', BA-MA RH 19-V/106, fol. 112. This division – officially called 1st Slovak (Mobile) Infantry Division – was commanded by Turanec from late summer 1942 until January 1943.
[183] Ibid., fol. 112-13.
[184] Ibid., fol. 111.
[185] Ibid., fol. 117 (14 September 1942). This division (later known as SS Panzer Grenadier Division *Wiking* and finally 5th SS Panzer Division *Wiking*) was comprised of Germans as well as volunteers from occupied western European countries – primarily Scandinavia, the Netherlands and Belgium – and was commanded by future SS-Obergruppenführer (General) Felix Steiner from 1 December 1940 until 22 November 1942.
[186] 'Kurze Beurteilung der Feindlage vom 15.9.42', BA-MA RH 2/1957, fol. 83.
[187] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42', BA-MA RH 21-1/449, fol. 72. LII Corps was commanded by General Eugen Ott from 10 December 1941 until 1 October 1943.

On the 18th, Hitler emphasized to Keitel that priority lay with the Tuapse operation. It was most important to break through to the Black Sea, while the attack on the Georgian Military Road and on towards Baku was secondary. Two days later the regrouping of units on the Tuapse axis was complete. The troops involved included mainly mountain and light infantry divisions, the latter having also been trained in mountain warfare.[188] The breakthrough to the Black Sea was also of decisive importance if the German forces were to gain the most favourable and shortest winter line as possible. The Luftwaffe would be heavily involved, though its assistance would be staggered from north to south: on the 22nd it would support V Corps, then LVII Panzer Corps (General Friedrich Kirchner) for the next two days, followed by XXXXIV Corps for a further two days, and finally XXXXIX Mountain Corps on 2 October.[189]

By this time, however, the German Air Force was no longer alone in the southern Russian skies. On 17 September there were 460 sorties by enemy aircraft in the area of Luftflotte 4 (including 205 at Stalingrad, 90 at Novorossijsk, and 75 around the area Mozdok–Kizljar). The enemy was believed to have about four times that number of machines altogether in the region:

[188] Grechko, *Bitva za Kavkaz*, pp. 151, 152.
[189] 'Armee-Befehl Nr. 104' (21 September 1942), pp. 1, 2, BA-MA RH 20-17/135. Kirchner commanded LVII Panzer Corps intermittently from 15 November 1941until the end of the war.

Table 25: Estimated Soviet Airfield Occupancies, 17 September 1942	
Area	Machines
Astrakhan'	49
Black Sea Coast	213
Groznyj–Makhachkala–Derbent	562
Tbilisi–Kirovabad (Gjandzha)	184
Erevan	77
Baku	125
Stalingrad	644
Total	**1,854**
Total (19 November)	**1,668**

Until the end of the month there was an average of well over 450 enemy sorties each day, with numbers generally divided between Stalingrad in the north and the line Mozdok–Novorossijsk further south, with *Schwerpunkte* against both every now and again (though mainly at Stalingrad).[190] On 20 September Luftflotte 4 had a total of 905 aircraft at its disposal, 516 of which were combat-ready.[191]

Towards the end of the month, 1st Panzer Army pointed to its surprisingly rapid advance in the Terek salient. The passive nature of the enemy here indicated weakness, despite his numerical superiority. He seemed to be badly mauled and certain units had only low combat effectiveness. In order to finally gain the initiative, the army intended to resume

[190] 'Lageorientierung für den 17.9.1942', BA-MA RL 11/124, fol. 158ff. The figure in red is the *actual* total of Soviet aircraft attached to Don, Stalingrad and Transcaucasus Fronts on the day of the Soviet counteroffensive at Stalingrad (from 6,262 along the entire Eastern Front): Nikiforov (ed.), *Sovetskaja aviatsija*, pp. 54-7. It should be noted that there was a large influx of aircraft into the region in the intervening two months in preparation for this operation.
[191] Wegner, 'Krieg gegen die Sowjetunion', p. 872.

the offensive towards Ordzhonikidze once SS-*Wiking* arrived.[192] However, intelligence showed that the enemy before 1st Panzer Army was not concentrating as to be expected in the Terek bridgehead in front of the successful German advance but instead to the north of the river opposite the German defensive front. This was obviously a positive development with respect to the attack on Ordzhonikidze, but the numerous enemy tanks which had been identified further north constituted a considerable danger for the eastern front of the army. They were in terrain accessible to armour and would have good possibilities against the weak flank, including the threat of cutting off the German troops operating in the salient.[193] This problem was addressed by Hitler when he concurred with Jodl's suggestion to deploy Gen.Kdo.z.b.V. Felmy on the left wing of Army Group A. He stipulated, however, that the original plan to use this unit south of the Caucasus still remained, so it was not to be used in situations which would lead to a reduction of its combat effectiveness.[194]

Halder was relieved of his duties on 24 September and was succeeded by the Chief of Staff of Army Group D (OB West) in France (Zeitzler). According to the former, Hitler was now determined to impose his own will on the General Staff and to instil a fanatical belief in National Socialism in its officers. However, Halder's departure was welcomed by the OKW with 'unconcealed joy', while the OKH and many commanders at the front viewed it as deliverance from the recent unbearable crisis of confidence.[195]

Hitler's choice as Halder's successor suggested the type of officer who would henceforth be entrusted with important leadership positions. Zeitzler was eleven years younger than his predecessor and relatively junior in rank, but these disadvantages were offset by his confidence and dynamism. His greeting to his new General Staff colleagues on meeting them for the first time was a loud 'Heil Hitler!' The keys to victory, Zeitzler declared, would be organization, improvisation, complete faith in the Führer, and willpower. Hitler further cemented his authority over the officer corps when he assumed direct control over the Army Personnel Office (*Heerespersonalamt*) on 1 October, which meant that he could implement without hindrance changes such as those regarding postings. Thus, for example, seniority as a condition for promotion fell further into the background as

---

[192] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (20 September 1942), BA-MA RH 21-1/409, fol. 155.
[193] Ibid., fol. 160 (last week of September).
[194] Jukes, *Hitler's Stalingrad Decisions*, p. 68; *KTB OKW*, vol. 2, p. 750. Generalkommando zur besonderen Verwendung Felmy (Corps Headquarters for Special Duties Felmy), known as Sonderstab F (Special Staff F) up to 14 September after its commander, General Hellmuth Felmy, was originally set up in Greece and intended for desert warfare in the Middle East. He commanded the formation from 20 May 1941 until 8 December 1944 (on 9 April 1943 it was designated Gen.Kdo.z.b.V. LXVIII, and on 30 September LXVIII Corps).
[195] Cited in Wegner, 'Krieg gegen die Sowjetunion', pp. 953-4, 960.

performance – especially at the front – became the most important criterion. Personnel regulations that had already been introduced in February and June of that year were now strengthened with two new Führer Orders dated 4 October and 4 November, which allowed for officers who had performed well in their duties as front-line commanders to advance more rapidly through the ranks. Hitler further insisted that adherence to the principles of National Socialism was a prerequisite for new postings to troop commands, which in turn also facilitated speedy promotion.[196]

Operations at the front continued as before. On the morning of the 25th there was an armed reconnaissance mission with fourteen Ju 87 dive-bombers in support of the advancing infantry in its push south-westward towards Kurinskij (23 km north-east of Shaumjan). The actual time spent engaging the enemy was forty minutes.[197] Two hours later fifteen Ju 87s attacked Red Army field positions to the north of the town, this time for thirty minutes. One direct hit into a mortar position was reported, where a large explosion was observed.[198] There was a total of seventy-seven sorties flown in seven missions that day by II./StG 77 alone. On the same day, 17th Army noted that the difficulties posed by terrain would always persist. However, once the troops broke through the improved enemy positions the battles would become 'easier'. Up to that point the Soviets seemed to be only feeding local reserves into the battle in addition to battalions which had been improvised and hastily sent to the front. It was therefore all the more important to start the attack along the entire front without further delays. For this reason, Ruoff refused permission for XXXXIV Corps to allow 97th Jäger Division to postpone its attack for two days. The war diary further noted that the promised air support for the attack corps had been incessant and especially effective once again.[199]

Front-line commanders were now adamant that attacks should be going in fast in order to keep the defenders off balance. However, they were also aware of the necessity of indirect support from the Luftwaffe. On the 23rd, for example, air reconnaissance observed a convoy of thirty ships in Gelendzhik.[200] Three days later 17th Army once again asked for stronger air support in order to disrupt the Soviet naval forces which were bringing in replacements from

---

[196] Megargee, *Inside Hitler's High Command*, pp. 181-3, 184, 185, 187.
[197] 'Erfolgsmeldung 804 (13)', BA-MA RL 10/474, fol. 13.
[198] 'Erfolgsmeldung 805 (14)', BA-MA RL 10/474, fol. 14.
[199] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (25 September 1942), BA-MA RH 20-17/132, fol. 92, 93. Sturzkampfgeschwader 77 was commanded by Major Clemens Graf von Schönborn-Wiesentheid from 14 May 1940 until 20 July 1942, Major Alfons Orthofer to 12 October, and Major Walter Ennecerus to 20 February 1943. A *Jäger* (literally 'hunter') division was a light infantry division, similar to a mountain division but with only two regiments.
[200] 'Beilage 1 zum K.T.B. Nr. 4 Ic Tätigkeitsbericht vom 14.8.-15.12.42', BA-MA RH 20-17/366.

the Soviet-Turkish border region.[201] The importance of attacking shipping was self-evident to Hitler and the German high command, even if it was not necessarily appreciated later. On the final day of the month, 17th Army reported that new Soviet units had not been detected in the past few days, suggesting that the truck and ship traffic which had been observed must be bringing in replacements as well as supplies.[202] Just over a week later, Hitler – acting on a suggestion from the new Chief of Staff the previous day – ordered commando raids by sea in order to disrupt the enemy supply line along the coastal road to the south-east of Novorossijsk.[203] This type of operation was one which Hitler identified strongly with, as evidenced by his part in the planning and preparation of operations at the Dirschau (Tczew) bridge in Poland in 1939, the attack on Fort Eben-Emael in Belgium in 1940, and the airborne invasion of Crete in 1941, all of which were daring raids which held the promise of swift results.[204]

Towards the end of the month 17th Army noted that ammunition and fuel supplies were satisfactory.[205] At this time its units operating in the high mountains still generally had their full establishment, as did the *Jäger* divisions. However, all the other divisions had suffered quantitatively and qualitatively as the young replacements did not have sufficient training. In spite of these difficulties, the war diary could note positively that the enemy only had a motley collection of forces at his disposal, which had been insufficiently trained and thrown together, though obviously he held the advantage of being the defender.[206] Nevertheless, certain German units were strong in other ways. On the last day of the month, for instance, 46th Infantry Division (XXXXIX Mountain Corps) had a 90% degree of mobility, with almost all of its authorized strength in terms of weapons.[207]

Hitler's assessment of the quality of the enemy replacements had proven to be correct, while air support was also having a significant effect along the entire front. By the end of September both air corps in the southern theatre were deployed against core targets,

---

[201] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (26 September 1942), BA-MA RH 20-17/132, fol. 96.
[202] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (30 September 1942), BA-MA RH 20-17/132, fol. 111.
[203] *KTB OKW*, vol. 2, p. 805 (7 October 1942); 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (8 October 1942), BA-MA RH 20-17/132, fol. 134.
[204] Creveld, 'War Lord Hitler', p. 23.
[205] 'A.O.K. 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (27 September 1942), BA-MA RH 20-17/132, fol. 97. See Map 18 (28 September).
[206] Ibid., fol. 103 (28 September 1942).
[207] BA-MA RH 24-49/81, attachment 594 (30 September 1942). 46th Infantry Division was commanded by Lieutenant-General Ernst Haccius from 5 April 1942 until 7 February 1943.

especially the railways and shipping.[208] However, the troops were not being completely neglected. On the 28th, 17th Army recorded that the Luftwaffe had once again provided effective assistance during its offensive and defensive battles.[209] The following day, it noted the exemplary support afforded the different attack corps by their own aircraft.[210]

By October, the German personnel situation – which had improved slightly up to the end of July – had now deteriorated significantly. Conversely, there had been a marked increase in the number of Red Army troops now facing Army Group A in the Caucasus, with nine Soviet armies now making up Transcaucasus Front.[211] However, the enemy was still deploying replacements gleaned from such disparate sources as officer cadet schools, construction troop units, and prisons. On a more positive note, the bulk of what was believed to be IV Guards Cavalry Corps had been withdrawn from Shaumjan, thereby increasing the possibility of a successful drive on Tuapse.[212]

On 4 October, II./StG 77 flew 9 missions totalling 75 sorties, ranging from attacks on artillery and infantry positions near Kushiko (Kushinka, 58 km east of Tuapse) to a troop assembly in the bend on the Pshish river to the south-west of Kurinskij (44 km north-east Tuapse); the northern section of the winding road through the Gojtkhskij Pass (just south of Gornyj on the road to Tuapse); artillery positions on the south-eastern slope of a hill to the north of Kushiko; a battery to the south-east of the village of Maratuki (2 km north-west of Kushiko); a large tanker (up to 8,000 GRT) in the port of Tuapse; and, in the sector held by 1st Panzer Army, two armoured trains 3 kilometres south of Èl'khotovo (one hit with an SC 250 bomb on one train and two on the other).[213]

At the beginning of the month SS-*Wiking* withdrew its front without permission, prompting 1st Panzer Army to inform LII Corps two days later that it was to instruct the division that as a basic principle permission from the superior authority was needed before any withdrawal was conducted from a position which had already been taken. In this particular case, any deviation from the order issued should at least have been reported immediately; otherwise, all leadership broke down and the OKH ended up receiving an

---

[208] Erhard Milch, 'Luftflotte 4 vor Stalingrad, unter Verwendung des Tagebuchs Gen. Obst. Frh. v. Richthofen', BA-MA RL 7/482, fol. 11.
[209] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 103.
[210] Ibid., fol. 106 (29 September 1942).
[211] Blau, *German Campaign*, pp. 169-70.
[212] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (4 October 1942), BA-MA RH 20-17/132, fol. 122.
[213] 'Erfolgsmeldung 854 (63)' to 'Erfolgsmeldung 2', BA-MA RL 10/474, fol. 66-73. An SC (*Sprengbombe Cylindrisch*) was an air-dropped, high-explosive bomb used extensively by the Luftwaffe throughout the war. The following number (in this case 250) was an approximation of the weight of the bomb in kilogrammes.

incorrect report from the corps and army.[214] On the same day, the army noted that the ammunition and fuel situation was secured. However, rationing was by far the highest priority for the moment.[215]

On 5 October FHO noted that incoming enemy troop movements via Makhachkala were continuing, with the bulk of the forces apparently being sent to the south of the Terek and others heading north.[216] On the following day Hitler once again ordered the long-term disruption of the railway line to the north of the river between Kizljar and Astrakhan'.[217]

At this time 17th Army noted that it was its intention to finally punch through to Tuapse in the next few days by breaking enemy resistance at decisive points and by not allowing his reinforcements to fully influence the situation. In order to achieve this it was imperative to make full use of the available air support, which had recently been extensively reinforced. IV Fliegerkorps would begin by supporting XXXXIX Mountain Corps with all means available to it; then, subject to the course of the operation there, parts of the air corps would support LVII Panzer Corps for the following two days during its assault on Khatyps in addition to supporting XXXXIV Corps on the 8th and 9th in its attempt to unite the spearhead groups.[218] However, the army still only made small advances despite the strong support which it received during this period.[219] On the 7th, for example, seven He 111 H-6 bombers of III./KG 55 attacked the line of communication Tuapse–Shaumjan with 14,000 kilogrammes of bombs (7 SC 1000s and 28 SC 250s).[220] The following day thirteen more attacked troop concentrations and field positions eastward of the halt point at the intersection of the river Pshish and the railway line Tuapse–Navaginskoe.[221] On the morning of the 11th a further three attacked troops and artillery positions on the mountain road to the east of Tuapse and west of the village of Gojtkh, dropping 6,000 kilogrammes of bombs (3 SC 1000s and 12 SC 250s).[222] Later that afternoon eight bombers attacked troop concentrations, artillery positions and narrow points on the same stretch of road once again. This time, a total of

---

[214] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (4 October 1942), BA-MA RH 21-1/409, fol. 200.
[215] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42' (4 October 1942), BA-MA RH 21-1/449, fol. 80.
[216] 'Kurze Beurteilung der Feindlage vom 5.10.42', BA-MA RH 2/1957, fol. 159.
[217] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (6 October 1942), BA-MA RH 21-1/409, fol. 206.
[218] 'Armee-Befehl Nr. 106' (6 October 1942), pp. 1, 2, BA-MA RH 20-17/135.
[219] Milch, 'Luftflotte 4 vor Stalingrad', fol. 14.
[220] 'Erfolgmeldung der III./KG 55 lfd. Nr. 331 vom 7.10.1942', BA-MA RL 10/137.
[221] 'Erfolgmeldung der III./KG 55 lfd. Nr. 332 vom 8.10.1942', BA-MA RL 10/137.
[222] 'Erfolgmeldung der III./KG 55 lfd. Nr. 335 vom 11.10.1942', BA-MA RL 10/137.

11,400 kilogrammes of bombs were dropped (8 SC 500s, 48 SC 50s, and 20 SC 250s).[223] In the first ten days of the month the Luftwaffe flew 2,498 sorties against Transcaucasus Front based on Soviet figures (636 against the Northern Group and 1,862 against the Black Sea Group of Forces).[224] According to German sources, in the whole area of Luftflotte 4 (i.e. both southern army groups) the Luftwaffe flew 10,207 sorties compared to 4,386 by the VVS in the ten days between 27 September and 6 October.[225]

On the 8th, FHO reported that enemy activity seemed to be subsiding before army groups B and North, while simultaneously increasing before A and Centre. He now seemed to want to hold the Caucasus and the area around Groznyj, if necessary by bringing in additional forces, though the point of main effort would be against Army Group Centre according to available evidence. Nevertheless, 17th Army noted that enemy reinforcements in its sector for the month of September numbered some 21,500 men – a not insignificant figure.[226]

On 9 October the quartermaster of 17th Army could report that the fuel situation of 0.5 VS among the troops was 'satisfactory'.[227]

The following day, 3rd Romanian Army (General Petre Dumitrescu) was taken out of the western Caucasus and placed between 6th Army and 8th Italian Army on the Don front.[228] This represented a considerable loss to Army Group A, as all coastal defence on the Taman' Peninsula would now have to be undertaken by German units. On the same day, 1st Panzer Army reported a combat strength of 77,350 men.[229] This figure – from the German reporting category *Gefechtsstärke* – included the combat and combat-support troops of, *inter alia*, the infantry, engineer, reconnaissance and field replacement battalions. It gave an indication of the strength of the *fighting* elements of a given unit, particularly from divisional level down, but did not include men attached to trains (combat, supply or baggage), maintenance and repair units, or *Hiwis*.[230]

On 10 October XXXXIX Mountain Corps reported the following stocks for the forces in the high mountain passes[231]:

---

[223] 'Erfolgmeldung der III./KG 55 lfd. Nr. 336 vom 11.10.1942', BA-MA RL 10/137.
[224] Grechko, *Bitva za Kavkaz*, p. 151.
[225] *KTB OKW*, vol. 2, p. 825 (13 October 1942).
[226] 'Kurze Beurteilung der Feindlage vom 8.10.42', BA-MA RH 2/1957, fol. 170.
[227] 'Kriegstagebuch Nr. 3 der Oberquartiermeister Abt./AOK 17', BA-MA RH 20-17/580, fol. 41.
[228] See Map 19 (10 October). General de Armată Dumitrescu commanded 3rd Romanian Army from 25 March 1941 until the end of the campaign against the Soviet Union.
[229] 'Gefechtsstärke 1. Panzer-Armee, Stand 10.10.42', BA-MA RH 21-1/451, fol. 240.
[230] *Hiwis* (from *Hilfswillige*, 'voluntary helpers') were inhabitants of the occupied territories who worked as combatants or labourers for the Wehrmacht.
[231] 'Kräfteeinsatz im Abschnitt Division Eglseer', addendum 3, BA-MA RH 24-49/81, attachment 604.

Gruppe Schlüter	Provisions	7 days
	Ammunition	30 tonnes
Gruppe Hörl	Provisions	14 days
	Ammunition	60 tonnes
Gruppe Schmitt	Provisions	25 days
	Ammunition	3 tonnes
Gruppe Bauer	Provisions	19 days
	Ammunition	12 tonnes
Gruppe von Scanzoni	Provisions	25 days
	Ammunition	30 tonnes
Gruppe Dauner	Provisions	21 days
	Ammunition	22 tonnes

Altogether, this amounted to approximately two days' worth of munitions supplies for the *whole* corps according to figures from the end of the month. On the 27th, it reported that an average of 80 tonnes of ammunition per day had been fired by all of its units. Recently, however, total stocks had sunk to 116 tonnes.[232] Thus, while there was enough for use on a daily basis, a significant stockpile could not be accumulated as time went by: everything was now being thrown into the final battles. On the same day, the unit received information that the OKH had insisted that provision of the troops in the mountain passes was to be secured at all costs. Consequently, it was to supply detailed information for Hitler about the numbers of troops to be left in these sectors for the coming winter.[233] This data was to include a complete report of all the various ration strengths (including *Hiwis* and Turk battalions); combat strengths of the *Jäger* divisions down to company level and of artillery units; operational numbers of engineers and anti-tank personnel; and the distribution and strength of alarm units and army troops.[234]

On the 12th, Kleist requested strong support from the Luftwaffe for his southern push through the passes, which was granted by the Chief of Staff of Luftflotte 4 (Rohden).[235] However, the VVS was still operating in considerable numbers at this point. For the first two weeks of the month there was a daily average of approximately 400 enemy sorties in the area,

[232] Telex, BA-MA RH 24-49/81, attachment 697.
[233] Telex, BA-MA RH 24-49/81, attachment 604 (10 October 1942).
[234] Telex, BA-MA RH 24-49/81, attachment 631 (12 October 1942).
[235] Milch, 'Luftflotte 4 vor Stalingrad', fol. 15.

which then dropped to about 300 for the following week.[236] In the final days of the month there was a substantial increase in incursions, with 517, 775, 473 and 495 recorded on each day from 24 to 27 October, before the numbers began to decrease once again.[237]

On the 13th, Konrad wrote expectantly to Gruppe von Bentheim (46th Infantry Division) on the eve of its assault on the Tuapse axis that despite the enemy's quantitative superiority, the Germans would nonetheless prevail. He declared that courage, not numbers, would decide the outcome (*Nicht die Zahl, der Mannesmut entscheidet*).[238] However, on the following day Hitler tacitly accepted that the campaign was heading into its second winter. Though adamant that the previous battles had gradually enervated the Soviets, he now conceded that the lines currently held by German troops were to be retained at all costs as a jumping-off point for a renewed offensive in 1943.[239] Nevertheless, his general optimism was also reflected in certain sectors at the front. On the 15th, 17th Army reported its impression that the enemy at Tuapse was starting to become worn down.[240] Indeed, just as anticipated, resistance seemed to be abating wherever he was driven out of his improved positions.[241]

Further east, 1st Panzer Army received instructions from the OKH that the expected course of battle and the organization of forces for a possible attack on Nal'chik were to be sent to Hitler. On the following day the General Staff reported that it was in full agreement with the plan which the army had formulated, and the attack was set for the 25th.[242]

By the first half of the month air support had begun to wane somewhat in the southern sector. Despite aircraft shortages, however, on 15 October there were 80 sorties in 5 missions by II./StG 77. All attacks were directed at ground targets, from positions on the Kuma (1st Panzer Army) to troop movements near Shaumjan (17th Army).[243] This unit continued to operate in the same vein until the end of October. There were 89 sorties on the final day of the month, including support of the forward units to the south-east of Kirkorov (10 km north-west of Shaumjan) in all 4 missions.[244] Soon, however, Göring ordered that Stalingrad was to take priority, with the advance on Tuapse relegated to secondary status. Nevertheless, the

---

[236] BA-MA RL 11/124, *passim.*
[237] Ibid., fol. 295, 298, 301, 303.
[238] BA-MA RH 24-49/81, attachment 627.
[239] Andreas Hillgruber and Gerhard Hümmelchen, *Chronik des Zweiten Weltkrieges* (Bindlach, 1989 [1966]), p. 146 (14 October 1942).
[240] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 155.
[241] 'Beilage 1 zum K.T.B. Nr. 4 Ic Tätigkeitsbericht vom 14.8.-15.12.42', BA-MA RH 20-17/366.
[242] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (16 and 17 October 1942), BA-MA RH 21-1/409, fol. 235, 240.
[243] 'Erfolgsmeldung 907 (116)' to 'Erfolgsmeldung 911 (120)', BA-MA RL 10/474, fol. 124-8.
[244] 'Erfolgsmeldung 959 (168)' to 'Erfolgsmeldung 962 (171)', BA-MA RL 10/474, fol. 177-80 (31 October 1942).

Commander-in-Chief of Luftflotte 4 (Richthofen) continued to support 17th Army for the meantime. On the 15th he met with Hitler in the company of Göring and the Chief of the General Staff of the Luftwaffe (Colonel-General Hans Jeschonnek) to discuss the current concentration of forces in the south. Hitler, in a genial mood as a result of the advances at Stalingrad, agreed to Richthofen's recommendations, much to the chagrin of Göring, who cursed the army leaders at Army Group A.[245]

Though losses in the high-mountain sector were a cause of concern for Army Group A, Red Army casualties were persistently considerably higher. Between 27 September and 16 October, 1st Mountain Division counted 2,675 enemy dead, 2,838 prisoners and 287 deserters. On Mount Semashkho alone the division reported 2,208 dead Russians between 21 October and 7 November. German losses for the same period were 456 dead, 1,443 wounded and 187 missing. By 13 December the figures had risen to 823 dead, 2,414 wounded and 199 missing. Nevertheless, Lanz drove his men on in order to try to reach Tuapse despite these heavy losses.[246]

On the 17th, 1st Panzer Army noted that it believed that the destruction of the enemy forces at Nal'chik and shortening the line in this sector was of such decisive importance for operations as a whole that it would once again check all possibilities of conducting the action without additional forces, just as the OKH had ordered. On the following day the latter endorsed the plan of attack suggested by the army and promised the requested air support and ammunition as well as the *Wiking* tank battalion as reserve for LII Corps (Ott).[247] On the 19th it also approved the plan proposed by III Panzer Corps (Mackensen) to destroy the enemy forces around and to the east of the town.[248] On the following day 1st Panzer Army requested that the assault on the town be staggered so that the Luftwaffe would be able to assist both forces while at the same time drawing attention away from the main thrust. After some consultation between Army Group A and the OKH, the plan was finally sanctioned.[249]

The attack towards the coast continued with no fear of enemy action to the rear. Army Group A noted on the 22nd that there were no signs that significant forces were being brought forward on the left flank of XXXXIX Mountain Corps.[250] On the following day, 17th

---

[245] Plocher, *German Air Force*, pp. 336-7. Jeschonnek held this post from 1 February 1939 until, despairing of the reputation of the Luftwaffe, he committed suicide on 19 August 1943.
[246] Meyer, *Blutiges Edelweiß*, pp. 97, 98.
[247] BA-MA RH 21-1/407, fol. 141, 144, 147.
[248] 'Kriegstagebuch III Panzerkorps, Ia, 1.1.42-31.12.42', BA-MA RH 24-3/74, fol. 54.
[249] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (20 October 1942), BA-MA RH 21-1/409, fol. 246-7.
[250] 'Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.10.42-31.10.42', BA-MA RH 19-V/107, fol. 145.

Army reported the ongoing support which its attacks were receiving from the air.[251] On the 26th, the attack by III Panzer Corps at Nal'chik was supported 'tirelessly' (*unermüdlich*) the whole day by the Luftwaffe, especially with dive bombers, which engaged the stubborn enemy defence encountered by 13th Panzer Division to good effect.[252]

On 23 October the quartermaster of 1st Panzer Army noted that despite the tough battles in recent weeks and months, ammunition stocks had been constantly guaranteed (with the exception of localized tensions and a dearth of individual munitions types on occasion). Once again, however, no significant stockpiling had been possible because of the heavy fighting. Nevertheless, the offensive operation at Nal'chik and the ensuing battles on the defensive front could be viewed as secured with respect to both ammunition and fuel.[253] On the 26th, 1st Panzer Army consumed 720 cbm of petrol – a particularly high volume, though this was exceptional.[254] It was unsurprising, then, that 17th Army noted on the same day a figure of 0.2 VS as a result of the low levels of supplies which it had recently been receiving.[255]

On the 27th, Hitler revealed that he was entertaining the possibility of entrusting the command of Army Group A to Manstein (who was still with 11th Army headquarters just south of Leningrad). Warlimont suggested that one reason for this proposition was that Hitler's intended return to his headquarters in East Prussia meant that the distance to the staff of the army group in the eastern Ukraine would be an impediment to effective command. In the end, however, Manstein never took over at Army Group A as he was subsequently tasked by Hitler with conducting the operation against the Soviet salient at Toropets (Army Group Centre).[256]

---

[251] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (23 October 1942), BA-MA RH 20-17/132, fol. 176.
[252] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42', BA-MA RH 21-1/409, fol. 260.
[253] 'Bericht über die Versorgungslage der 1. Panzerarmee, Stand 23.10.42', BA-MA RH 21-1/451, fol. 280. See Map 20 (26 October).
[254] 'Zahlenmeldung für den 26.10.1942', BA-MA RH 21-1/452, fol. 14.
[255] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17' (26 October 1942), BA-MA RH 20-17/591, fol. 52.
[256] *KTB OKW*, vol. 2, pp. 868, 869 (27 October 1942), 967 (16 November 1942).

On the same day, 17th Army reported the following amounts of selected ammunition types for its divisions[257]:

Table 26: Munitions Stocks in Percentage of First Provision for Establishment Weapons, 27 October 1942

	1M	**46**	**4M**	**97J**	**101J**	**125**	**198**	**Slov.**	**9**	**73**
Rifle	109	97	94	94	118	110	131	113	85	91
MG	105	93	121	98	93	97	101		92	62
5cm M	117	148	120	96	103	96	101		89	73
8cm M	74	45	59	74	79	73	69	111	73	20
3.7 Pak		92	252	197	111	136	101	163	106	77
5 Pak	115	143	91	121	126	118	155	147		17
7.5 Pak	100	160	48	98	109	95	223			66
lIG	121	85	113	94	86	81	109		65	80
hIG	105	94	116	101	81	114	109		84	94
mtG	57		58	50	56					
lFH 18		57	30	82	118	95			95	37
hFH 18	80	60		58	70	54	85		80	23

In the second half of October the Germans transferred approximately 300 aircraft from the Leningrad sector to the south.[258] On the 28th, IV Fliegerkorps gave particularly effective support to the attack groups of XXXXIV Corps with the strong forces which it once again possessed, and on the following day it also offered continuous strong support to XXXXIX Mountain Corps. On the final day of the month there was lively Luftwaffe activity in the sector of Gruppe Wetzel (Novorossijsk) and in the high mountains, as well as uninterrupted

[257] BA-MA RH 20-17/595, fol. 554. The figures show the amount of ammunition as a percentage of what a formation should have had for its different weapons. *Notes*: 1M = 1st Mountain Division; 5cm M = 5cm mortar; 97J = 97th Jäger Division; hFH = heavy field howitzer; hIG = heavy infantry gun; lFH = light field howitzer; lIG = light infantry gun; MG = machine gun; mtG = mountain gun; Slov. = Slovak Mobile Division.
[258] Anon., *German Air Force*, p. 179.

support for LVII Panzer Corps and the right flank of neighbouring XXXXIX Mountain Corps.[259]

Further east, meanwhile, 1st Panzer Army noted that the enemy had apparently not yet realized that the German main effort was now south-east of Nal'chik, which would result in a deep thrust behind the strong defensive front at Èl'khotovo. The moment of surprise would, it claimed, be used to its best advantage and significantly contribute to a successful outcome. The intention had always been to advance rapidly on Ordzhonikidze in the event of the present situation becoming a reality, thereby bringing about the collapse of the enemy defence in the Terek bend further north. The fall of the town would represent a significant achievement as well as a further considerable step to achieving the operational goals, which – once the threat from the south had been removed – would be much easier to attain than with the current intention to attack eastward with LII Corps from the bridgehead.[260] On the following day the army noted that the possibility of embarking on a new, decisive operation was at hand. It was therefore necessary to maintain pressure on the enemy day and night and to pursue him over the river Ardon (a tributary of the Terek) and subsequent sectors before he had time to construct new defences to the west of Ordzhonikidze.[261]

By the first day of November the number of enemy sorties reported by Luftflotte 4 had increased significantly to 376 from 241 the previous day. There was now a daily average of over 300 for the first week of the month.[262] Soon, however, with weather conditions deteriorating, these numbers fell considerably. By the 12th, the figure was 117; three days later, a mere 33.[263] Nevertheless, significant air support for German ground operations continued. On 2 November Red Army troops which had broken through along the line of mountains Indjuk–Kamenistaja–Semashkho were engaged by the Luftwaffe that morning with 56 sorties in 3 missions, with another 16 in 1 mission in the afternoon. There were a further 10 sorties for an attack on bunkers and enemy positions to the north of Kochkanov (14 km north-west of Shaumjan).[264] On the 4th, IV Fliegerkorps continually supported the attack group at Tuapse to good effect. On the following day, it assisted the advance of LVII Panzer

---

[259] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (31 October 1942), BA-MA RH 20-17/132, fol. 193, 197, 204.
[260] 'II. Band, Kriegstagebuch Nr. 8 der 1. Pz. Armee vom 1.8.-31.10.42' (30 October 1942), BA-MA RH 21-1/409, fol. 274.
[261] Ibid., fol. 280 (31 October 1942).
[262] 'Lageorientierung für den 1.11.1942', BA-MA RL 11/125, fol. 2; 'Lageorientierung für den 2.11.1942', BA-MA RL 11/125, fol. 5.
[263] 'Lageorientierung für den 13.11.1942', BA-MA RL 11/125, fol. 40; 'Lageorientierung für den 16.11.1942', BA-MA RL 11/125, fol. 49.
[264] 'Erfolgsmeldung 965 (174)' to 'Erfolgsmeldung 969 (178)', BA-MA RL 10/474, fol. 183-7.

Corps (Kirchner) and engaged the enemy opposite the right wing of XXXXIX Mountain Corps (Konrad) as long as conditions permitted. On the 6th, despite poor weather, aircraft again supported LVII Panzer Corps as well as the attack on Il'skij (40 km south-west of Krasnodar) by Gruppe Wetzel. The Luftwaffe also reinforced III Panzer Corps further east with numerous sorties in its difficult defensive battle.[265] In fact, at this point Luftflotte 4 had more units under its command than any other Luftwaffe formation on the Eastern Front (29 from a total of 56⅔ different types of *Gruppen*, including Axis air forces).[266]

On 7 November the quartermaster of 17th Army noted that the arrival of a trainload of fuel into Krasnodar had covered the emergency supplies needed by the west wing for the time being. For the troops being supplied from Majkop, however, the situation was particularly tense.[267] On the same day, 1st Panzer Army – which had complained about a lack of provisions only a month earlier – noted that the situation had improved considerably, so much so that there were now special requests for confectionary of all kinds, particularly sugar and marmalade.[268] The fuel situation, however, was becoming precarious. On the 9th, the quartermaster of 17th Army reported that stocks had sunk to 0.1 VS and less, meaning that tactical mobility and supply were greatly imperilled. In order to counter this, he suggested that supply of at least 1,000 cbm (= 0.7 VS) was necessary.[269] The same was true for 1st Panzer Army, which complained that tactical operations could not be carried out as there had been no supply of fuel for four days. Ammunition and provisions, however, were temporarily secured.[270]

By the 13th, 17th Army concluded that the strength of the enemy, his increasing activity and the condition of the German troops meant that Tuapse could not be reached with the forces at hand. The staff noted that it would initially be advisable to secure a favourable defensive position which could simultaneously act as a jumping-off point for the continuation of the attack.[271] The recent intense battles had not been in vain, however. On the same day, 1st Panzer Army reported that in the period from 25 October to 12 November it had taken in

---

[265] Kriegstagebuch des Oberkommandos der Heeresgruppe A, 1.11.42-30.11.42', BA-MA RH 19-V/3, fol. 29, 37, 44, 45.
[266] *KTB OKW*, vol. 2, pp. 911-12 (6 November 1942). The Luftwaffe and its allies had a total of 1,134 aircraft in commission along the entire front (an average of approximately 20 per *Gruppe*).
[267] 'Kriegstagebuch Nr. 4 der Oberquartiermeister Abt./AOK 17', BA-MA RH 20-17/591, fol. 60. See Map 21 (7 November).
[268] 'Kriegstagebuch der Oberquartiermeisterabteilung der 1. Panzer-Armee vom 1.4.42-31.10.42' (14 October 1942), BA-MA RH 21-1/449, fol. 80; 'Kriegstagebuch Oberquartiermeister-Abteilung der 1. Panzer-Armee vom 1.11.1942-31-1.1943', BA-MA RH 21-1/337, fol. 4.
[269] 'Tagesmeldung für den 9. November 1942', BA-MA RH 20-17/596, fol. 106.
[270] 'Kriegstagebuch Oberquartiermeister-Abteilung der 1. Panzer-Armee vom 1.11.1942-31-1.1943' (10 November 1942), BA-MA RH 21-1/337, fol. 5.
[271] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 234-5.

15,545 prisoners and 1,028 deserters, and captured or destroyed 161 tanks, 119 guns, 5 anti-aircraft guns, 159 anti-tank guns, 2 aircraft, 203 machine guns, 169 mortars, and 318 anti-tank rifles.[272] Four days later the quartermaster of 17th Army suggested that a halt in operations was not taking place, merely a regrouping of forces.[273]

On the 19th, 17th Army noted that the greatest threat posed to both XXXXIV Corps and XXXXIX Mountain Corps still seemed to be an enemy attack against the road to Tuapse from the region of Mount Saraj (8 km north of Shaumjan).[274] The strength of the army was also an issue. On the following day it noted that the numbers of replacements were not in ratio to the continuous casualties. In fact, average losses during the six-week attack on Tuapse had been higher than during operations from the beginning of Barbarossa up to when the army reached the river Mius to the west of Rostov (June-October 1941).[275] However, during that period it was advancing rapidly and sweeping all before it. Losses were therefore not particularly severe in relation to those now be incurred in the Caucasus.

From 20 October to 20 November thirty-four trains arrived with a total of 8,720 tonnes of ammunition for 1st Panzer Army (averaging 256.47 tonnes a day). The mean daily expenditure for this period was 161 tonnes, giving a total of 4,991.[276] Nevertheless, despite the fact that the German troops were in no danger of being overwhelmed in terms of personnel or *matériel*, the situation had now become intractable. On 21 November, with the practical cessation of the attack on Tuapse, 17th Army noted that the enemy now had operational freedom in its sector.[277] This sentiment, however, would have gone largely unnoticed at OKH headquarters, where more pressing matters were at hand. The following day, three days after the beginning of the Soviet counteroffensive at Stalingrad, Hitler relinquished command of Army Group A to Kleist.[278]

---

[272] 'Kriegstagebuch Nr. 9 der 1. Pz. Armee vom 1.11.42-31.1.43' (13 November 1942), BA-MA RH 21-1/86, fol. 49.
[273] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42' (17 November 1942), BA-MA RH 20-17/132, fol. 246.
[274] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 254.
[275] Ibid., fol. 256.
[276] 'Panzer-A.O.K. 1, O.Qu., Tätigkeitsberichte zum K.T.B. vom 1.11.42-31.1.43' (20 November 1942), BA-MA RH 21-1/340, fol. 124-5.
[277] 'AOK 17 Führungsabteilung, KTB Nr. 4, Hauptband 14.8.-15.12.42', BA-MA RH 20-17/132, fol. 261.
[278] Hillgruber and Hümmelchen, *Chronik*, p. 151.

It has been suggested that Hitler's strategy of seeking a 'battle of annihilation' (*Vernichtungsschlacht*) in the southern area of the Soviet Union was defective, given that Moscow was the 'centre of gravity' of the country.[279] This assumption, however, is incorrect. For Clausewitz, for example, the term centre of gravity referred less to the concentrated forces of the enemy than to the actual element that causes them to come together and gives them purpose and direction: it is more than simply a concentration of combat units. He suggested that such a term could only be taken into account once the opponent had been considered holistically – in other words, after the connections among his various elements have been analysed and one can determine what, if anything, holds them together. In Clausewitz's era, as during the Second World War, armies were based on the population from which they came, the bases of manufacture which helped create their weaponry, and the economy which financed military operations. He further noted that other concepts could act as focal points, such as the personalities of important political or military figures, the capital city of a state, or its system of alliances and the common concerns of its partners.[280] In short, Clausewitz suggested that it was not always necessary to completely overrun an opponent's territory or defeat his armed forces in advance in order to overthrow him.[281] Destruction of the enemy could range from total annihilation to a situation where he was no longer in a position to offer resistance.

During the First Gulf War, for example, the American ground commander (General Norman Schwarzkopf) and his air force equivalent (Lieutenant-General Charles Horner) both had separate notions of what the enemy's disparate centres of gravity were. Schwarzkopf included the Iraqi head of state and commander-in-chief (Saddam Hussein), the elite formation of the Iraqi Army (Republican Guard), and the chemical, biological and nuclear capabilities of the country among potential targets. Horner, on the other hand, identified a total of twelve discrete 'target sets', from national leadership and military command and control centres to core infrastructural targets such as railways, airfields and ports.[282] With respect to raw materials as a viable military target, Fuller wrote that while it is impossible to

---

[279] See, for example, Walsh, *Stalingrad*, pp. 38-9.
[280] Antulio J. Echevarria, *Clausewitz and Contemporary War* (Oxford, 2007), pp. 181-2.
[281] Michael Elliott-Bateman, 'The Nature of People's War', in *idem* (ed.), *The Fourth Dimension of Warfare*, vol. 1: *Intelligence, Subversion, Resistance* (Manchester, 1970), p. 152.
[282] Echevarria, *Clausewitz and Contemporary War*, pp. 134, 184-5. The First Gulf War was fought between a coalition of thirty-four countries (led by the United States) and Iraq. The air war (Operation Desert Storm) began on 17 January 1991, followed by the main ground attack on Iraq and Kuwait on 24 February and the end of hostilities four days later. Saddam was President of Iraq from 16 July 1979 until he was overthrown in April 2003. Schwarzkopf served as Commander-in-Chief of United States Central Command (USCENTCOM) from November 1989 until August 1991. Horner served as Commander-in-Chief of United States Air Forces Central (USAFCENT, formed from 9th Air Force) from March 1987 until June 1992.

beach the opposing fleet by removing water from the seas and oceans, it *is* possible to bring an army to a standstill by cutting off oil supplies.[283]

Hitler's insistence on gaining the Black Sea coast as a prerequisite to further operations was cogent from both an operational and logistics perspective. The need to eliminate the Soviet naval forces in the region in order to secure supply routes for the German Army mirrored the campaign of Alexander the Great in 332 BC against the Persian Empire of Darius III. The Macedonian King campaigned along the eastern littoral of the Mediterranean Sea in order to eliminate the enemy navy and secure his own lines of communication before pursuing his opponent's army further inland.[284]

The enemy which faced the Wehrmacht in 1942 was considerably different than the one which had faced it in 1941, despite what FHO (and consequently Hitler) might have suggested. The following table gives an indication of the efficiency of the Red Army and its recent increased ability to inflict damage on German ground forces compared to the first five months of the campaign:

[283] Fuller, *Machine Warfare*, p. 177.

[284] Alexander III of Macedon ruled from 336 to 323 BC. Darius III was the last king of the Achaemenid Empire of Persia founded by Cyrus the Great, ruling from 336 to 330 BC. For a discussion of Alexander's appreciation of different enemy centres of gravity, see David J. Lonsdale, *Alexander the Great: Lessons in Strategy* (London; New York, 2007), pp. 65-6.

Table 27: German Infantry Weapons Losses in 1941 and 1942[285]			
Weapon Type	Total Losses from 22.6.41 to 30.11.41 (5 months)	Total Losses from 1.5.42 to 30.11.42 (7 months)	Total Losses for December 1942
light infantry			
rifles and Karabiner 98s; other carbines (including telescopic); semi-automatic rifles	54,664	71,092	15,360
anti-aircraft			
2cm Flak 30/38	109	230	70
8.8cm Flak 18/36/37	12	36	22
heavy infantry			
3.7cm Pak 35/36	2,625	1,429	193
5cm Pak 38	291	791	107
7.5cm Pak 40	-	184	26
7.6cm Pak 36	-	128	12

This improved combat effectiveness meant that the Wehrmacht had to amplify its own efforts considerably. The following table shows the significant increase in German ammunition usage in 1942 on the previous year, particularly from August onwards:

[285] 'Beurteilung der Waffenlage, Stand 1.2.43', BA-MA RH 3/254, fol. 110. *Note*: At the end of August 1942 the General Staff decided that the 3.7cm Pak was no longer of use in an anti-tank role, and retaining the weapon as an infantry assault gun was not deemed justifiable: 'KTB OKH/Organisationsabteilung vom 1.8.42-31.12.42', BA-MA RH 2/824, fol. 39.

Table 28: Expenditure of Ammunition in 1941 and 1942[286]				
Year	Month	Expenditure		Total Yearly Expenditure in tonnes (trains)
		tonnes	trains	
1941	June	23,077	51	583,341 (1,297)
	July	101,594	226	
	August	108,855	242	
	September	107,670	240	
	October	90,563	201	
	November	68,035	151	
	December	83,547	186	
1942	January	69,165	154	1,234,218 (2,744)
	February	92,270	205	
	March	114,771	255	
	April	69,451	154	
	May	71,254	158	
	June	106,708	237	
	July	72,657	162	
	August	146,285	325	
	September	160,645	357	
	October	110,208	245	
	November	102,267	228	
	December	118,537	264	

[286] Wegner, 'Krieg gegen die Sowjetunion', p. 789; 'Munitionsverbrauch in to., Osten' (10 December 1944), p. 1, BA-MA RH 3/135.

The above figures show that a battle of annihilation in southern Russia was a very real possibility, especially as the Soviets were not simply prepared to withdraw indefinitely without a struggle and allow economically important areas of the country to be occupied.

The fact that the pace of operations in the Caucasus eventually began to slow was not unexpected. Stubborn resistance by the Red Army was one significant reason. Another important factor was terrain. A survey issued by XXXX Panzer Corps on 15 August suggested that combat in mountainous areas was usually conducted in a series of separate battles. Advancing on a broad front was the best way to deceive the enemy, divide his forces, and find gaps in the obstacles which he would likely erect. Higher commands had less of an influence on movement and fighting, so cooperation between different combat groups could only be achieved with ambitious assignments of missions. The lack of roads meant that motorized formations were to be broken down into small march groups, while the battalion became the primary tactical formation and could be given independent tasks.[287]

Hitler justified the decision to conduct the summer offensive of 1942 in the southern sector of the Eastern Front with arguments based largely on economic considerations. However, these had been prominent in his strategic thought even before Barbarossa and were now supported by those who knew the full extent of the fuel crisis in the Wehrmacht. This, of course, did not imply that he had neglected the military maxim that the surest way to defeat an enemy is to destroy his armed forces. As Directive No. 41 clearly shows, he never wavered from the stated goal of destroying as many Soviet formations as possible as a preliminary to the seizure of important industrial and oil-producing regions of the eastern Ukraine and the Caucasus. A thrust in this direction had the added allure of the potential for direct strategic collaboration with the Japanese, which could cause significant disruption to the Allied war effort in North Africa and the Indian Ocean if realized.

The preliminary operations at Khar'kov and in the Crimea were necessary in order to gain better jumping-off points for Blau and to eliminate conceivable dangers to the right flank of Army Group South. During the former, Hitler remained calm under pressure following an unexpected Soviet spoiling attack and was rewarded for his boldness with a resounding victory. Both episodes culminated in significant losses for the Red Army in terms of personnel and strategically important territory without hampering the preparation of the German forces for the main offensive to any considerable degree.

---

[287] 'Weisungen für die Kampfführung im Hochgebirge', BA-MA RH 21-1/425, fol. 112- 13.

Though Hitler made fundamental alterations to specific aspects of the plan for Blau put before him by the OKH in April, the final draft was not too dissimilar to the memorandum written by Bock earlier in the year concerning future operations towards the Caucasus and the Volga. Once the offensive was finally under way and the lower Don had been gained, Hitler pushed his commanders relentlessly forward in pursuit of what was perceived by all as a defeated opponent. This decision has been almost unanimously regarded as a dissipation of forces which inevitably resulted in neither goal being attained. While the division of forces for two non-concentric advances undoubtedly weakened the drive on both objectives, it made sense from the operational best practice of vigorously pursuing a defeated foe.

4th Panzer Army was redirected towards the Volga once Hitler became aware of the stiff enemy resistance before Army Group B on the road to Stalingrad, but despite losing this strong formation Army Group A was still a formidable force. It was well supported tactically and logistically by the Luftwaffe during its advance into the Caucasus, even if this assistance was often sporadic due to the vastness of the territory in which it was operating, the mountainous terrain, and the limited availability of fighter and transport aircraft. Nevertheless, the army group generally remained sufficiently supplied thanks to the transport efforts on the roads and railways.

Hitler's impatience at the rate of advance from late August was the beginning of his loss of confidence in his Army advisers as well as his front-line commanders. Though he generally agreed with List and concurred with his operational intentions, he became particularly frustrated when he believed that the army group staff had not done enough to try to alter the course of the battle once the advance had stalled. By early September he continued to insist on taking Sukhumi and promised air support for this operation. Though XXXXIX Mountain Corps was still optimistic of a breakthrough to the sea in this sector, its staff preferred going over to the defensive and giving up some of its formations for a drive on Tuapse further north. Hitler's dismissal of List, followed soon afterwards with concessions to the front-line commanders which generally agreed with the latter's original plans, had more to do with the field marshal's pessimism than with any major dispute over operational intentions. Indeed, his principal source of ire around this time was that he believed that his senior commanders took credit for any battlefield successes but blamed him for any failures.[288] As a consequence of his control of the Army Personnel Office and of his insistence that the best officers were to be quickly trained for important front-line commands,

[288] Irving, *Hitler's War*, p. 484.

a sudden influx of young, energetic leaders with General Staff training were now promoted at the peak of their mental and physical capacities.[289] Most significantly, however, was that he believed that such officers would be less inclined towards insubordination.

Any thorough investigation of Hitler's command of Army Group A is hampered because of a dearth of primary source material of any great consequence dealing with the subject, which inevitably resulted in no comprehensive account of this unique command arrangement in the relevant secondary literature. The war diary of the army group mentions some of the measures which he took at the very beginning of the period, but he then all but disappears from its records. However, it is known from other sources such as the war diary of the OKW that he generally maintained strict control over most decisions made by its staff and did not, as has been widely accepted, merely relinquish all decision-making to these officers.[290] Indeed, if this *had* been the case, it would have been contrary to his original intention of ensuring that his orders were carried out according to his wishes. In fact, Hitler continuously intervened in the operational direction of Army Group A as its commander-in-chief.[291] He certainly drove his exhausted troops on in the hope of fulfilling some of the tasks which he had originally set them in summer 1942, but he also acknowledged relatively early in the campaign in the Caucasus that completing the remainder of these missions would have to be postponed until the following year. He also allowed subordinate commanders to formulate plans of attack, which he then either sanctioned or vetoed. However, his interest in the progress of individual smaller units was inevitable, particularly as they had become the most important tactical formations once the troops had entered the foothills and mountains of the Caucasus. Nevertheless, his record as Commander-in-Chief of Army Group A was generally one of non-interference on this level.

---

[289] Ibid., p. 486.
[290] It has been suggested, for example, that 'Army Group A had no commander, or rather Hitler as a part-time substitute': Thomas B. Buell et al., *The Second World War: Europe and the Mediterranean* (Garden City Park, NY, 2002 [1984]), p. 135.
[291] *KTB OKW*, vol. 2, p. 65.

Chapter 7: Conclusion

A just critic dares not take the subsequent course of events as seen in retrospect for the measure of his judgement, but, instead, must ask himself what the leaders of these events could have known at the time of the occurrences.

A detailed account of the governing circumstances almost always reveals that measures which must appear reprehensible to an unbiased critic were never as faulty as they seemed at first sight.

Helmuth Graf von Moltke[1]

The principal aim of the present thesis has been to review Hitler's record as a commander of troops on the strategic and operational levels of war. This necessarily included different aspects of the campaign in southern Russia in 1942 which are often overlooked in the literature, such as the military and economic aid which Germany afforded its allies; logistics, particularly by air and sea; military intelligence and its effects on decision-making; and Luftwaffe operations in the Caucasus. Naturally, Hitler had more influence over certain aspects of the campaign than others, though as Chancellor as well as Supreme Commander of the Armed Forces his personality loomed large over every major political and military decision. It was therefore also deemed necessary to highlight the amount of (often contradictory) information emanating from disparate sources which he subsequently needed to digest and address. Mistakes on the operational level were certainly made, though these are more readily detected with the benefit of hindsight. It is evident that Hitler invested much thought and effort into trying to ensure the triumph of German arms, though this ultimately remained elusive. Finally, it has been shown that Army Group A – which he commanded for two months – was never placed in a losing position because of his leadership, and there are few examples of the significant intrusions into tactical matters which would later become a feature of his command style.

It has been said of Hitler that he persistently refused to recognize limits arising from 'insufficient means' in his approach to strategy.[2] This is a particularly fastidious assessment if one considers his diplomatic and military successes in the first half of the war, when he

[1] From *Moltkes militärische Werke*, vol. 4: *Kriegslehren* (1911), cited in Plocher, *German Air Force*, p. iii.
[2] See, for example, Murray, 'History and Strategic Planning', p. 122.

defied the Western Powers and isolated his victims before defeating them with either astute political manoeuvring or relatively bloodless *coups de main*. The attempt to negate the Soviet Union as a viable political and military opponent was founded on the rational assumption that victory would create a situation where he could concentrate on defending what would in all probability have been an unassailable position on the European mainland.

The elder Moltke suggested that no operational plan could ever extend with any certainty beyond the initial contact with the main enemy force.[3] This means that an appreciation of the potential effect of the unexpected becomes an important aspect of practically every conflict, therefore suggesting that strategic planners – even more so than their operational counterparts – must form short- and long-term plans which are flexible enough to withstand the unforeseen circumstances that war will inevitably generate.[4]

Clausewitz also believed that strict adherence to 'dogmas and formulas' was an abomination. Of all human activities, he argued, war is most like a game of cards in that it is forever influenced by 'chance'. He suggested that only a military genius could rapidly and correctly assess all the ramifications and diversity of problems facing a leader with respect to gauging the enemy's and one's own situation. Even someone with the intelligence of a Newton, as Napoleon had remarked, would be overawed by the 'algebraic problems' that abounded when trying to assess political, military, intelligence and geopolitical information and situations.[5] Liddell Hart suggested that Hitler clearly understood (whether instinctively or otherwise) that the point of strategy is to lessen the enemy's chance of resistance, from which follows that alternative objectives are desirable if one is to be certain of attaining at least one of them and thereby being in a position to avoid the pitfalls of uncertainty to a greater degree – a fact not recognized by most of his contemporaries.[6]

The former German Chancellor, Otto von Bismarck, may well have been the greatest strategist of all time, though it is difficult to find evidence of strategic planning save for what was in his mind.[7] Hitler had no master plan as such, evidenced by his famous observation that he followed the path dictated by Providence with the assurance of a sleepwalker.[8] He had attempted to create the system of alliances which he had repeatedly suggested Germany

---

[3] From *Moltkes taktisch-strategische Aufsätze aus den Jahren 1857 bis 1871* (1900), cited in Freytag-Loringhoven, *Power of Personality*, in Phillips (ed.), *Roots of Strategy*, vol. 3, p. 273.
[4] Murray, 'History and Strategic Planning', p. 99.
[5] Cited in Freytag-Loringhoven, *Power of Personality*, in Phillips (ed.), *Roots of Strategy*, vol. 3, pp. 271-2; Clausewitz, *On War*, pp. 85-6, 585-6.
[6] Liddell Hart, *Strategy*, pp. 228-9.
[7] Murray, 'History and Strategic Planning', p. 115. Bismarck was the first Chancellor of the German Empire. He held the post from 21 March 1871 until his dismissal by Wilhelm II on 20 March 1890.
[8] Cited in Kershaw, *Hitler*, vol. 1, p. 591 (14 March 1936).

needed if it was to become a great power once again – a group of 'natural' allies which was to include Britain and Italy. When this failed, he altered his strategy somewhat, though the ultimate aim of acquiring *Lebensraum* in the east was still kept firmly in focus. His intuition generally served him well – at least in the first half of the war – and he was certainly not the only political or military leader to have resorted to such action.

The Clausewitzian mantra which highlighted the importance of capturing the enemy's capital had its origins in the theory of warfare prevalent in his own day, which viewed large cities as the centres of power, control and resistance in each state.[9] While this was still true to a certain extent in the twentieth century, there were other important centres of gravity to consider, such as 'economic' targets. In the second year of the German-Russian conflict Hitler directed his armed forces against the industrial centres, grain-producing regions and oilfields of the Ukraine and the Caucasus once he realized that the war would be protracted, though his principal and immediate intention remained the destruction of the Red Army in the southern sector of the front. The capture of much needed raw materials would have the advantage of covering German shortages while at the same time denying them to the Soviet leadership. What has subsequently been regarded as a serious underestimation of Soviet strength and therefore a basic error on Hitler's part was actually a conviction that the Red Army could be more readily brought to heel if it lost its most prized oil-producing areas.[10] Such an approach is as old as warfare itself. There is usually an 'economic' aspect of strategy in every major conflict, aimed at undermining the strength of the opponent and reducing his will to resist. The Entente Powers, for example, waged just such a campaign against Germany and its allies during the First World War, which far exceeded a standard maritime blockade. Similarly, during the Napoleonic Wars disruption of trade played a significant role in the strategic aims of both Britain and France. In short, there are always conflicts in which economics, politics or subversion are given priority over the military aspects of grand strategy. Indeed, all such elements normally become part of policy at some point or another.[11]

The Western Powers anticipated the grave danger which a German-Japanese combination in the Indian Ocean would represent to Allied strategy.[12] However, this was not

---

[9] Handel, *Masters of War*, p. 58.
[10] Dietrich Eichholtz, *Krieg um Öl: Ein Erdölimperium als deutsches Kriegsziel (1938-1943)* (Leipzig, 2006), p. 122.
[11] Gray, *Modern Strategy*, pp. 162, 163. The Entente Powers comprised the United Kingdom, France, the Russian Empire and, later, Portugal and Japan. The Napoleonic Wars (1803-1815) – named for the Emperor of the French, Napoleon I Bonaparte – were a series of conflicts waged by France and its allies against a changing coalition of states led by Britain.
[12] Weinberg, *World at Arms*, p. 299.

appreciated by the head of FHO (Gehlen), who later wrote that the sea lanes over the Pacific Ocean from the western seaboard of North America to the Russian Far East were not being used. He further suggested that the route via Iran had only been used to deliver a negligible amount of *matériel*.[13] Both assertions were fundamentally incorrect. As a positive gesture towards the proper neutral behaviour of the Soviet government in the Pacific theatre, the Japanese rarely interfered with the Lend-Lease shipments to Vladivostok transported aboard Soviet and neutral ships – much to the chagrin of the German leadership. In fact, by 1942, 30% of all aid to the Soviet Union was entering the country via the eastern port. In the next two years this would rise to 50%.[14] Similarly, by late summer 1942 German intelligence suggested that a considerable increase in deliveries via Iran had been achieved thanks to the use of more trucks and rolling stock (now believed to include 350 locomotives and 4,000 goods wagons). The monthly figure for supply of *matériel* was estimated at 50-60,000 tonnes.[15] By September 1943 the actual target figure of 200,000 tonnes per month was reached.[16]

The Volga was used to transport much of this military hardware and foodstuffs to the rest of the country. According to German estimations, this important artery and its tributaries accounted for approximately half of the inland waterway traffic (over 30 million tonnes) in the Soviet Union in 1935.[17] This suggests that Lend-Lease traffic via Iran could have been severely curtailed if the Caucasus region was cut off from the rest of the USSR and shipping in and around the Persian Gulf was hampered. Ultimately, however, strong personal bonds between high-ranking officers from Germany and Japan could not overcome the institutional and political machinations which effectively doomed the precarious alliance.[18]

Hitler's authoritarian stance with respect to command has been the subject of much derision. However, the position of politician-cum-soldier could have its advantages. Clausewitz believed that it was best that the political leader should also be the commander-in-chief – as in the case of Frederick the Great or Napoleon – and argued for the unity of political and military authority in time of conflict.[19] Indeed, against the background of 'total war' during the two great wars of the twentieth century, military leadership became an integral part of the

[13] Gehlen, *Dienst*, p. 38.
[14] Martin, 'Schein des Bündnisses', p. 30.
[15] 'Vortragsnotiz: Lage in den Staaten des Vorderen Orients' (18 August 1942), BA-MA RW 4/691, fol. 58.
[16] Herring, *Aid to Russia*, p. 72.
[17] 'Warenverkehr auf den Binnenwasserstraßen 1935', BA-MA RH 4/708.
[18] Krug et al., *Reluctant Allies*, p. 84.
[19] Cited in Handel, *Masters of War*, p. 137.

organization for war of society as a whole, within which the supposed civilian sectors became more important as the conflicts endured. This is best illustrated by the fact that the dominant 'warlords' of the period were predominantly civilians. This began with David Lloyd George and Georges Clemenceau in the First World War, and continued into the Second with Hitler, Churchill, Stalin and Roosevelt.[20]

On the operational level of war, Hitler's determination to keep himself informed of the details of a campaign does not suggest paranoia on his part. Fuller, for example, was no supporter of *Auftragstaktik*, especially as this Moltkean system of command had been intended to give greater freedom of action to subordinates and therefore deprived a commander of his ability to influence a given situation. This dogma, Fuller argued, had been taken to its extreme during the First World War, resulting in German commanders-in-chief completely losing touch with the reality of the situation at the front.[21] It is easy to blame Hitler for the demise of *Auftragstaktik*, especially as his first order as Commander-in-Chief of the Army was an instruction demanding succinct answers to his questions and detailed reports on matters such as when a commander failed to carry out an order. However, modern technology such as radio ensured that he was in constant contact with his subordinates at the front, thus allowing him to bypass the proper channels if he so desired. The advent of air power also ensured that a field commander could no longer be as independent as he once was, considering that his actions depended on cooperation with this arm. Indeed, modern technological complexity has decreed that the notion of independent action beyond the confines of higher control has disappeared and will never return.[22] Hitler was interested in the minutiae of operations as a means to better command and not because he wanted to interfere with lower-level tactics. As Commander-in-Chief of the Army, he needed to be kept informed of rapidly changing situations as much as possible. If the previous incumbent, Field Marshal Walther von Brauchitsch, had still been in charge, he would doubtless have acted in a similar manner.[23]

Hitler's interest in and support for the method of waging war which came to be known as *Blitzkrieg* is well documented. However, he was also at the forefront of what Fuller termed

---

[20] Bernd Wegner, 'Einführende Bemerkungen', in Thoß and Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg*, p. 136. Lloyd George was Prime Minister of the United Kingdom from 7 December 1916 until 22 October 1922. Clemenceau served his second term as Prime Minister of France from 16 November 1917 until 20 January 1920.

[21] Cited in Reid, *Fuller*, p. 109.

[22] Citino, *German Way of War*, pp. 302, 303-4.

[23] Brauchitsch succeeded Colonel-General Werner von Fritsch on 4 February 1938. He held this post until he was dismissed by Hitler on 19 December 1941 at the height of the Red Army winter offensive.

'inventive Spiritualism', which meant that man's psyche always took precedence over his military machines.[24] From Hitler's own service in the Great War came his conviction that the morale of the troops was fundamental to success, and he argued that he asked of them no more than that which he himself had volunteered to do for four years.[25] Significantly, he believed that they had a genuine reason to fight to the last in the present conflict. In a telex to Army Group B two weeks after the initial encirclement of 6th Army, for example, he suggested that front-line units which had been surrounded or bypassed were to remain in position until they were relieved through counterattacks. Surrendering a position, he warned, would result in either annihilation or captivity – which effectively meant death anyway.[26]

Hitler was also not alone in his displeasure at the conservativeness of many older officers. Fuller, for instance, argued that generalship was not something which could be taught. He believed that the greatest generals of history had fought in an era before military professionalism had begun to stifle what he termed 'native genius', but that it had now become commonplace in war colleges to simply imitate what had been done in the past. While a sound military education was obviously important, he warned that professionalism becomes the 'dry rot' of what it means to command at a high level: it does not probe into the core of war as it is actually fought, he argued, but instead merely 'rattles the skeletons of our military ancestors'.[27]

Above all else, Hitler considered loyalty and obedience as essential attributes needed by a commander. He later told an adjutant that though he admired Bock, he could only engage with generals who carried out his orders exactly as instructed.[28] Halder highlighted this attitude when he wrote that one reason why so many older officers were dismissed was their lack of commitment to the ideology of National Socialism. Hitler, he observed, had once argued that the secret to the elder Moltke's military victories was his fervent monarchist convictions.[29]

With respect to the acquisition of potential allies in occupied territories, the directives which resulted in the mistreatment and subsequent alienation of subject peoples are generally

---

[24] Fuller, *Machine Warfare*, p. 48.
[25] Declared during his speech to the Reichstag on the day of the German invasion of Poland (1 September 1939), cited in Noakes and Pridham (eds.), *Nazism*, vol. 3, p. 755.
[26] BA-MA RH 2/935f, fol. 57-8 (5 December 1942).
[27] Cited in Reid, *Fuller*, p. 110.
[28] Cited in Mitcham, *Hitler's Field Marshals*, p. 159.
[29] From *Hitler als Feldherr* (1949), cited in Carl Hans Hermann, *Deutsche Militärgeschichte: Eine Einführung* (Munich, 1979 [1966]), p. 499.

regarded as having been counterproductive and therefore an example of profound miscalculation. Alexander the Great is often cited as the antithesis of Hitler in this regard and lauded for accommodating defeated enemies politically, thereby easing the transition to subservience. This, however, is a fallacy.[30] In fact, it could be argued that the only true political cause championed by the Macedonian King was his own aggrandizement, which therefore precluded him from having to ponder matters of ideology or religion.[31] Contrariwise, Hitler *had* a quasi-religious ideology, which he had essentially created himself. According to him, he was acting to secure the future of the German nation in terms of population growth and the acquisition of land – an undertaking which could not be achieved by coming to a political *rapprochement* with subjugated peoples or allowing them to bear arms. Instead, he opted for an approach which mirrored an ancient solution to the problem. The Florentine writer, Niccolò Machiavelli, explained that the Romans – knowing that a unilateral termination of war could not last indefinitely – decided between two extremes when treating with a defeated enemy: either destroy him as a political entity or recognize him as an equal.[32] A pacified indigenous population was certainly advantageous in terms of military and civil administration, and the Wehrmacht did use local inhabitants and deserters as labourers. However, Hitler was determined not to give concessions to peoples whom he intended to supplant with Germans once the conflict had ended. National Socialist ideology dictated that the Slavic peoples would never be treated the same as western European nationalities, so to suggest that Hitler could have won the allegiance of many different ethnic groups who were hostile to the Bolsheviks if he had treated them well is akin to arguing that millions of Soviet citizens would not have perished in the famine of 1932-3 or in the Gulags if Stalin had been a liberal: it is quite simply a non sequitur. His desire to eradicate the peoples of the western Soviet Union was an example of Machiavellian politics brought to its (ultimately devastating) logical conclusion.[33]

---

[30] Ian Worthington, 'Alexander the Great, Nation Building, and the Creation and Maintenance of Empire', in Victor Davis Hanson (ed.), *Makers of Ancient Strategy: From the Persian Wars to the Fall of Rome* (Princeton, NJ; Woodstock, 2010), p. 126.

[31] Lonsdale, *Alexander the Great*, pp. 47-8.

[32] From *Discourses on the First Ten Books of Titus Livy* (1531), cited in Handel, *Masters of War*, p. 199. Niccolò di Bernardo dei Machiavelli (1469-1527) was, among other things, a politician, philosopher and historian. In his book entitled *The Art of War* (1521) – a detailed discourse on the procurement and use of military forces – he stressed the excellence of the Roman military system and advocated the creation of a citizen army based on this model to replace foreign mercenaries.

[33] The Great Famine (known in Ukraine as the Holodomor, literally 'killing by hunger') was a man-made catastrophe aimed at forcing the peasantry to accept the collectivization of their farms, but was also an indirect assault on their national aspirations. It resulted in the deaths of 6-8 million people in the Soviet Union, over half of whom were Ukrainians. A Gulag (from *Glavnoe upravlenie ispravitel'no-trudovykh lagerej*, Main

Even if National Socialist propaganda *had* persuaded most people in these minorities to defect to the struggle against Bolshevism, the Wehrmacht was not in a position to supply German cadres or weapons to any potential formations in a significant way, as it hardly had enough to supply its often unreliable current allies as well as its own formations. Furthermore, the fear remained that large numbers of Slavic volunteers under arms would pose a significant threat to German authority. Instead, the political leadership of the Reich attempted to win the allegiance of countries such as Turkey, which would be more reliable and generally capable of arming themselves.

Hitler's sole postwar design on the Transcaucasus area was control of its oil-producing regions; there were no thoughts of annexation. As a consequence, treatment of the local population in this area was far more benevolent than in the remainder of the occupied territories.[34]

Hitler knew that replacement personnel and *matériel* for the Wehrmacht were at a premium, and therefore only renewed the offensive on one axis. However, every measure was taken to ensure that this force was fully equipped and up to establishment strength once Blau began – an endeavour which was by and large successful.

When the campaign in the Soviet Union suffered its first major reversal in winter 1941-2, Hitler increased pressure on his allies for more tangible support in return for increased German material and economic aid. Romania and (later) Italy sent large contingents to the Eastern Front from summer 1942, though these depended very much on German military assistance. Hungary, on the other hand, was less accommodating in terms of troop numbers and overall commitment. It was no surprise that Hitler should become suspicious of Hungarian intentions and treat this unreliable ally accordingly. Similarly, the Finnish government and military were keen to distance themselves from the Germans in terms of a fully fledged alliance. However, despite their obvious determination to seek revenge on the Soviet Union and their subsequent efforts and sacrifices, they often refused to cooperate with major German operational intentions – such as pressing home an offensive north of Leningrad in the first year of the conflict – and were most likely reluctant to cut the railway line leading south from Murmansk for fear of becoming embroiled in a war with the United States, which had threatened Finland with serious repercussions if Lend-Lease transports to

---

Administration for Corrective Labour Camps) was a prison within the network of labour camps in the Soviet Union. They were populated by political prisoners and criminals.

[34] Dallin, 'North Caucasus', pp. 572-3.

the Soviet Union were obstructed.[35] The Turks, conversely, found themselves in a particularly advantageous position, which allowed them to play one side off against the other because they had enemies in both camps.[36] For instance, they took Pan-Turanist sympathizers into government when Germany was in the ascendant, but by May 1944 this policy had been reversed, leading to the suppression of such organizations and their propaganda.[37] The fact that Turkey remained neutral until the final stages of the war suggests that the intention of its government had always been to remain outside the conflict.[38]

Maintaining in the field one of the largest military forces ever assembled was a most challenging undertaking for German planners throughout the war. Despite the rapid victory of the Wehrmacht over the Western Allies in France in 1940, the fundamental weakness of its logistics was addressed by Hitler when he ordered a complete reorganization of the system after the campaign. However, the insecure supply of fuel coupled with the inadequate development of the German motor industry proved to be fundamental liabilities.[39] A report by the OKW in spring 1942 suggested that certain measures – such as new construction programmes aimed at increasing locomotive and wagon numbers, or the changeover to generators as a power source in order to save fuel – would take a considerable time to take effect.[40] However, Hitler's intervention ensured that supply of the *Ostheer* on land, sea, and in the air was improved sufficiently enough to allow it to resume the offensive and regain the strategic initiative later that summer.

This was a considerable achievement when one considers the conditions in which German supply troops operated. By mid-July 1942 partisan activity behind the southern army groups had changed noticeably. Groups which had once engaged German front-line troops were now operating deep in the rear, targeting lines of communication and transports of replacements travelling eastward.[41] Orders to counter these actions in a brutal manner were therefore welcomed by certain Army generals. The military commander of the civil administration area incorporating the Baltic States and Belorussia, General Walter Braemer, wrote that there were insufficient measures in place to fight the partisans in the southern

---

[35] DiNardo, *Germany and the Axis Powers*, p. 108.
[36] William Hale, *Turkish Foreign Policy, 1774-2000* (London; Portland, OR, 2002 [2000]), p. 108.
[37] Zürcher, *Turkey*, p. 214.
[38] Carter V. Findley, *Turkey, Islam, Nationalism, and Modernity: A History, 1789-2007* (New Haven, CT; London, 2010), p. 264.
[39] Creveld, *Supplying War*, p. 147.
[40] 'Beitrag für zusammenfassende Darstellung der Wehrkraft der Wehrmacht im Frühjahr 1942' (27 March 1942), BA-MA RW 19/2200, fol. 127.
[41] Blau, *German Campaign*, p. 151.

regions, who were threatening the locals and forcing some to join their ranks. This was seen by many in the indigenous population as a weakness on the part of the Wehrmacht, and trust among those who were friendly towards the Germans had begun to waver.[42] Consequently, though the summer offensive itself had hardly been disrupted by any large-scale partisan operations, Hitler ordered in Directive No. 46 (18 August) the destruction of these groups behind the front line so as to guarantee the safety of the now extended lines of communication.[43] He and his planners had undoubtedly underestimated the scale of the logistics task which the Wehrmacht faced at the end of 1941 simply because they had convinced themselves that the campaign would have been concluded victoriously by then and that any effort to include an analysis of potential logistics problems in operational plans would have been a considerable waste of precious time. By summer 1942, however, he had moved to ensure that this mistake was not repeated. A massive effort was undertaken to convert broad-gauge railway lines throughout the occupied areas – including the North Caucasus. Indeed, such was his satisfaction with the results that he would later proclaim that making the Russian railway network usable was one of the most amazing achievements that had been made up to that point.[44]

The transport to their deaths of victims of Hitler's genocidal policy towards different peoples of Europe had no major negative effect on supply of the Wehrmacht in the Soviet Union. However, evidence would suggest that this was not a major consideration among the perpetrators of these crimes – including Hitler – who seemed more concerned that these trains should run irrespective of any minor disruptions to the military logistics system that this might have caused. Nevertheless, only rolling stock in a poor state of repair was used, and transports often had to wait for hours to allow troop and supply trains to pass before continuing their journeys.

German forces in the Mediterranean theatre needed supply by air far more than those in the Caucasus region, though Army Group A did receive provisions from overstretched transport units when this was deemed absolutely necessary. Despite the obvious need for such aircraft throughout the different areas of operations, however, Hitler had had no choice but to concentrate on equipping the Army after the campaign in the Soviet Union stalled in late

---

[42] 'Stimmung der Bevölkerung' (15 July 1942), BA-MA RW 4/332, fol. 30. The *Reichskommissariat Ostland* (Eastland) was headed by the Gauleiter of Schleswig-Holstein, Hinrich Lohse, from its creation on 17 July 1941 until August 1944. Braemer served as *Wehrmachtbefehlshaber Ostland* from 24 June 1941 until 20 April 1944.
[43] Erich Hesse, *Der sowjetische Partisanenkrieg 1941 bis 1944 im Spiegel deutscher Kampfanweisungen und Befehle* (Göttingen, 1969), pp. 177-8. For the complete text of this directive, entitled 'Instructions for Intensified Action against Banditry in the East', see Hitler, *War Directives*, pp. 197-202.
[44] Hitler, *Monologe*, p. 378 (31 August 1942).

1941.[45] However, the number of transporters gradually increased throughout 1942 at his behest. He also strengthened naval units within reason in the Black Sea area once the Kriegsmarine had warned that Soviet superiority in the region represented a persistent threat to German supply lines. This was done despite the onerous obligations to his allies in terms of support in other theatres and fuel allocations. It therefore ultimately became possible to use the sea to a considerable degree to supply the forces on land.

Gehlen suggested after the war that Hitler had been inclined to ignore or suppress intelligence information which was not agreeable.[46] Therefore, like most officers who wrote memoirs, he ultimately saw the Supreme Commander as the reason why Germany lost the war, and certainly not the fighting strength of the Soviets.[47] However, as has been shown, there was sufficient reason for Hitler's general lack of confidence in German intelligence reports and, indeed, in Gehlen himself. Yet Stalin or Churchill never trusted the collective wisdom of their intelligence officers either. Instead, both insisted on perusing what they felt to be the most important information personally.[48]

Hitler was also disappointed with the Abwehr and its achievements, despite having placed so many resources at its disposal, and he felt that the work conducted by the Russians was vastly superior to German efforts. It was instrumental to the success of Soviet counter-intelligence that its strategic cryptosystems had started to become impenetrable by summer 1942, thus depriving the Wehrmacht of trustworthy high-level information on its adversary.[49] Conversely, German imagery and signals intelligence failed at the strategic level, meaning that Hitler had to depend on uncontradicted information emanating from the corrupt and inefficient Abwehr.[50] The intelligence which he received remained low-level and meagre, with no spies in the upper echelons of Soviet political or military power. The disdain of the previous years in the General Staff for work of this type ultimately militated against German endeavours.[51]

---

[45] Murray, *Strategy for Defeat*, p. 136.
[46] Gehlen, *Dienst*, p. 23.
[47] Wilhelm, 'Prognosen', p. 46.
[48] Gabriel Gorodetsky, 'Filip Ivanovich Golikov', in Harold Shukman (ed.), *Stalin's Generals* (London, 1997 [1993]), p. 79.
[49] Thomas, 'Foreign Armies East', pp. 268-9.
[50] John Ferris, ''FORTITUDE' in Context: The Evolution of British Military Deception in Two World Wars, 1914-1945', in Richard K. Betts and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003), p. 148.
[51] Kahn, *Hitler's Spies*, p. 530.

Clausewitz argued that military decisions sometimes have to be judged not simply on the outcome, but also on the reasoning and ruminations behind them.[52] Thus, the spring battles of 1942 in the eastern Ukraine were primarily fought by the Wehrmacht in order to gain a good jumping-off point for the main offensive, while the campaign in the Crimea and against Sevastopol' were necessary from an operational perspective. Once Sevastopol' had fallen, the Black Sea Fleet found itself in a particularly weakened position. Larger ships generally did not leave their bases, thereby handing over control of much of the sea to the Kriegsmarine and its allies. Attacks on shipping were now left to submarines, smaller vessels and aircraft. However, even the Soviet submarine fleet – the largest in the world at the time – became little more than a minor annoyance for the Axis.[53] Domination of the entire Crimean Peninsula also lessened the likelihood later on of a major Soviet offensive in the flank or rear of Army Group A. Importantly, these operations did not impact negatively on the Wehrmacht in terms of resources for Blau; contrariwise, they severely encumbered the Red Army by destroying many of its formations.

German counter-intelligence might have been poor, but at least Operation Kreml attained its goal. Nobody in the Soviet high command was under any illusions as to the potential disadvantages of a successful German summer campaign in the southern sector, particularly the fear that Japan and/or Turkey might join the Axis in its campaign and tip the balance in its favour. The commanders and headquarters of most of the Soviet army groups, however, agreed with Stalin, the Stavka and the General Staff that the German offensive against Moscow would be renewed.[54] The defences in and around the capital were prioritized in terms of combat and construction units, field fortifications, and weapons. Indeed, it was ironic that a group of dedicated Marxists failed to see the lure of an industrial region for the foe and instead concentrated on defending their capital city.[55]

The argument that the operational plan for Blau finalized by Hitler was 'anti-Clausewitzian' in that it did not concentrate on the destruction of the enemy's armed forces at Moscow is wrong on two counts. Firstly, Directive No. 41 dictated that the enemy was to be eliminated in the south before any continuation of the advance. Hitler's insistence on tight encirclements was not necessarily what many generals in front-line armoured formations would have preferred, but a relative shortage of personnel, machines and fuel suggested that

---

[52] Cited in Handel, 'Intelligence and Military Operations', p. 81.
[53] David C. Isby, 'The Air and Sea War', in James F. Dunnigan (ed.), *The Russian Front: Germany's War in the East, 1941-1945*, p. 157.
[54] A. M. Vasilevskii, 'Between Moscow and Stalingrad', in Seweryn Bialer (ed.), *Stalin and his Generals: Soviet Military Memoirs of World War II* (London, 1970), pp. 402, 404.
[55] Glantz and House, *Gates of Stalingrad*, p. 37.

this was the only credible option. Secondly, Clausewitz argued that an attack should preferably be directed against a *weak* point of the enemy defence. An advance against Moscow would have engaged the strongest array of Red Army forces on the entire front line, as it was here that the Soviet leadership was expecting the main German offensive. It would also have necessitated thinning out forces in other sectors, which would then have been open to attack. In other words, an attack against Moscow would have repeated the same mistakes and consequences of the previous year.[56] Though the Red Army did mount operations against the other army groups once Blau was under way, weakened German units in these sectors were generally able to withstand repeated enemy attacks behind well-fortified positions in favourable terrain.

The thrust of Blau made enemy deployment very difficult: Soviet strategic reserves just above the middle reaches of the Don became isolated when the north-south railway lines were cut, which made it necessary for them to be moved southward either via the Volga or through central Asia. This resulted in Soviet defensive positions having to be withdrawn further east from Millerovo and Rostov towards the Don.[57]

The particularly contentious decision to remove 11th Army from the southern theatre was only ordered by Hitler once he felt that Stalingrad and the Caucasus could be taken with the forces to hand. In fact, FHO was ultimately to blame for this decision because of its failure to appreciate the size of the Soviet strategic reserve around the city.[58]

Clausewitz wrote that there must be no question of rest or consolidation of a position after a major victory; rather, the advance with the bulk of one's forces must be sustained in order to maintain pressure on the enemy.[59] Though it may be argued that Army Group A had not inflicted a significant defeat on the Red Army in June and early July 1942, it had nevertheless forced the enemy into headlong retreat. It seemed at that point that the large expanse of territory to the Don was devoid of Soviet forces, which suggests that the only realistic option left was to advance further.[60] The offensive was therefore split in order to take advantage of the disarray which had been initiated among the ranks of the Red Army. Indeed, it is perhaps not an exaggeration to suggest that very few German generals would have been willing to remain passive before and beyond the Don while allowing an apparently defeated opponent to retreat unmolested.

---

[56] Glantz, *Colossus Reborn*, pp. 35-6.
[57] *Idem*, *The Military Strategy of the Soviet Union: A History* (London, 1992), p. 117.
[58] *Idem*, *Colossus Reborn*, p. 36.
[59] Clausewitz, *On War*, p. 625.
[60] Citino, *Death of the Wehrmacht*, pp. 180-1.

The question of when such a pursuit should end is a vexed one. According to Clausewitz, though one's own strength is weakened during an advance, it does not necessarily have to 'fall to zero' in order to force the enemy to succumb. He might do so earlier, so if this can be achieved with one final push using any remaining modicum of superiority it is self-evident that it would be a mistake not to do this. A general must perforce guess at what he described as the culminating point of victory: namely, whether the enemy has the will to continue to resist following a significant setback.[61] However, while the theory is easily understood, its application is far more difficult to determine.[62] Clausewitz argued that the best approach is to be neither too audacious (which might leave the attacker with nothing) nor too cautious (which might result in him failing to exploit any success) – in other words, in order to come to the correct decision one must be a military genius.[63]

The Army and Luftwaffe generals who decried in their memoirs the lack of air support during the simultaneous drives on Stalingrad and the Caucasus either refused to appreciate the true level of assistance or simply chose to be disingenuous. However, a considerable number of long-range bombers were systematically engaged against the enemy's rearward communications during the advance. Targets ranged across large stretches of the North Caucasus, and there were concerted attacks on bridges, ferries and railways (including the important line between Moscow and Stalingrad). In fact, these aircraft operated exclusively as indirect support for the ground forces when conducting their principal task of dislocating Soviet logistics networks. It was for this reason that ports along the eastern littoral of the Black Sea as well as shipping along the Volga were targeted.[64] German air attacks on Soviet seaborne transports from mid-August onwards at Anapa, Novorossijsk, Gelendzhik and Tuapse contributed significantly to operations in general throughout the Caucasus campaign.[65] Hitler then increased air support for Army Group A once it advanced into the mountainous regions.[66] Despite constant assistance, however, poor weather, difficult terrain and stiff Soviet resistance all had a major impact on mobility and further operations from October, which eventually halted the drives on Tuapse and Ordzhonikidze.[67]

---

[61] Clausewitz, *On War*, pp. 570, 572-3.
[62] Handel, *Masters of War*, p. 184.
[63] Cited ibid., p. 185.
[64] Anon., *German Air Force*, p. 179.
[65] Plocher, *German Air Force*, p. 226.
[66] Anon., *German Air Force*, p. 179.
[67] Plocher, *German Air Force*, p. 228.

A comprehensive analysis of operations in the south-western region of the Soviet Union in 1942 reveals that the German Army was in a strong position to defeat its enemy. Though logistics proved to be the most pressing problem, much was achieved to ensure that the advance almost succeeded in taking the important oil-producing regions of the Caucasus from the Soviets.

On the tactical level, there is little evidence of interference from Hitler at this stage of the war except when he needed important information such as the state of the roads or the position of artillery units, and the records suggest that he was flexible enough to allow front-line commanders to act as they had always done without intrusion. His strategic and operational decisions were made against a backdrop of a general optimism which pervaded the German armed forces at the time. In fact, it can be argued that most, if not all, of the decisions which subsequently came to be regarded by military historians as unsound were not errors at all – at least from his point of view. It is a dubious exercise at best to measure Hitler's gifts or otherwise as a strategist on an arbitrary 'scale of excellence'. He fought the type of conflict in 1942 which he had intended to fight from the outset – a war based on ideology.[68] Though significant efforts were made to accommodate other nations by appealing to their own prejudices and irredentist aspirations, the alliance which he created was ultimately to prove far too weak and fragile in the face of a stronger and more resolute foe in the form of the Allied Powers. He attempted to achieve goals which ultimately remained unattainable thanks to shortages in formations and personnel as a consequence of waging war on multiple fronts – the 'war of the poor man'.[69] Overreach was ultimately his undoing, though this was not yet apparent in 1942 and only confirmed the following year after the battles at Stalingrad and Kursk.

[68] Gray, *War, Peace and International Relations*, p. 151.
[69] *KTB OKW*, vol. 4, p. 39.

Appendices

Orders of Battle		*Page*
1.	Army Group South, 5 April 1942	325
2.	Army Group South, 24 June 1942	327
3.	Army Group A, 15 July 1942	329
4.	Army Group A, 5 August 1942	331
5.	Army Group A, 2 September 1942	332
6.	Army Group A, 17 September 1942	333
7.	Army Group A, 8 October 1942	334
8.	Army Group A, 5 November 1942	335
9.	Soviet Formations Before Army Group South, 1 April 1942	336
10.	Soviet Formations Before Army Group South, 1 July 1942	338
11.	Soviet Formations Before Army Group A, 1 August 1942	340
12.	Soviet Formations Before Army Group A, 1 September 1942	341
13.	Soviet Formations Before Army Group A, 1 October 1942	343
14.	Soviet Formations Before Army Group A, 1 November 1942	345

1. Army Group South, 5 April 1942

Divisions	Corps	Armies		Army Group	OKH Reserve
22 ⅔ 50 (*being relieved*) 24 Rom. 1 Mountain Brigade mass Rom. 18 + ⅓ Rom. 10	LIV	11 ⅔ 72 + ⅓ 170 mass Rom. 10 22 Pz. Rom. 19	Armeegruppe von Kleist mass 60 mot.	South ⅓ 299 384 (i.t.) Rom. 20 (i.t.) mass 23 Pz. (i.t., around Khar'kov)	383 (i.t. to Mosty) 387 (i.t. to Rovne)
Gr. Schröder (*coastal defence*) Rom. 4 Mountain Brigade parts Rom. 18	Romanian Mountain Corps				
⅓ 170 132 Rom. Cavalry Regiment 3	XXX				
46 28 Jäger + ⅓ 50 Rom. 8 Cavalry Brigade staff + ⅓ 170 + ⅓ 72 + ⅓ 73 + parts Rom. 18	XXXXII				
parts Rom. 18 Rom. Mobile Regiment Engineer Battalion 173	Comd. of the Isthmuses				
SS-*AH* + Security Regiment 4 ⅔ 73 + one regiment 444 Security 13 Pz. mass 125 mass 16 Pz. SS-*Wiking* Slovak Mobile Division	XIV (mot.)	1 Pz. Gr. v. Förster (with Rom. 5 CB) Rom. CC (with Rom. 6 CB)			
4 Mountain mass 198 one regiment 213 Security Ital. *Celere* Ital. Bersaglieri Regiment 6	XXXXIX (mt.) (with Gr. Lombardi)				
Ital. *Torino* Ital. *Pasubio*	Italian Mobile Corps				
111 ½ 101 Jäger + ½ 97 Jäger	LII	17			
⅔ 9 94 76 + ⅓ 295 + ⅓ 9 ⅔ 295 + parts 16 Pz.	IV (with Gr. von Witzleben)				
257 + ½ 101 Jäger ⅓ 68 ½ 97 Jäger parts 198	XXXXIV (with Gr. Rupp = staff 97 Jäger)				
1 Mountain + parts 198 100 Jäger 14 Pz. + parts 125 parts 60 mot.	Gr. Sanne Gr. Hube Gr. Lanz (Gr. Zimmer)	Gr. v. Mackensen (III mot.)			
⅔ Rom. 2 + parts 113 298 + ⅔ 68 parts 454 Security Hung. Bicycle Battalion	Gr. Kortzfleisch (XI)				
Rom. 1 mass 113 + ⅓ Rom. 2 ⅓ 113	Rom. VI				

Army Group South, 5 April 1942 (contd.)[1]				
Divisions	Corps	Armies	Army Group	OKH Reserve
Rom. ski unit parts 79 one regiment 454 Security parts 57 Hung. 108 Light	VIII (with Gr. Koch = staff 454 SD and Gr. Friedrich = staff 62)	6 parts 454 SD Slovak AR 31	South	
44 + parts 62 + parts 88 + parts 294 + parts 299 297	LI (with Gr. Velte)			
294 + parts 62 parts 454 Security staff + parts 3 Pz. + ⅓ 168 + parts 79 + parts 23 Pz. parts 299	XVII			
75 + parts 88 mass 62 ⅓ 168 staff + ⅔ 57 parts 88	XXIX (with Gr. Kraiss = staff 168)			
⅓ 88 + ⅓ 168 16 mot. 9 Pz. + ⅓ 88	XXXXVIII (mot.)	2 Hung. 102 Light		
mass 95 + parts 45 staff + ⅓ 299 + SS Brigade 1 mass 45 + ⅓ 286 Security	LV (with Gr. Moser)			
parts 444 Security parts 213 Security Hung. 105 Light	Comd. Army Group Rear Area South			

[1] Wegner, 'Krieg gegen die Sowjetunion', p. 763. *Notes*: AR = Artillery Regiment; Armeegruppe = *command arrangement where at least one army headquarters was subordinated to another*; CB = Cavalry Brigade; CC = Cavalry Corps; Comd. Army Group Rear Area South = (*from 1 April 1942*) Kommandierender General der Sicherungstruppen und Befehlshaber im Heeresgebiet Süd (Commanding General of Security Troops and Commander of Army Group Rear Area South); Comd. of the Isthmuses = Befehlshaber der Landengen der Halbinsel Krim (Commander of the Isthmuses on the Crimean Peninsula); Gr. = *Gruppe* (Group); Hung. = Hungarian; i.t. = in transit; Ital. = Italian; *Jäger* = (German) Light Division; mot. = motorized; mt. = mountain; Pz. = Panzer; Rom. = Romanian; SD = Security Division; SS-*AH* = *Leibstandarte-SS Adolf Hitler* motorized infantry division; SS-*Wiking* = *Wiking* motorized infantry division.

2. Army Group South, 24 June 1942

Divisions	Corps	Armies	Army Group	OKH Reserve
⅓ 132 + ⅓ 46 24 22 + ⅓ 73 50 + ⅓ 46 Rom. 4 Mountain	LIV ⅓ 46 (i.t.)	11 Comd. of the Isthmuses	South 323 340 Hung. IV Hung. 10 Light Hung. 12 Light Hung. 13 Light Hung. Pz. Div. LVII mot. V	i.t.: 371 Ital. 8 with Ital. II Ital. *Ravenna* Ital. *Sforzesca* Ital. *Cosseria*
Rom. 18 Rom. 1 Mountain	Romanian Mountain Corps			
72 170 28 Jäger + one regiment 213 SD + one regiment 444 SD ⅓ 125 Stab Schröder with one regiment 444 SD	XXX			
Gr. Ritter (*coastal defence*) Rom. 8 Cavalry Rom. 10 Rom. 19 Rom. Mobile Regiment parts 22 Pz. ⅔ 132	Rom. VII	Gr. Mattenklott (XXXXII)		
Rom. 6 Cavalry Rom. 5 Cavalry Security Regiment 4 298	Gr. von Förster Rom. CC	Gr. von Wietersheim (XIV mot.)		
SS-*AH* ⅔ 73 13 Pz. ⅔ 125 SS-*Wiking* Slovak Mobile Division	XIV (mot.)			
4 Mountain 198	XXXXIX (mt.)	17		
Ital. *Celere* + Bersaglieri Regiment 6 Ital. *Torino* Ital. *Pasubio*	Italian Mobile Corps			
111	LII			
94 + ⅔ 9 76 295 370	IV (⅓ 9 *being relieved*)			
257 101 Jäger 97 Jäger + Walloon Battalion 373 68	XXXXIV	1 Pz.		
Rom. 4 Rom. 20 Rom. 2	Rom. VI	Gr. Strecker (XI)		
1 Mountain Rom. 1 454 Security				

Army Group South, 24 June 1942 (contd.)[2]					
Divisions	Corps		Armies	Army Group	OKH Reserve
14 Pz. 16 Pz. mass 22 Pz. 60 mot.	III (m.)	Gr. von Mack-ensen (III m.)	1 Pz.	South	
384 62 44 71 297	LI				
294 79 113	XVII		6 100 Jäger (+ Croatian IR 369)		
305 389 376	VIII				
336 3 Pz. 23 Pz. 29 Pz.	XXXX (mot.)				
75 168 57	XXIX				
Hung. 7 Light Hung. 9 Light 16 mot.	Hung. III		Hun. 2	2 88 383	
Hung. 6 Light 387	VII				
377 9 Pz. 3 mot.	XXIV (mot.)		4 Pz.		
82 ⅔ 385 11 Pz.	XIII				
Großdeutschland 24 Pz.	XXXXVIII (mot.)				
95 45 SS Brigade 1 299	LV				
parts 444 Security parts 213 Security staff 403 Security	Comd. Army Group Rear Area South Hung. Occupation Group				
Hung. 105 Light					

[2] Wegner, 'Krieg gegen die Sowjetunion', p. 871. *Notes*: IR = Infantry Regiment; *Stab* = Staff; 2nd Army = Armeegruppe von Weichs.

3. Army Group A, 15 July 1942

Divisions	Corps	Armies	Army Group	OKH Reserve
170 24 22 50 72	LIV	11 Comd. of the Isthmuses	A 68 V	SS-*AH* (i.t.) XIV Pz. with 16 Pz. 60 mot.
Rom. 4 Mountain Rom. 18 Rom. 1 Mountain Stab Schröder	Romanian Mountain Corps			
28 Jäger	XXX			
Gr. Ritter (*coastal defence*) Rom. 8 CD Rom. 10 Rom. 19 Rom. MR — Rom. VII	Gr. Mattenklott (XXXXII)			
parts 22 Pz. 132 46				
Rom. 6 CD Rom. 5 CD — Romanian Cavalry Corps	Gr. Wetzel (LVII Pz.)	Armeegr. Ruoff (17) 9 Rom. 3 Rom. I Ital. *Cosseria* (i.t.)		
298 + Security Regiment 4 73 13 Pz. 125 SS-*Wiking* Slovak Mobile Divison				
4 Mountain 198	XXXXIX (mt.)			
Ital. *Celere* + Bersaglieri Regiment 6 Ital. *Torino* Ital. *Sforzesca* Ital. *Pasubio* Ital. *Ravenna*	Ital. XXXV — Ital. 8 Ital. II			
111 370	LII			
371 94	IV — Gr. v. Schwedler (IV)			
76 295	XI			
22 Pz. 14 Pz. (*minus parts*)	III Pz.	1 Pz. 454 Security		
257 101 Jäger 97 Jäger + Walloon Battalion 373 + Croatian IR 369 1 Mountain	XXXXIV			
Rom. 4 Rom. 20 Rom. 1 Rom. 2	Rom. VI			

Army Group A, 15 July 1942 (contd.)[3]				
Divisions	Corps	Armies	Army Group	OKH Reserve
44 71 297	LI	4 Pz.	A	
23 Pz. 3 Pz.	XXXX Pz.			
24 Pz. *Großdeutschland* 16 mot. 29 mot.	XXXXVIII Pz.			
3 mot.	XXIV Pz.			

[3] 'Schematische Kriegsgliederung, Stand: 15.7.42', BA-MA RH 2/351b. *Notes*: CD = Cavalry Division; MR = Mobile Regiment.

4. Army Group A, 5 August 1942[4]				
Divisions		Corps	Armies	Army Group
24 50 72		LIV	11 Comd. of the Isthmuses Rom. MR i.t.: Rom. 3 Mountain	A i.t.: Rom. 9 CD Ital. Alpini Corps with Ital. *Tridentina* Ital. *Cuneense* Ital. *Julia*
Rom. 4 Mountain Rom. 18 Rom. 1 Mountain Stab Schröder		Romanian Mountain Corps		
28 Jäger		XXX		
Rom. 8 CD Rom. 10 Rom. 99	Rom. VII	Gr. Mattenklott (XXXXII)		
132 46				
Rom. 5 CD Rom. 6 CD	Romanian Cavalry Corps	Rom. 3 Rom. II	Armeegr. Ruoff (17)	
Rom. 2 Mountain 298	Rom. I			
4 Mountain 73 1 Mountain 9		XXXXIX (mt.)		
198 125		V		
SS-*Wiking* Slovak Mobile Division		LVII Pz.	1 Pz. *Großdeutschland*	
111 370		LII		
16 mot. 13 Pz.		III Pz.		
97 Jäger + Walloon Battalion 373 101 Jäger		XXXXIV		
3 Pz. 23 Pz.		XXXX Pz.		
Security Regiment 4 454 Security 444 Security		Comd. Army Group Rear Area A		

[4] 'Schematische Kriegsgliederung, Stand: 5.8.42', BA-MA RH 2/351b.

5. Army Group A, 2 September 1942[5]				
Divisions		Corps	Armies	Army Group
Rom. 4 Mountain Rom. 1 Mountain Stab Schröder		Romanian Mountain Corps	Comd. of the Crimea (XXXXII)	A
Rom. 10 Rom. 19 Rom. 18 Rom. 8 Cavalry		Rom. VII	Comd. of the Isthmuses 50 46 Rom. 3 Mountain i.t.a: 24 132	
Rom. 5 CD Rom. 6 CD Rom. 9 CD	Romanian Cavalry Corps	Rom. 3 Rom. I	Armeegr. Ruoff (17)	
⅔ 125 73 9		V		
198 + ⅓ 125 SS-*Wiking* Slovak Mobile Division		LVII Pz.		
97 Jäger + Walloon Battalion 373 101 Jäger		XXXXIV		
4 Mountain 1 Mountain		XXXXIX (mt.)		
parts 23 Pz. Rom. 2 Mountain + I./MTIR 99		III Pz.	1 Pz.	
3 Pz. mass 23 Pz. 13 Pz.		XXXX Pz.		
111 370		LII		
Security Regiment 4 454 Security 444 Security		Comd. Army Group Rear Area A		

[5] 'Schematische Kriegsgliederung, Stand: 2.9.42', BA-MA RH 2/351b. *Notes*: Comd. of the Crimea = Befehlshaber der Krim (Commander of the Crimea); i.t.a. = in transit away; I./MTIR 99 = 1st Battalion, Mountain Infantry Regiment 99.

6. Army Group A, 17 September 1942[6]				
Divisions		Corps	Armies	Army Group
Rom. 4 Mountain Rom. 1 Mountain Stab Schröder		Romanian Mountain Corps	Comd. of the Crimea (XXXXII) Comd. of the Isthmuses 50	A Rom. 3 Rom. I
Rom. 10 Rom. 19 Rom. 18 Rom. 8 Cavalry		Rom. VII		
Rom. 5 CD Rom. 9 CD	Romanian Cavalry Corps	Gr. Wetzel (V)	17 46 Security Regiment 4	
Rom. 3 Mountain ⅔ 125 73 9 Rom. 6 Cavalry				
198 + ⅓ 125 SS-*Wiking* Slovak Mobile Division		LVII Pz.		
97 Jäger + Walloon Battalion 373 101 Jäger		XXXXIV		
4 Mountain 1 Mountain (*minus one battalion*)		XXXXIX (mt.)		
mass 23 Pz. Rom. 2 Mountain + I./MTIR 99		III Pz.	1 Pz.	
111 370 13 Pz. parts 3 Pz.		LII		
mass 3 Pz. parts 23 Pz.		XXXX Pz.		
454 Security 444 Security		Comd. Army Group Rear Area A		

[6] 'Schematische Kriegsgliederung, Stand: 17.9.42', BA-MA RH 2/351b.

7. Army Group A, 8 October 1942[7]				
Divisions		Corps	Armies	Army Group
Rom. 4 Mountain Rom. 1 Mountain Stab Schröder		Romanian Mountain Corps	Comd. of the Crimea (XXXXII) Comd. of the Isthmuses 50 Rom. 8 Cavalry parts Rom. 10	A
Rom. 3 Mountain Rom. 6 CD Rom. 19 parts Rom. 5 CD parts Rom. 9 CD	Romanian Cavalry Corps	Gr. Wetzel (V)	17 Rom. VII	
mass Rom. 5 Cavalry mass Rom. 9 Cavalry 73 9 parts Rom. 10				
198 125 Slovak Mobile Division		LVII Pz.		
97 Jäger + Walloon Battalion 373 101 Jäger parts 46		XXXXIV		
4 Mountain 1 Mountain (*minus one battalion*) mass 46 Security Regiment 4		XXXXIX (mt.)		
Rom. 2 Mountain + I./MTIR 99		Gr. Steinbauer	1 Pz.	
mass 23 Pz. 13 Pz. 370		III Pz.		
SS-*Wiking* 111		LII		
3 Pz. parts 23 Pz.		XXXX Pz.		
454 Security 444 Security		Comd. Army Group Rear Area A		

[7] 'Schematische Kriegsgliederung, Stand: 8.10.42', BA-MA RH 2/351b.

8. Army Group A, 5 November 1942[8]				
Divisions		Corps	Armies	Army Group
Rom. 4 Mountain Rom. 1 Mountain		Romanian Mountain Corps	Comd. of the Crimea (XXXXII) Comd. of the Isthmuses ⅓ Rom. 10	A
Rom. 6 CD Rom. 19 Rom. 9 CD	Romanian Cavalry Corps	Gr. Wetzel (V)	17	
73 9 ⅔ Rom. 10 Rom. 3 Mountain				
198 125 Slovak Mobile Division		LVII Pz.		
mass 97 Jäger + Walloon Battalion 373 101 Jäger		XXXXIV		
4 Mountain 1 Mountain (*minus one battalion*) + parts 97 Jäger 46 Bicycle Regiment 4		XXXXIX (mt.)		
Rom. 2 Mountain + I./MTIR 99 23 Pz. 13 Pz. 370		III Pz.	1 Pz. Gen.Kdo.z.b.V. Bef.St. Steinbauer 50 (i.t.)	
SS-*Wiking* 111		LII		
3 Pz.		XXXX Pz.		
454 Security 444 Security		Comd. Army Group Rear Area A		

[8] 'Schematische Kriegsgliederung, Stand: 5.11.42', BA-MA RH 2/351b. *Notes*: Bef.St. = *Befehlsstelle* (Headquarters); Gen.Kdo.z.b.V. = Generalkommando zur besonderen Verwendung (Corps Headquarters for Special Duties).

9. Soviet Formations Before Army Group South, 1 April 1942				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Fronts	Totals
rd: 132, 143, 148, 212, 307 *isba*: 36, 37, 57, 58, 179	*tbr*: 129 *iatd*: 45	13	Brjansk (*part*)	*a*: 1 *rd*: 5 *isba*: 5 *tbr*: 1 *iatd*: 1
rd: 47, 253, 270, 337, 343, 393, 411 *cd*: 28 *isba*: 100	*tbr*: 5 G, 13, 133	6	South-Western	*a*: 4 *sa*: 1 *rd*: 26 *cd*: 4 *cc*: 1 *isba*: 10 *tbr*: 6 *itba*: 4 *mrbr*: 2 *iatd*: 6
rd: 76, 293, 297 *isba*: 21, 99, Lt Kachajlo	*mrbr*: 21 *itba*: 8	21		
rd: 1 G, 3 G, 81, 124, 169, 199, 226, 227, 300, 304 *isba*: 96, 103, 267 *cc*: 3 G (5 GCD, 6 GCD, 32 CD)	*tbr*: 6 G, 10 *mrbr*: 34 *itba*: 92 *iatd*: 59	38		
rd: 6, 45, 62, 121, 160 *isba*: 2, 104, 105	*tbr*: 14	40		
mrd: 8 NKVD *iatrba*: 20, 21, 22, 23, 24	*itba*: 71, 132 *iatd*: 58, 60, 61, 62 *iaaatd*: 377 *iat*: 63	*Front*		
rd: 51, 99, 150, 333, 335 *rbr*: 11 *nrbr*: 78 *cd*: 30 *isba*: 277	*tbr*: 12	9	Southern	*a*: 6 *sa*: 1 *rc*: 1 *rd*: 32 *rbr*: 8 *irr*: 1 *cc*: 3 *cd*: 10 *fr*: 1 *isba*: 1 *tbr*: 12 *mrbr*: 2 *itba*: 2 *imcba*: 1 *iatd*: 1
rd: 4, 74, 261	*iat*: 2, 6, 10, 11	12		
rd: 15 G, 353, 383, 395	–	18		
rd: 15, 218, 230, 275, 295, 296	*tbr*: 2, 3, 54 *mrbr*: 130	37		
rc: 3 G (2 GRD, 68, 76, 81 *and* 102 RBR) *rd*: 30, 31, 339, 347 *rbr*: 13, 16 *fr*: 158 *irr*: *Rostov*	*tbr*: 4 G, 63 *iatd*: 7	56		
rd: 14 G, 106, 255, 317, 341, 351	*tbr*: 6, 130, 131 *mrbr*: 23	57		
rd: 176, 216, 349 *cc*: 2 (62, 64 *and* 70 CD), 5 (34, 60 *and* 79 CD), 6 (26, 38 *and* 49 CD)	*tbr*: 7, 15, 121 *itba*: 62, 75 *imcba*: 1	*Front*		

Soviet Formations Before Army Group South, 1 April 1942 (contd.)[9]				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Fronts	Totals
mtrd: 63, 362 *rd*: 157, 396, 401	*itr*: 24 *itba*: 124, 126	44	Crimean	*a*: 4 *rd*: 23 *rbr*: 6 *cd*: 2 *irr*: 1 *tbr*: 4 *itr*: 1 *itba*: 6 *mcr*: 1 *iatd*: 1
mtrd: 77 *rd*: 236, 271 *cd*: 72 *mrr*: 54	*mcr*: 13	47		
mtrd: 138 *rd*: 224, 320, 390, 398, 400 *rbr*: 12, 143 *nrbr*: 83	*tbr*: 39, 40, 55, 56 *itba*: 229	51		
rd: 25, 95, 109, 172, 345, 386, 388 *nrbr*: 79 *cd*: 40 *nibr*: 7, 8	*itba*: 81, 125 *iat*: *Zheleznjakov*	Coastal		
rd: 156, 276	*itba*: 79 *iatd*: 24	*Front*		

[9] Grylev (ed.), *Boevoj sostav*, pp. 65-7. *Notes*: a = army; cc = cavalry corps; cd = cavalry division; fr = fortified region; *Front = units directly subordinated to the front command*; G = Guards; GCD = Guards Cavalry Division; iaaatd = independent anti-aircraft armoured train *divizion* (battalion); iasba = independent aero-sleigh (*sleigh with a propeller*) battalion; iat = independent armoured train; iatd = independent armoured train *divizion* (battalion); iatrba = independent anti-tank rifle battalion; imcba = independent motorcycle battalion; irr = independent rifle regiment; isba = independent ski battalion; itba = independent tank battalion; mcr = motorcycle regiment; mrbr = motorized rifle brigade; mrd = motorized rifle division; mrr = motorized rifle regiment; mtrd = mountain rifle division; nibr = naval infantry brigade; NKVD = *organ of state security*; nrbr = naval rifle brigade; rbr = rifle brigade; rc = rifle corps; rd = rifle division; sa = sapper army; tbr = tank brigade.

10. Soviet Formations Before Army Group South, 1 July 1942				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Fronts	Totals
rd: 15, 132, 143, 148, 307 *rbr*: 109	*tbr*: 129 *iatd*: 45	13	Brjansk (*part*)	*a*: 2 *rd*: 11 *rbr*: 4 *tbr*: 3 *iatd*: 2
rd: 6, 45, 62, 121, 160, 212 *rbr*: 111, 119, 141	*tbr*: 14, 170 *iatd*: 62	40		
rd: 51, 81, 106, 140, 255, 296, 318, 333 *idbr*: 18, 19 *cc*: 5 (30, 34 *and* 60 CD)	*tbr*: 12 *itba*: 71, 132	9	South-Western	*a*: 5 *aa*: 1 *sa*: 1 *rd*: 32 *dd*: 1 *idbr*: 6 *cc*: 2 *cd*: 6 *fr*: 5 *tc*: 4 *tbr*: 24 *mrbr*: 5 *itba*: 5 *imcba*: 2 *iatd*: 5
rd: 76, 124, 226, 227, 293, 297, 301, 343, 8 NKVD	*tc*: 13 (85 *and* 167 TBR, 20 MRBR) *tbr*: 10 *mrbr*: 1 *itba*: 478	21		
rd: 13 G, 15 G, 38, 169, 175	*tc*: 23 (6 GTBR, 114 TBR, 9 MRBR) *tbr*: 65, 90, 91	28		
rd: 162, 199, 242, 277, 278, 304	*tc*: 22 (3, 13 *and* 36 TBR, 51 IMCBA) *tbr*: 133, 156, 159, 168 *mrbr*: 22 *itba*: 92 *imcba*: 50	38		
–	–	57 (*engineer units only*)		
rd: 9 G, 103, 244, *dd*: 1 (1, 2 *and* 5 DBR) *idbr*: 11, 13, 15, 17 *cc*: 3 G (5 *and* 6 GCD, 32 CD) *fr*: 52, 53, 74, 117, 118	*tc*: 14 (138 *and* 139 TBR) *tbr*: 57, 58, 84, 86, 158, 176 *mrbr*: 21 *itba*: *one unnumbered* *iatd*: 58, 59, 60, 61, 377	*Front*		
rd: 4, 74, 261, 349	*iatd*: 64, 66	12	Southern	*a*: 5 *aa*: 1 *sa*: 1 *rc*: 1 *rd*: 23 *rbr*: 4 *irr*: 1 *fr*: 4 *tbr*: 6 *itba*: 2 *iatd*: 5
rd: 216, 353, 383, 395	*tbr*: 64 *iatd*: 65	18		
rd: 73, 228, 335, 341	–	24		
rd: 102, 218, 230, 275, 295	*tbr*: 121	37		
rc: 3 G (2 GRD, 68, 76 *and* 81 NRBR) *rd*: 30, 31, 339 *rbr*: 16 *fr*: 70, 158	*tbr*: 63	56		
rd: 347 *imrr*: *one unnumbered* *fr*: 69, 73	*tbr*: 5 G, 15, 140 *itba*: 62, 75 *iatd*: 57	*Front*		

Soviet Formations Before Army Group South, 1 July 1942 (contd.)[10]				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Fronts	Totals
rd: 32 G, 77 *nrbr*: 66 *rbr*: 103 *icr*: 32	*itba*: 126	47	North Caucasus	*a*: 3 *aa*: 1 *rc*: 1 *rd*: 15 *rbr*: 11 *cc*: 1 *cd*: 6 *icr*: 2 *tbr*: 3 *mrbr*: 1 *itba*: 4 *iatd*: 5
rd: 91, 138, 156, 157 *cd*: 110, 115 *icr*: 255	*tbr*: 40 *iatd*: 51	51		
rd: 25, 95, 109, 172, 345, 386, 388 *nrbr*: 79, 138 *nibr*: 7, 8	*itba*: 81, 125	Coastal		
rc: 1 (236 *and* 302 RD, 113 *and* 139 RBR) *nrbr*: 83, 142, 154 *cc*: 17 (12, 13, 15 *and* 116 CD)	*tbr*: 136, 137 *smrbr*: *one unnumbered* *itba*: 79 *iatd*: 8, 16, 24, 53	*Front*		
rd: 223, 414, 416 *rbr*: 9, 10	*iatd*: 17	44	Transcaucasus	*a*: 2 *rc*: 1 *rd*: 10 *rbr*: 3 *cd*: 1 *fr*: 3 *tbr*: 1 *iatd*: 5
rc: 3 (9 *and* 20 MTRD) *rd*: 389, 392, 394, 406 *rbr*: 155 *cd*: 63 *fr*: 51	*iatd*: 11, 12, 36, 41, 42	46		
rd: 417	*tbr*: 52	*Front*		

[10] Grylev (ed.), *Boevoj sostav*, pp. 124-8. *Notes*: aa = air army; DBR = Destroyer Brigade; dd = destroyer division; GTBR = Guards Tank Brigade; icr = independent cavalry regiment; idbr = independent destroyer brigade; imrr = independent motorized rifle regiment; smrbr = special motorized rifle brigade; tc = tank corps.

11. Soviet Formations Before Army Group A, 1 August 1942[11]				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Fronts	Totals
rd: 51, 81, 106, 140, 242, 255, 296, 318 *cd*: 30 *idbr*: 18, 19	*itba*: 132	9	North Caucasus	*a*: 7 *aa*: 2 *sa*: 1 *rc*: 1 *rd*: 28 *rbr*: 7 *idbr*: 2 *cc*: 1 *cd*: 5 *fr*: 3 *tc*: 1 *tbr*: 8 *mrbr*: 3 *itba*: 4 *iatd*: 7
rd: 4, 31, 176, 261 *nrbr*: 81 *rr*: 109 (74 RD)	–	12		
rd: 216, 236, 353, 383, 395 *rbr*: 16 *nrbr*: 68	*iatd*: 51, 53	18		
–	–	24 (*headquarters only*)		
rd: 2 G, 74, 230, 275, 295, 347	*mrbr*: 41	37		
rd: 32 G, 77 *rbr*: 103	*itba*: 126	47		
rd: 30, 339, 349 *nrbr*: 76 *fr*: 151, 158	–	56		
rc: 1 (83 NRBR *and* 139 RBR) *cc*: 17 (12, 13, 15 *and* 116 CD) *fr*: 69	*tc*: 14 (136, 138 *and* 139 TBR, 21 MRBR) *tbr*: 5 G, 2, 15, 63, 140 *smrbr*: *one unnumbered* *itba*: 62, 75 *iatd*: 7, 16, 64, 65, 66	*Front*		
rd: 223, 414, 416 *rbr*: 9, 10	*iat*: 17	44	Transcaucasus	*a*: 2 *rc*: 1 *rd*: 10 *cd*: 1 *rbr*: 4 *fr*: 1 *tbr*: 2 *itba*: 1 *iatd*: 6
rc: 3 (9 *and* 20 MTRD) *rd*: 389, 392, 394, 406 *rbr*: 155 *cd*: 63 *fr*: 51	*itba*: 12 *iatd*: 11, 12, 36, 41	46		
rd: 417 *rbr*: 3 Ind. Parachute Assault Battalion	*tbr*: 52, 191 *iatd*: 8, 42	*Front*		

[11] Grylev (ed.), *Boevoj sostav*, pp. 150-1; Glantz and House, *Gates of Stalingrad*, p. 414. *Note*: rr = rifle regiment.

12. Soviet Formations Before Army Group A, 1 September 1942				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Fronts	Totals
rd: 39 *rbr*: 16 *nrbr*: 68, 81	–	12	North Caucasus	*a*: 4 *aa*: 1 *rd*: 13 *rbr*: 8 *irr*: 3 *cc*: 1 *cd*: 4 *fr*: 2 *imrbr*: 1 *itba*: 2 *iatd*: 2
rd: 31, 236, 383, 395 *cd*: 10 G *rr*: 1331	–	18		
rd: 77, 216 *nrbr*: 83 *rbr*: 103 *nibr*: 1 *mxrbr*: *one unnumbered*	*itba*: 126 *iat*: 16	47		
rd: 30, 261, 349, 353 *nrbr*: 76 Rostov PMRR	*iatd*: 7	56		
cc: 4 G (9, 11 *and* 12 GCD) *rd*: 32 G, 318, 339 *irr*: 976 *irba*: 67, *one unnumbered* *niba*: 323 Ind. Parachute Assault Battalion *sd*: 1, 2 *fr*: 69, 151	*imrbr*: *one unnumbered* *imrba*: 1 *itba*: 62 *iatd*: 53	*Front*		
rc: 11 G (8, 9 *and* 10 GRBR) *rd*: 151, 176, 389 *nrbr*: 62	*iatd*: 36, 42	9	Transcaucasus	*a*: 5 *aa*: 1 *sa*: 1 *rc*: 3 *rd*: 28 *rbr*: 18 *cd*: 3 *icr*: 1 *fr*: 1 *tc*: 1 *tbr*: 9 *mrbr*: 1 *itba*: 8 *iatd*: 8
rd: 2 G, 275, 295, 392, 11 NKVD *icr*: 127	–	37		
rd: 223, 414, 416 *rbr*: 9, 10, 256 *nrbr*: 84 *cd*: 30, 110	*itba*: 44 *iatd*: 66 *iat*: 17, 18	44		
rc: 3 (9 *and* 20 MTRD) *rd*: 61, 394, 406 *rbr*: 51, 155 *cd*: 63 *fr*: 51	*itba*: 12 *iatd*: 11, 12, 41	46		
rd: 317, 328, 337, Makhachkala NKVD *rbr*: 3	–	58		

Soviet Formations Before Army Group A, 1 September 1942 (contd.)[12]				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Fronts	Totals
rc: 10 G (4, 5, 6 *and* 7 GRBR) *rd*: 89, 347, 417	*tbr*: 52 *itba*: 249, 258, 563	*NGF*	Transcaucasus	
mtrd: 242 *rd*: 271, 276, 319, 351 *rbr*: 19, 34, 43	*tc*: 14 (138 *and* 139 TBR, 21 MRBR) *tbr*: 5 G, 2, 15, 63, 140, 191 *itba*: 75, 562, 564 *iatd*: 8, 19 *iat*: 14, 15	*Front*		

[12] Grylev (ed.), *Boevoj sostav*, pp. 173-4. *Notes*: imrba = independent motorized rifle battalion; imrbr = independent motorized rifle brigade; irba = independent rifle battalion; mxrbr = mixed rifle brigade; *NGF* = *units directly subordinated to the command of the Northern Group of Forces of Transcaucasus Front* (9th, 37th and 44th Armies); niba = naval infantry battalion; PMRR = People's Militia Rifle Regiment; sd = shock detachment.

13. Soviet Formations Before Army Group A, 1 October 1942					
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies		Front	Totals
rc: 11 G (8, 9 *and* 10 GRBR, 57 RBR) *rd*: 89, 176, 417 *rbr*: 19, 59, 60, 131, 256 *nrbr*: 62	*tbr*: 5 G, 52 *itba*: 75, 249 *iatd*: 41, 42	9	Northern Group of Forces	Transcaucasus	*a*: 8 *aa*: 2 *sa*: 1 *rc*: 3 *rd*: 43 *rbr*: 34 *irr*: 5 *cc*: 1 *cd*: 7 *icr*: 2 *fr*: 3 *tbr*: 7 *mrbr*: 1 *itba*: 11 *iatd*: 8
rd: 2 G, 151, 275, 295, 392, 11 NKVD *irr*: 113 NKVD *cr*: 127 (30 CD)	–	37			
rd: 223, 317, 337, 389 *rbr*: 9, 157 *icr*: *one unnumbered*	*iatd*: 19, 36, 66	44			
rd: 271, 319, 416, Makhachkala NKVD *rbr*: 43	–	58			
rc: 10 G (4, 5, 6 *and* 7 GRBR) *cc*: 4 G (9 *and* 10 GCD, 30 *and* 110 CD) *rd*: 414, 19 NKVD *rbr*: 10	*itba*: 44, 258, 563	*Group*			
rd: 32 G, 31, 236, 328, 383, 395 *nibr*: 68 *cd*: 12 G *icr*: *one unnumbered*	*mrbr*: 40	18	Black Sea Group of Forces		
rc: 3 (9, 20 *and* 242 MTRD) *rd*: 61, 351, 394, 406 *rbr*: 51, 107, 119, 155 *cd*: 63 *mxrr*: Semënov *mtrdt*: 1-10 *iniba*: *one unnumbered* *fr*: 51	*itba*: 562 *iatd*: 11, 12	46			
rd: 216, 318 *rbr*: 163 *nrbr*: 81, 83 *nibr*: 255 *rr*: 672 (408 RD) *nir*: 137	*itba*: 126 *imrba*: 1	47			
rd: 30, 339, 353 *nrbr*: 76 *ipmrr*: *one unnumbered* *fr*: 69	–	56			
rd: 77 *rbr*: 16, 103 *cd*: 11 G Ind. Parachute Battalion *fr*: 151	*itba*: 62 *iatd*: 8	*Group*			

Soviet Formations Before Army Group A, 1 October 1942 (contd.)[13]				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Front	Totals
rd: 408 (*minus* 672 RR) *nir*: 145 *niba*: 143, 324 *stf*: 1	–	Tuapse Defensive Region	Transcaucasus	
rd: 261, 276, 347, 349 *rbr*: 34, 164, 165 *nrbr*: 84 *imtsba*: *one unnumbered*	*tbr*: 2, 15, 63, 140, 191 *itba*: 132, 266, 564	*Front*		

[13] Grylev (ed.), *Boevoj sostav*, pp. 195-7. *Notes*: imtsba = independent mountain ski battalion; iniba = independent naval infantry battalion; ipmrr = independent people's militia rifle regiment; *Group = units directly subordinated to the command of a Group of Forces*; mtrdt = mountain rifle detachment; mxrr = mixed rifle regiment; nir = naval infantry regiment; stf = special task force.

14. Soviet Formations Before Army Group A, 1 November 1942					
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies		Front	Totals
rc: 3 (9, 57 *and* 60 RBR), 11 (19, 34 *and* 131 RBR) *rd*: 89, 176, 317, 337, 347,417 *rbr*: 10 G	*tbr*: 5 G, 2, 15 *iatd*: 41, 42, 66	9	Northern Group of Forces	Transcaucasus	*a*: 8 *aa*: 2 *rc*: 7 *rd*: 45 *rbr*: 34 *irr*: 6 *cc*: 1 *cd*: 7 *icr*: 1 *fr*: 3 *tbr*: 7 *mrbr*: 2 *itba*: 12 *iacba*: 1 *iatd*: 9
rc: 10 (59 *and* 164 RBR) *rd*: 2 G, 275, 295, 11 NKVD *irr*: 113 NKVD	*itba*: 563	37			
rc: 9 (43 *and* 157 RBR), 10 G (4, 5, 6 *and* 7 GRBR) *rd*: 223, 389, 402 *cd*: 63	*tbr*: 63 *itba*: 132, 488 *iatd*: 19, 36	44			
rd: 271, 416, Makhachkala NKVD	–	58			
rc: 11 G (34 *and* 62 RBR) *rd*: 276, 319, 320, 414, 19 NKVD *rbr*: 256 *cc*: 4 G (9 *and* 10 GCD, 30 *and* 110 CD)	*tbr*: 52 *itba*: 44, 75, 249, 258, 266 *iacba*: 37 *iatd*: 20	*Group*			
rd: 32 G, 328, 353, 383 *rbr*: 8 *and* 9 G, 10, 68, 107, 119, 165 *icr*: *one unnumbered*	*mrbr*: 40	18	Black Sea Group of Forces		
mtrd: 9, 20, 242 *rd*: 61, 394, 406, Sukhumi NKVD *rbr*: 51, 155 *mtrdt*: 7, 8 *fr*: 51	*itba*: 562 *iatd*: 11	46			
rd: 216, 318 *nrbr*: 81 *nibr*: 255 *nir*: 137 *fr*: 69	–	47			
rd: 30, 339, 395 *nrbr*: 76, 83 *irr*: 814 *ipmrr*: *one unnumbered* *niba*: 323 *fr*: 151	–	56			
cd: 11 *and* 12 G	*itba*: 62 *iatd*: 12	*Group*			

Soviet Formations Before Army Group A, 1 November 1942 (contd.)[14]				
Rifle, Parachute, Cavalry	Armoured and Mechanized	Armies	Front	Totals
rd: 236, 408 *rbr*: 408	*itba*: 126	Tuapse Defensive Region	Transcaucasus	
rc: 12 (77, 261, 349 *and* 351 RD) *rd*: 31, 151 *rbr*: 16, 103 *imtrr*: 67 *irr*: 691 *iatba*: 69-83	*tbr*: 140, 191 *imrbr*: *one unnumbered* *itba*: 564 *iatd*: 8	*Front*		

[14] Grylev (ed.), *Boevoj sostav*, pp. 217-18. *Notes*: iacba = independent armoured car battalion; iatba = independent anti-tank battalion; imtrr = independent mountain rifle regiment.

Maps *Page*

1. Eastern Ukraine and Western Russia 348

2. North Caucasus 349

3. Railways in the North Caucasus (*western part*) 350

4. Railways in the North Caucaus (*eastern part*) 351

5. Railways in Transcaucasia 352

6. German Front Line, 7 May 1942 353

7. German Front Line, 17 May 1942 354

8. German Front Line, 22 May 1942 355

9. German Front Line, 10 June 1942 356

10. German Front Line, 15 June 1942 357

11. German Front Line, 27 June 1942 358

12. German Front Line, 8 July 1942 359

13. German Front Line, 15 July 1942 360

14. German Front Line, 25 July 1942 361

15. German Front Line, 1 August 1942 362

16. German Front Line, 5 August 1942 363

17. German Front Line, 23 August 1942 364

18. German Front Line, 28 September 1942 365

19. German Front Line, 10 October 1942 366

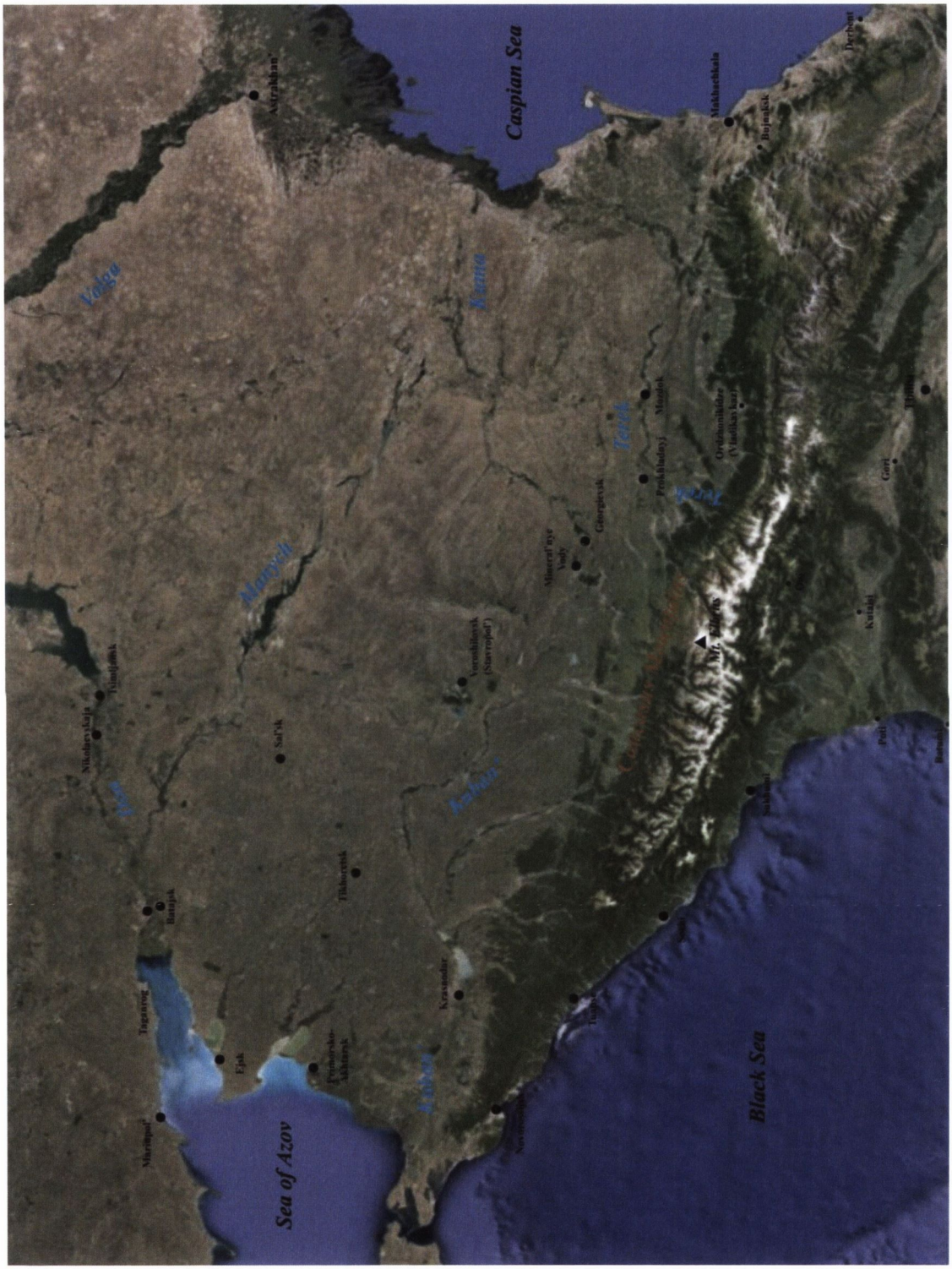
20. German Front Line, 26 October 1942 367

21. German Front Line, 7 November 1942 368

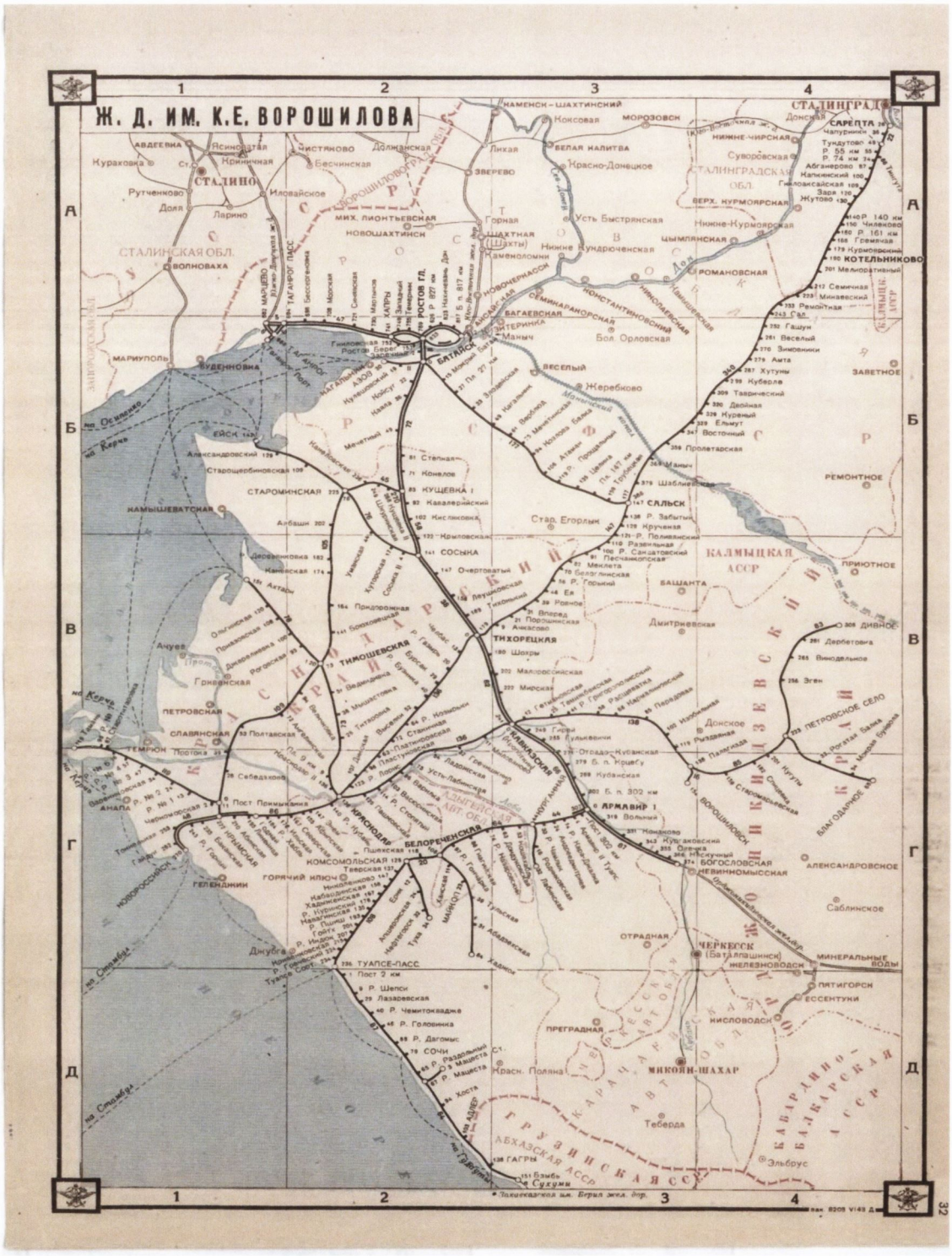
Map 1: Eastern Ukraine and Western Russia



Map 2: North Caucasus

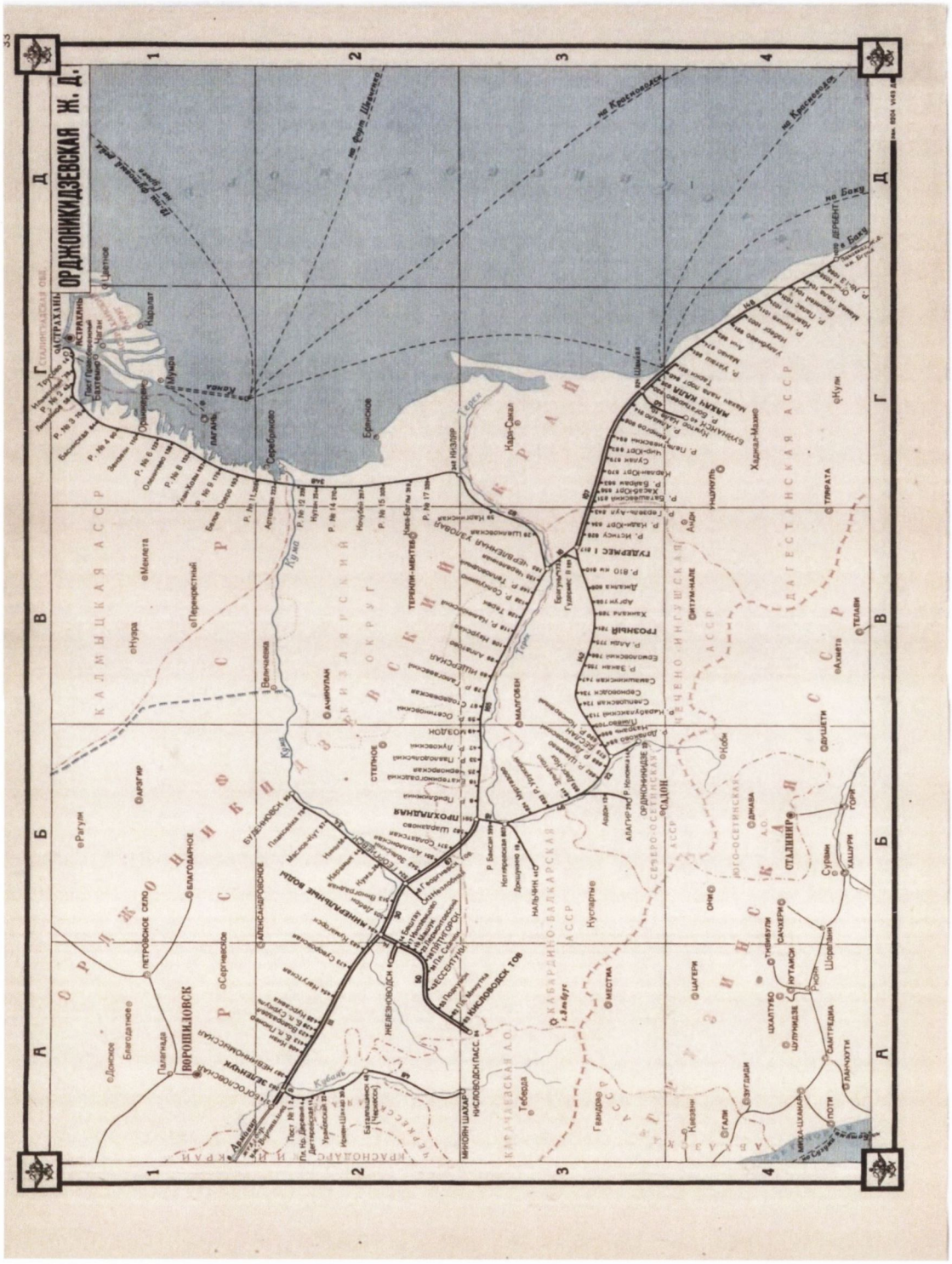


Map 3: Railways in the North Caucasus (*western part*)[1]



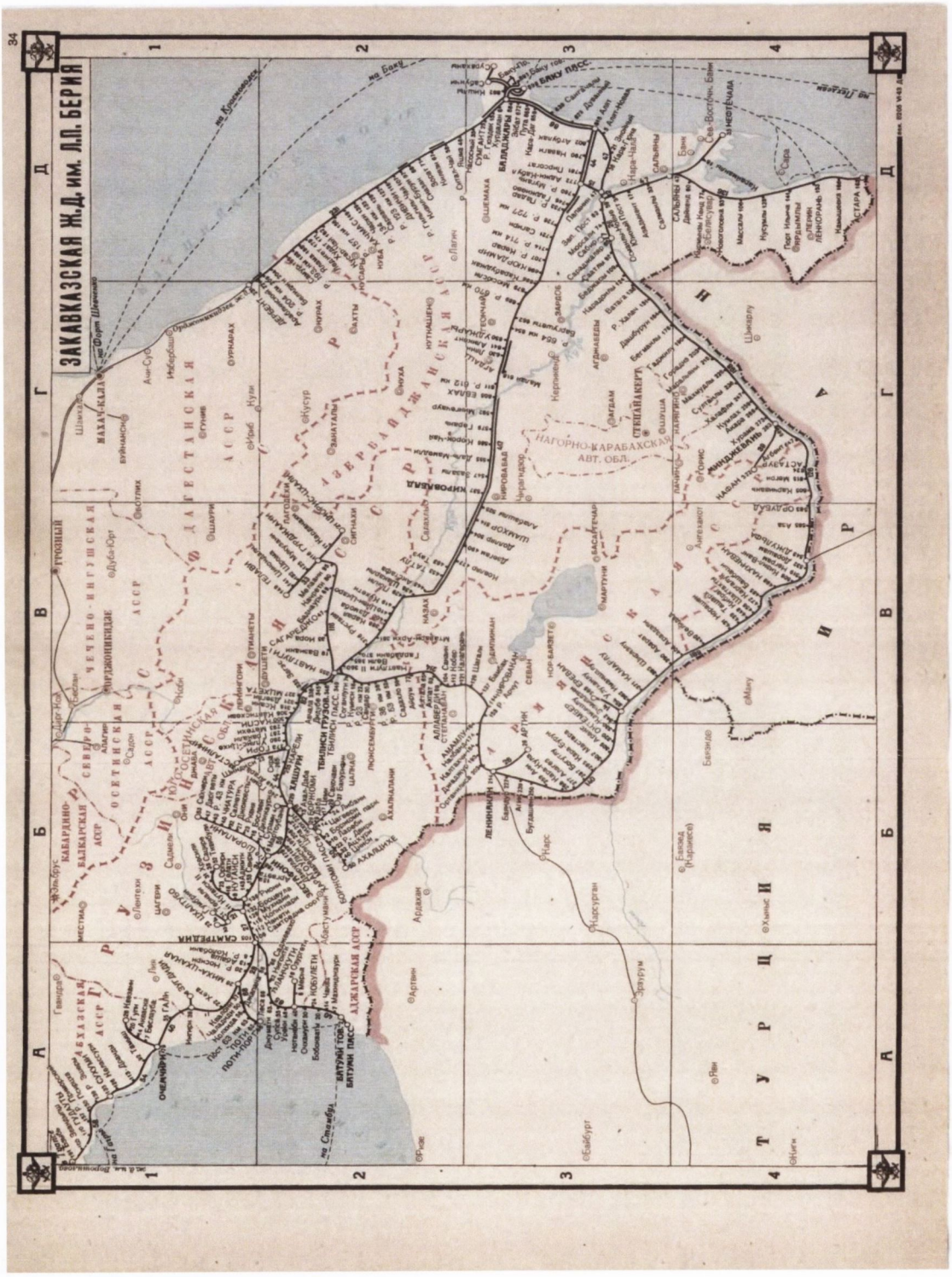
[1] L. I. Shalyt (ed.), *Skhemy zheleznykh dorog i vodnykh putej soobshchenija SSSR* (n.p., 1943), p. 32. *Note*: Double lines represent double-track railways.

Map 4: Railways in the North Caucaus (*eastern part*)[2]



[2] Shalyt (ed.), *Skhemy*, p. 33.

Map 5: Railways in Transcaucasia[3]



[3] Shalyt (ed.), *Skhemy*, p. 34.

Map 6: German Front Line, 7 May 1942



Map 7: German Front Line, 17 May 1942



Map 8: German Front Line, 22 May 1942



Map 9: German Front Line, 10 June 1942



Map 10: German Front Line, 15 June 1942



Map 11: German Front Line, 27 June 1942



Map 12: German Front Line, 8 July 1942



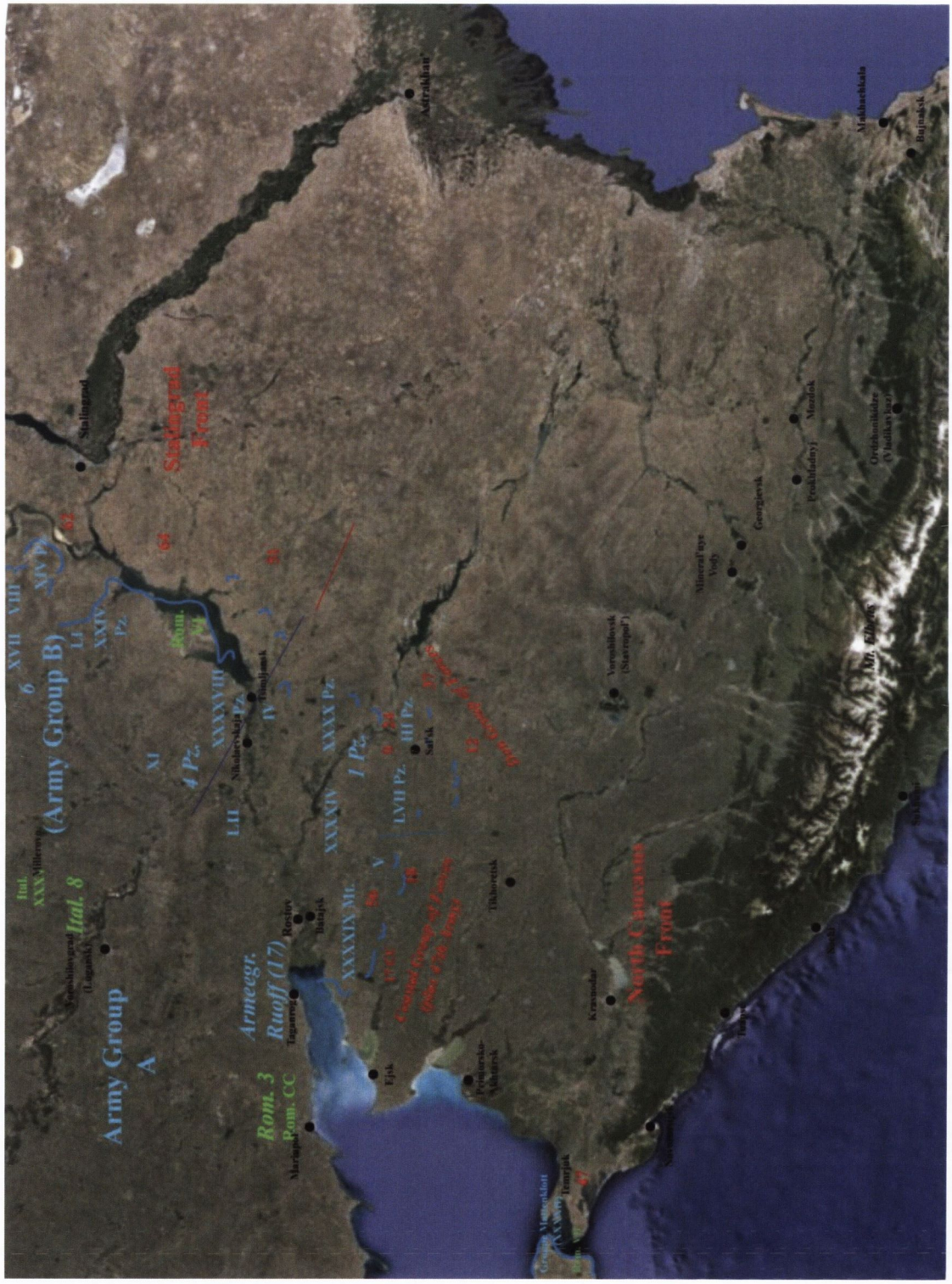
Map 13: German Front Line, 15 July 1942



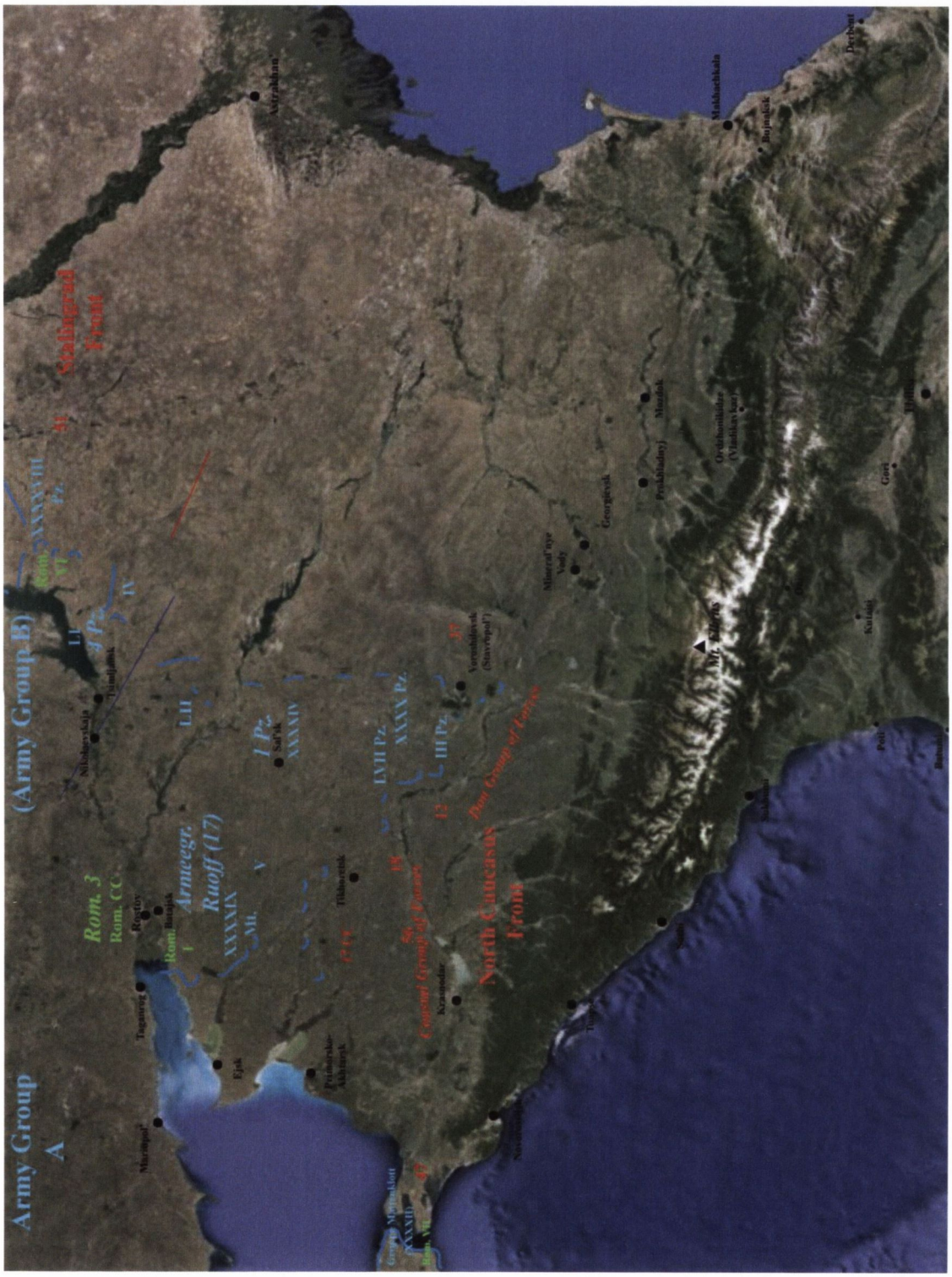
Map 14: German Front Line, 25 July 1942



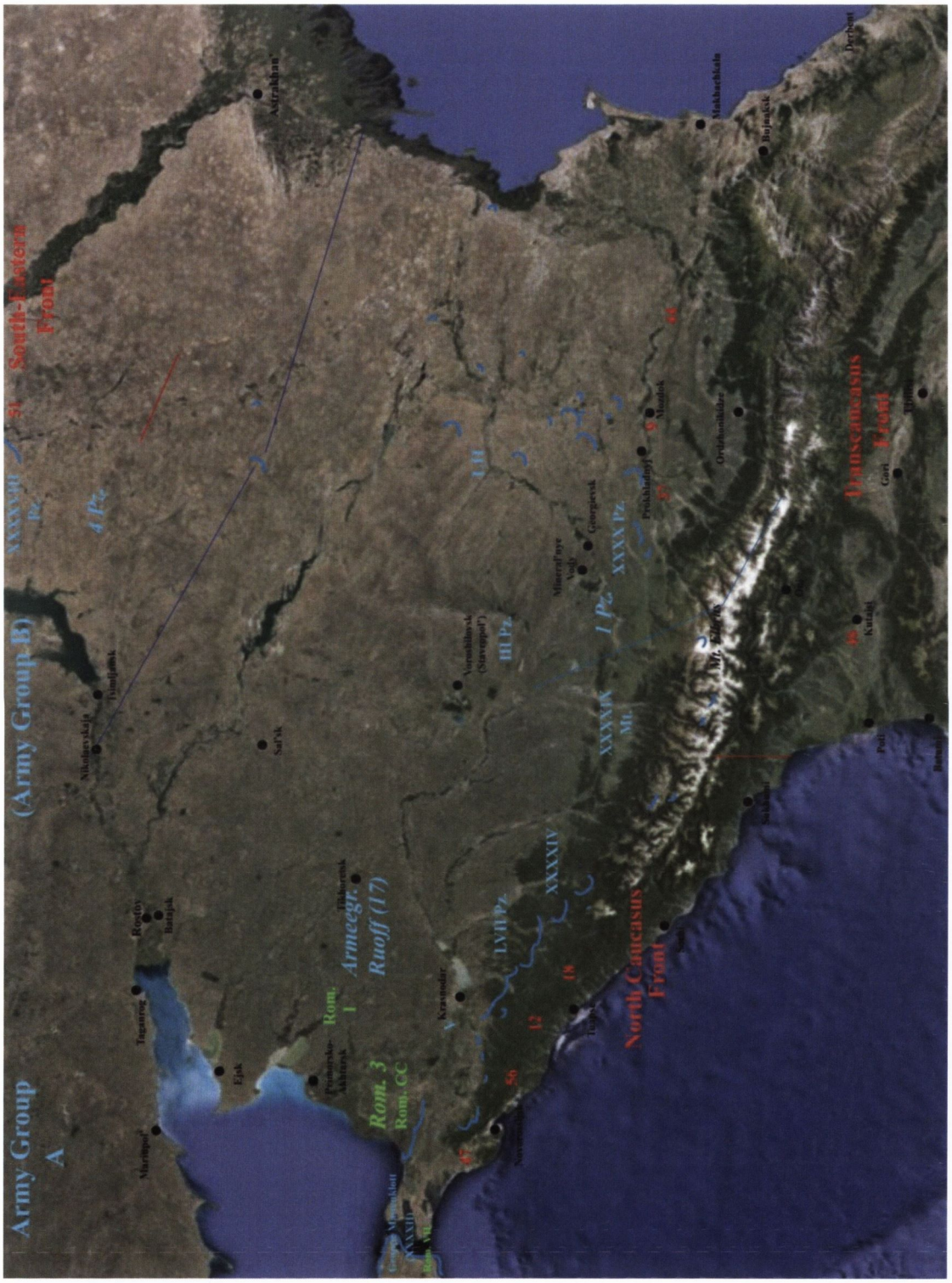
Map 15: German Front Line, 1 August 1942



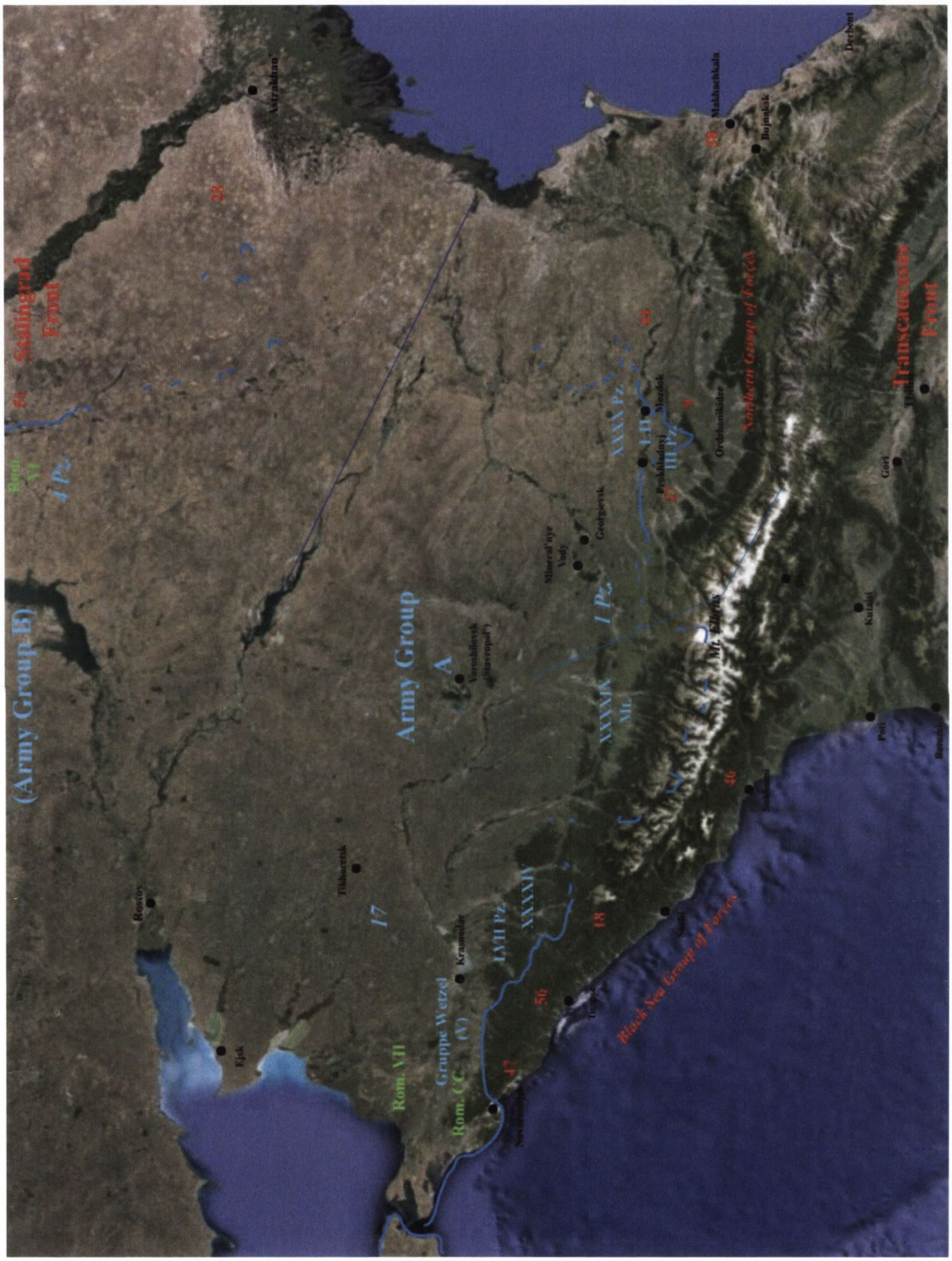
Map 16: German Front Line, 5 August 1942



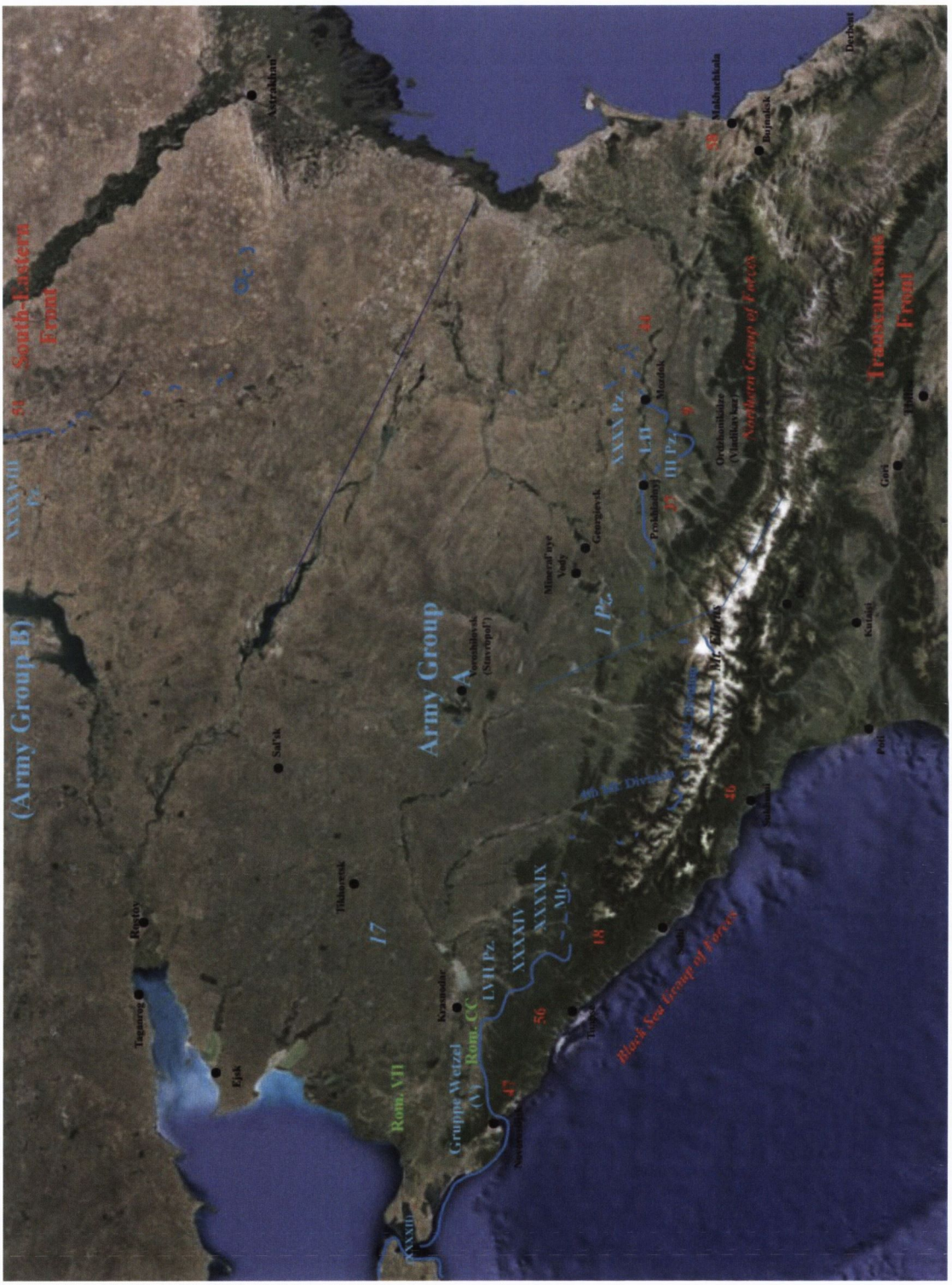
Map 17: German Front Line, 23 August 1942



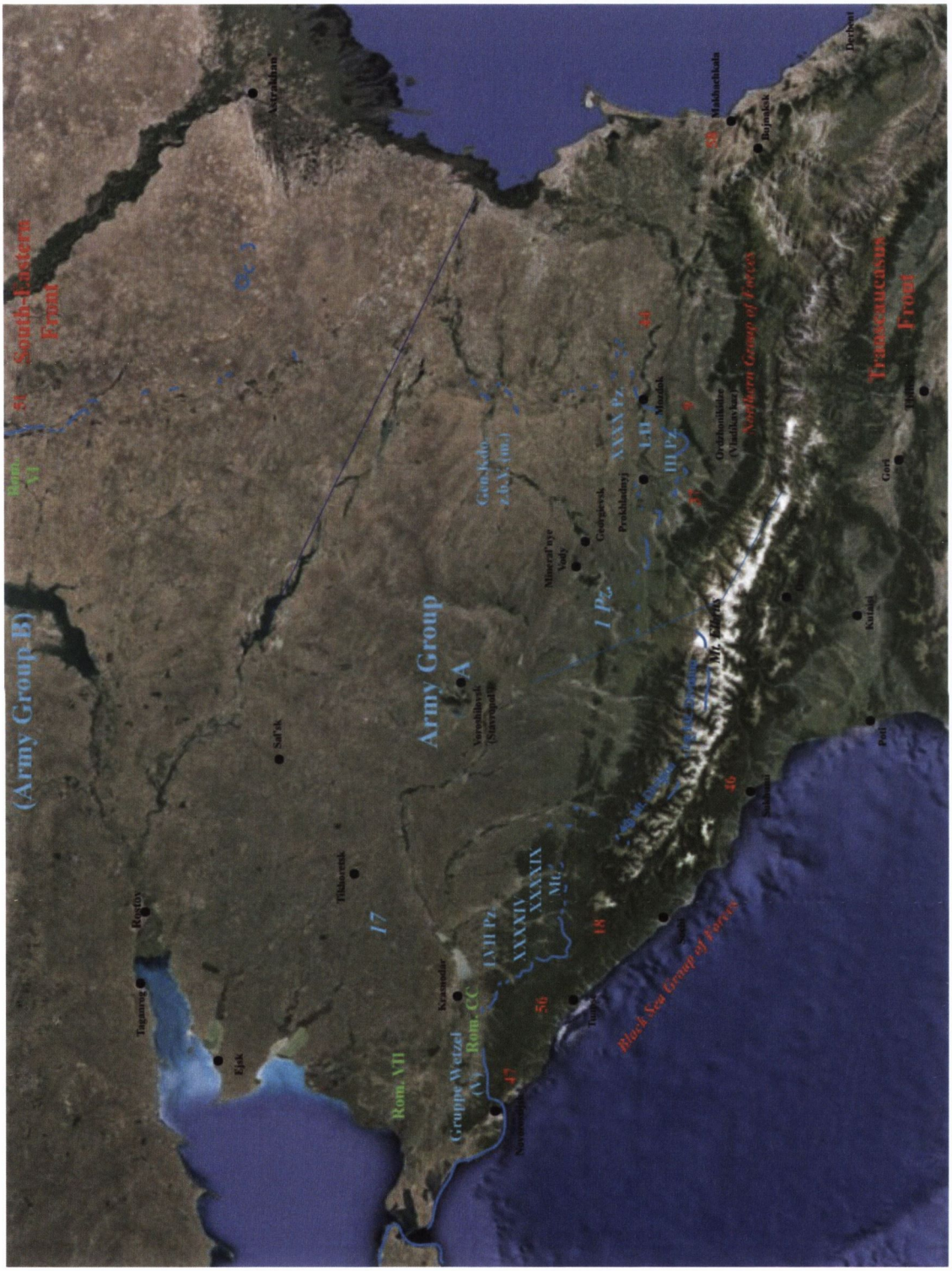
Map 18: German Front Line, 28 September 1942



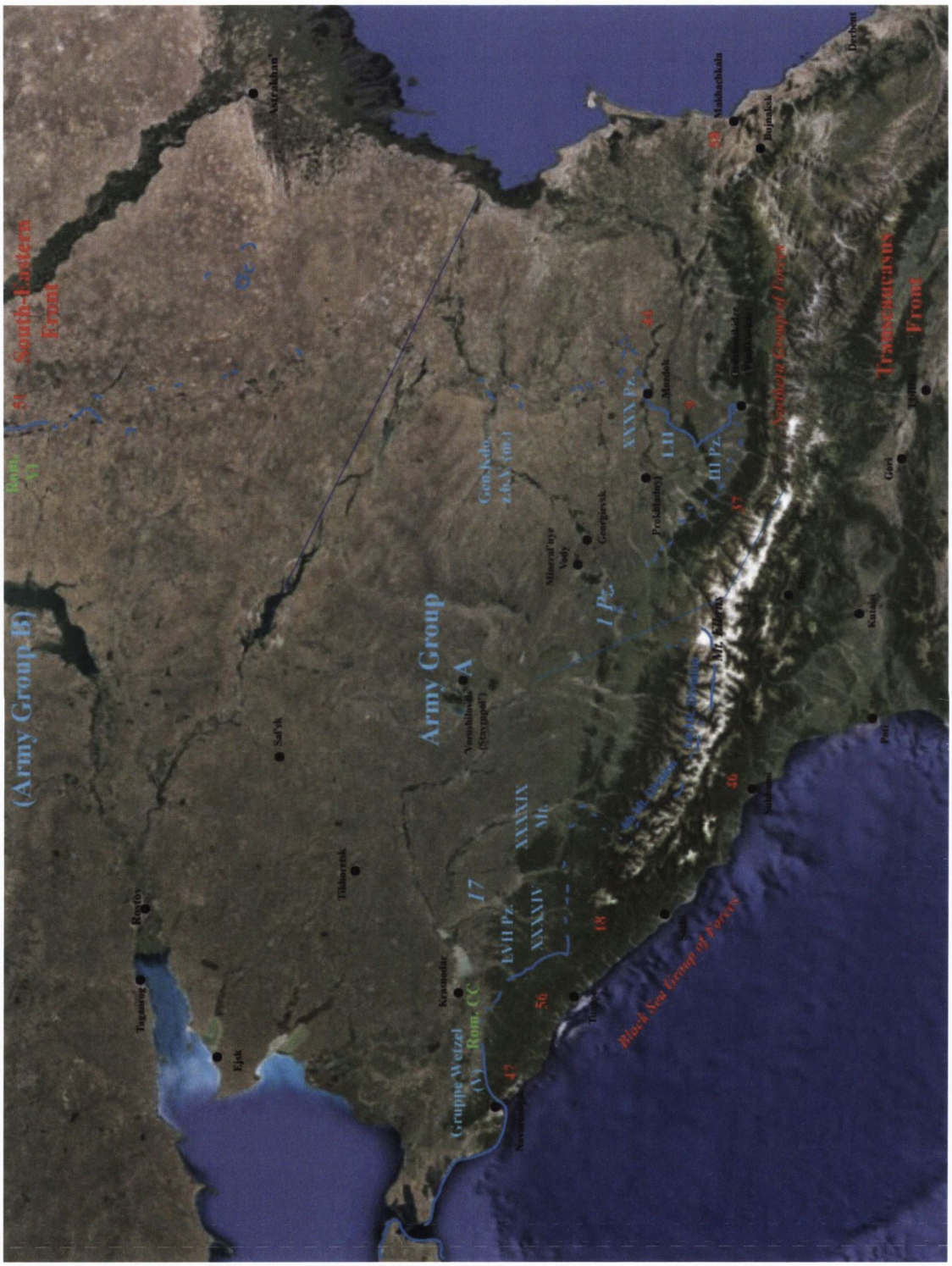
Map 19: German Front Line, 10 October 1942



Map 20: German Front Line, 26 October 1942



Map 21: German Front Line, 7 November 1942



Bibliography

Primary Sources

Bundesarchiv-Militärarchiv, Freiburg, Germany

Articles

Anon., 'Die zweite Oberste Heeresleitung: Kriegführung an der Westfront', BA-MA RH 61/146.

Bork, Max, 'Die Bedeutung des Bahn- und Straßennetzes als Mittel der Operation (Osten)', BA-MA MSg 2/1472.

Bork, Max, 'Unser Wehrmachttransportwesen', BA-MA MSg 2/1470.

Herhudt von Rohden, Hans-Detlef, 'Die Luftflotte 4 bei Stalingrad und am Kaukasus 1942/43' (11 January 1956), BA-MA RL 7/483.

Milch, Erhard, 'Luftflotte 4 vor Stalingrad, unter Verwendung des Tagebuchs Gen. Obst. Frh. v. Richthofen', BA-MA RL 7/482.

Files

RH	Reichsheer und Heer
RH 2	OKH / Generalstab des Heeres
RH 3	OKH / Generalquartiermeister
RH 4	OKH / Chef des Transportwesens
RH 19-I	Oberkommando der Heeresgruppe Süd (OB Ost) / Heeresgruppe A / Heeresgruppe Süd / Heeresgruppe B
RH 19-III	Oberkommando der Heeresgruppe C / Heeresgruppe Nord / Heeresgruppe Kurland
RH 19-V	Oberkommando der Heeresgruppe A / Heeresgruppe Südukraine / Heeresgruppe Süd / Heeresgruppe Ostmark
RH 20	Armeegruppen, Armeen und Armeeabteilungen
RH 21	Panzergruppen und Panzerarmeen
RH 24	Generalkommandos (Korps) und Höhere Kommandos
RH 31-I	Deutsche Heeresmission in Rumänien

RH 66	General der Eisenbahntruppen
RL	Luftwaffe
RL 7	Luftflottenkommandos
RL 10	Verbände und Einheiten der Fliegertruppe der Luftwaffe
RL 11	Führungsstäbe der Flakartillerie der Luftwaffe
RL 24	Luftzeuggruppen
RM	Reichsmarine und Kriegsmarine
RM 7	Seekriegsleitung der Kriegsmarine
RM 35-III	Marinegruppenkommando Süd der Kriegsmarine
RM 45-V	Dienststellen und Kommandostellen der Kriegsmarine mit regionaler und lokaler Zuständigkeit im Bereich Süd/Südost
RW	Reichswehr und Wehrmacht 1919 bis 1945
RW 4	OKW / Wehrmachtführungsstab
RW 5	OKW /Amt Ausland/Abwehr
RW 7	OKW / Wehrmachtintendant z.b.V.
RW 19	OKW / Wehrwirtschafts- und Rüstungsamt
RW 29	Wehrwirtschaftsdienststellen in Südosteuropa

RH 2/129
RH 2/429
RH 2/430
RH 2/431
RH 2/432
RH 2/513
RH 2/821
RH 2/824
RH 2/913
RH 2/929
RH 2/931a
RH 2/931b
RH 2/932
RH 2/935f
RH 2/940
RH 2/1252
RH 2/1924
RH 2/1956
RH 2/1957
RH 2/2047
RH 2/2094
RH 2/2095
RH 2/2116
RH 2/2128
RH 2/2308
RH 2/2309
RH 2/2310
RH 2/2558
RH 2/2577
RH 2/2582
RH 2/2621
RH 2/2773
RH 2/2917
RH 2/2919
RH 2/2921
RH 2/2925
RH 2/3125
RH 2/3126
RH 3/135
RH 3/254
RH 4/20
RH 4/503
RH 4/568
RH 4/684
RH 4/708
RH 4/723
RH 4/725
RH 4/757
RH 19-I/233
RH 19-I/235
RH 19-I/236
RH 19-I/237
RH 19-I/238
RH 19-I/247
RH 19-I/270
RH 19-III/563
RH 19-III/770
RH 19-V/3
RH 19-V/106
RH 19-V/107
RH 20-2/29
RH 20-2/160
RH 20-4/344
RH 20-4/363
RH 20-6/173
RH 20-6/174
RH 20-6/969
RH 20-6/1002
RH 20-11/266
RH 20-17/125
RH 20-17/126
RH 20-17/132
RH 20-17/134
RH 20-17/135
RH 20-17/366
RH 20-17/580
RH 20-17/585
RH 20-17/590
RH 20-17/591
RH 20-17/592
RH 20-17/595

RH 20-17/596
RH 20-17/725
RH 20-17/728
RH 20-17/729
RH 21-1/86
RH 21-1/236
RH 21-1/238
RH 21-1/240
RH 21-1/243b
RH 21-1/337
RH 21-1/338
RH 21-1/340
RH 21-1/407
RH 21-1/409
RH 21-1/423
RH 21-1/425
RH 21-1/437
RH 21-1/447
RH 21-1/449
RH 21-1/450
RH 21-1/451
RH 21-1/452
RH 21-1/457
RH 21-2/896
RH 24-3/74
RH 24-49/80
RH 24-49/81

RH 31-I/93
RH 31-I/98
RH 31-I/104
RH 31-I/131
RH 31-I/149
RH 66/142
RH 66/385

RL 7/482
RL 7/483
RL 10/137
RL 10/474
RL 11/124
RL 11/125
RL 11/160
RL 24/167

RM 7/95
RM 7/96
RM 7/110
RM 7/115
RM 7/186
RM 7/230
RM 7/258
RM 7/395
RM 7/700
RM 7/938
RM 7/1422
RM 7/2156
RM 7/2164
RM 7/2188
RM 35-III/21
RM 35-III/22
RM 35-III/32
RM 35-III/33
RM 35-III/35
RM 35-III/36
RM 45-V/113
RM 45-V/115

RW 4/93
RW 4/94
RW 4/95
RW 4/96
RW 4/97
RW 4/98
RW 4/99
RW 4/256
RW 4/325
RW 4/332
RW 4/334
RW 4/577
RW 4/678
RW 4/691

RW 4/880

RW 4/921

RW 5/29

RW 7/1208

RW 19/99

RW 19/202

RW 19/442

RW 19/822

RW 19/888

RW 19/963

RW 19/1393

RW 19/1568

RW 19/1864

RW 19/2198

RW 19/2200

RW 19/2230

RW 19/2231

RW 19/2290

RW 19/2292

RW 19/2715

RW 19/3195

RW 19/3626

RW 29/8

RW 29/57

RW 29/58

RW 29/66

Books and Articles

Halder, Franz, *The Halder War Diary, 1939-1942*, eds. Charles Burdick and Hans-Adolf Jacobsen (Novato, CA, 1988).

Hitler, Adolf, '"Die deutsche Not und unser Weg". Rede auf NSDAP-Versammlung in Memmingen' (18 January 1928), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. II: *Vom Weimarer Parteitag bis zur Reichstagswahl, Juli 1926 – Mai 1928*, part 2: *August 1927 – Mai 1928*, ed. Bärbel Dusik (Munich, 1992).

Hitler, Adolf, *Deutschlands Rüstung im Zweiten Weltkrieg: Hitlers Konferenzen mit Albert Speer, 1942-1945*, ed. Willi Boelcke (Frankfurt/Main, 1969).

Hitler, Adolf, *Fuehrer Conferences on Naval Affairs, 1939-1945*, ed. Jak P. Mallman Showell (London, 2005 [1990]).

Hitler, Adolf, *'Führer-Erlasse', 1939-1945*, ed. Martin Moll (Stuttgart, 1997).

Hitler, Adolf, *Hitler and his Generals: Military Conferences, 1942-1945 – the First Complete Stenographic Record of the Military Situation Conferences, from Stalingrad to Berlin*, ed. David M. Glantz (London, 2002).

Hitler, Adolf, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, 8 vols. (Munich, 1992-2003).

Hitler, Adolf, *Hitler's Second Book: The Unpublished Sequel to Mein Kampf*, ed. Gerhard L. Weinberg (New York, 2003).

Hitler, Adolf, *Hitler's Table Talk, 1941-1944: His Private Conversations*, introduced by Hugh Trevor-Roper (London, 2000 [1953]).

Hitler, Adolf, *Hitlers Tischgespräche im Führerhauptquartier: Entstehung, Struktur, Folgen des Nationalsozialismus*, ed. Henry Picker (Berlin, 1999 [1951]).

Hitler, Adolf, *Hitler's War Directives, 1939-1945*, ed. H. R. Trevor-Roper (London, 1966 [1964]).

Hitler, Adolf, *Mein Kampf* (London, 1990 [1974]).

Hitler, Adolf, *Monologe im Führerhauptquartier, 1941-1944: Die Aufzeichnungen Heinrich Heims*, ed. Werner Jochmann (Hamburg, 1980).

Hitler, Adolf, 'Politik der Woche' (article in the *Illustrierter Beobachter*, 3 November 1928), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. III: *Zwischen den Reichstagswahlen, Juli 1928 – September 1930*, part 1: *Juli 1928 – Februar 1929*, eds. Bärbel Dusik and Klaus A. Lankheit, with the collaboration of Christian Hartmann (Munich, 1993).

Hitler, Adolf, 'Rede auf Führertagung des NSDStB in München' (2 May 1931), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. IV: *Von der Reichstagswahl bis zur Reichspräsidentenwahl, Oktober 1930 – März 1932*, part 1: *Oktober 1930 – Juni 1931*, ed. Constantin Goschler (Munich, 1994).

Hitler, Adolf, 'Rede auf Gautag der Thüringer NSDAP in Gera' (6 September 1931), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. IV: *Von der Reichstagswahl bis zur Reichspräsidentenwahl, Oktober 1930 – März 1932*, part 2: *Juli 1931 – Dezember 1931*, ed. Christian Hartmann (Munich, 1996)

Hitler, Adolf, 'Reichswehr und deutsche Politik' (June 1930), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. III: *Zwischen den Reichstagswahlen, Juli 1928 – September 1930*, part 3: *Januar 1930 – September 1930*, ed. Christian Hartmann (Munich, 1995).

Hitler, Adolf, 'Schreiben an Magnus von Levetzow' (25 June 1931), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. IV: *Von der Reichstagswahl bis zur Reichspräsidentenwahl, Oktober 1930 – März 1932*, part 1: *Oktober 1930 – Juni 1931*, ed. Constantin Goschler (Munich, 1994).

Hitler, Adolf, 'Tankrüstung im Zeichen der Abrüstung. Wehrpolitische Betrachtung' (article in the *Illustrierter Beobachter*, 28 September 1929), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. III: *Zwischen den Reichstagswahlen, Juli 1928 – September 1930*, part 2: *März 1929 – Dezember 1929*, ed. Klaus A. Lankheit (Munich, 1994).

Hitler, Adolf, '"Die Toten des 9. November 1923". Rede auf NSDAP-Versammlung in München' (9 November 1927), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. II: *Vom Weimarer Parteitag bis zur Reichstagswahl, Juli 1926 – Mai 1928*, part 2: *August 1927 – Mai 1928*, ed. Bärbel Dusik (Munich, 1992).

Hitler, Adolf, '"Wir und die Reichswehr – Unsere Antwort an Seeckt und Geßler". Rede auf NSDAP-Versammlung in München' (15 March 1929), in *idem*, *Hitler – Reden, Schriften, Anordnungen: Februar 1925 bis Januar 1933*, vol. III: *Zwischen den Reichstagswahlen, Juli 1928 – September 1930*, part 2: *März 1929 – Dezember 1929*, ed. Klaus A. Lankheit (Munich, 1994).

Mehner, Kurt (ed.), *Die Geheimen Tagesberichte der deutschen Wehrmachtführung im Zweiten Weltkrieg, 1939-1945*, 12 vols. (Osnabrück, 1984-95).

Schramm, Percy E. (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940-1945*, vol. 1: *1. August 1940 – 31. Dezember 1941*, ed. Hans-Adolf Jacobsen (Frankfurt/Main, 1965).

Schramm, Percy E. (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940-1945*, vol. 2: *1. Januar 1942 – 31. Dezember 1942*, ed. Andreas Hillgruber (Frankfurt/Main, 1963).

Schramm, Percy E. (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940-1945*, vol. 4: *1. Januar 1944 – 22. Mai 1945*, ed. Percy E. Schramm (Frankfurt/Main, 1961).

Secondary Sources

Books and Articles

Abbott, Peter and Nigel Thomas, *Germany's Eastern Front Allies, 1941-45* (London, 1982).

Achkasov, V. I. and N. B. Pavlovich, *Soviet Naval Operations in the Great Patriotic War, 1941-1945* (Annapolis, MD, 1981).

Adelman, Jonathan R., 'German-Japanese Relations, 1941-1945', in Jonathan R. Adelman (ed.), *Hitler and his Allies in World War II* (London, 2007), pp. 43-78.

Adelman , Jonathan R. (ed.), *Hitler and his Allies in World War II* (London, 2007).

Andrew, Christopher and Jeremy Noakes (eds.), *Intelligence and International Relations, 1900-1945* (Exeter, 1987).

Andrew, Christopher, Richard J. Aldrich and Wesley K. Wark (eds.), *Secret Intelligence: A Reader* (London, 2009).

Anon., 'Operatsija 'Kreml'', *Voenno-istoricheskij zhurnal*, 8 (1961), pp. 79-90.

Anon., *The Rise and Fall of the German Air Force, 1933-1945* (Kew, 2008 [1948]).

Arenz, Wilhelm, introduction to M. Kasakov, 'Die Abwehrkämpfe der sowjetischen Brjansk-Front vor Voronez im Juni-Juli 1942', *Wehrwissenschaftliche Rundschau* 16 (1966), pp. 470-5.

Armstrong, John A. (ed.), *Soviet Partisans in World War II* (Madison, WI, 1964).

Axworthy, Mark, *The Romanian Army of World War 2* (London, 1991).

Axworthy, Mark, Cornel Scafeş and Cristian Craciunoiu, *Third Axis, Fourth Ally: Romanian Armed Forces in the European War, 1941-1945* (London, 1995).

Bagramjan, I. Kh., *Tak shli my k pobede* (Moscow, 1977).

Bailey, Jonathan, *The First World War and the Birth of the Modern Style of Warfare* (Camberley, 1996).

Baker, Lee, *The Second World War on the Eastern Front* (London; New York, 2009).

Baldwin, P. M., 'Clausewitz in Nazi Germany', *Journal of Contemporary History*, 16 (1), *The Second World War*, part 1 (Jan., 1981), pp. 5-26.

Becze, Csaba, *Magyar Steel: Hungarian Armour in WWII* (Sandomierz; Redbourn, 2006).

Beevor, Anthony, *Stalingrad* (London, 1998).

Bekker, Cajus, *Hitler's Naval War* (London, 1974).

Bekker, Cajus, *The Luftwaffe War Diaries* (Edinburgh, 2001 [1966]).

Bellamy, Chris, *Absolute War: Soviet Russia in the Second World War* (New York, 2007).

Berend, Iván T. and György Ránki, 'Die deutsche wirtschaftliche Expansion und das ungarische Wirtschaftsleben zur Zeit des zweiten Weltkrieges', *Acta Historica*, 5 (3-4) (1958), pp. 313-59.

Berend, Iván T. and György Ránki, *Hungary: A Century of Economic Development* (Newton Abbot, 1974).

Bergström, Christer, *Stalingrad – The Air Battle: 1942 through January 1943* (Hinckley, 2007).

Beshanov, V. V., *God 1942: 'Uchebnyj'* (Minsk, 2003).

Betts, Richard K. and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003).

Bialer, Seweryn (ed.), *Stalin and His Generals: Soviet Military Memoirs of World War II* (New York, 1969).

Bicheno, Hugh, 'Military Intelligence', in Richard Holmes (ed.), *The Oxford Companion to Military History* (Oxford, 2001), pp. 447-8.

Black, Jeremy (ed.), *The Second World War,* vol. 2: *The German War, 1943-1945* (Aldershot, 2007).

Black, Jeremy, *World War Two: A Military History* (London, 2003).

Blau, George E., *German Campaign in Russia: Planning and Operations (1940-1942)* (Washington, DC, 1955).

Boog, Horst, 'Der anglo-amerikanische strategische Luftkrieg über Europa und die deutsche Luftverteidigung', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 6: *Der globale Krieg: Die Ausweitung zum Weltkrieg und der Wechsel der Initiative, 1941-1943* (Stuttgart, 1990), pp. 429-565.

Boog, Horst, *Die deutsche Luftwaffenführung, 1935-1945* (Stuttgart, 1982).

Boog, Horst, 'Die Luftwaffe', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 4: *Der Angriff auf die Sowjetunion* (Stuttgart, 1983), pp. 277-318.

Boog, Horst et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 4: *Der Angriff auf die Sowjetunion* (Stuttgart, 1983).

Boog, Horst et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 6: *Der globale Krieg: Die Ausweitung zum Weltkrieg und der Wechsel der Initiative, 1941-1943* (Stuttgart, 1990).

Boog, Horst et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 10: *Der Zusammenbruch des Deutschen Reiches*, part 1: *Die militärische Niederwerfung der Wehrmacht* (Munich, 2008).

Borgert, Heinz-Ludger, 'Grundzüge der Landkriegführung von Schlieffen bis Guderian', in Friedrich Forstmeier (ed.), *Handbuch zur deutschen Militärgeschichte, 1648-1939*, vol. 5: *Abschnitt 9: Grundzüge der militärischen Kriegführung, 1648-1939* (Frankfurt, 1979), pp. 427-584.

Bosworth, R.J.B., *Mussolini's Italy: Life under the Dictatorship* (London, 2006 [2005]).

Brakel, Alexander, *Der Holocaust: Judenverfolgung und Völkermord* (Berlin, 2008).

Brandt, Karl, 'Germany's Vulnerable Spot: Transportation', *Foreign Affairs*, 21 (2) (Jan., 1943), pp. 221-38.

Breitman, Richard, *The Architect of Genocide: Himmler and the Final Solution* (London, 1992 [1991]).

Brinkerhoff, John R., 'Military Geography', in Franklin D. Margiotta (ed.), *Brassey's Encyclopedia of Land Forces and Warfare* (London, 2000 [1996]), pp. 434-46.

Browning, Christopher, 'Nazi Policy: Decisions for the Final Solution', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004), pp. 154-80.

Bullock, Alan, *Hitler and Stalin: Parallel Lives* (London, 1991).

Bungert, Heike, Jan G. Heitmann and Michael Wala (eds.), *Secret Intelligence in the Twentieth Century* (London; Portland, OR, 2003).

Butenina, N. V., *Lend-liz: sdelka veka* (Moscow, 2004).

Carlton, David, *Churchill and the Soviet Union* (Manchester; New York, 2000).

Cartledge, Bryan, *The Will to Survive: A History of Hungary* (London, 2011 [2006]).

Cesarani, David (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004).

Chamberlain, Peter and Hilary Doyle, *Encyclopedia of German Tanks of World War Two* (London, 1999 [1978]).

Chevela, P. P., 'Novye Ispytanija', in V. A. Zolotarëv (ed.), *Velikaja Otechestvennaja vojna, 1941-1945: voenno-istoricheskie ocherki v chetyrëkh tomakh*, vol. 1: *Surovye ispytanija* (Moscow, 1998), pp. 319-48.

Citino, Robert M., *Death of the Wehrmacht: The German Campaigns of 1942* (Lawrence, KS, 2007).

Citino, Robert M., *The German Way of War: From the Thirty Years' War to the Third Reich* (Lawrence, KS, 2005).

Citino, Robert M., *The Path to Blitzkrieg: Doctrine and Training in the German Army, 1920-39* (Mechanicsburg, PA, 2008 [1999]).

Clark, Alan, *Barbarossa: The Russian-German Conflict, 1941-1945* (London, 1995 [1965]).

Clausewitz, Carl von, *On War* (Princeton, NJ, 1989 [1976]).

Cohen, Eliot A., *Supreme Command: Soldiers, Statesmen and Leadership in Wartime* (New York; London, 2002).

Corum, James S., 'A Comprehensive Approach to Change: Reform in the German Army in the Interwar Period', in Harold R. Winton and David R. Mets (eds.), *The Challenge of Change: Military Institutions and New Realities, 1918-1941* (Lincoln, NE, 2000), pp. 35-73.

Corum, James S., *The Luftwaffe: Creating the Operational Air War, 1918-1940* (Lawrence, KS, 1997).

Creveld, Martin van, *Supplying War: Logistics from Wallenstein to Patton* (Cambridge, 2004 [1977]).

Creveld, Martin van, 'War Lord Hitler: Some Points Reconsidered', in Jeremy Black (ed.), *The Second World War,* vol. 2: *The German War, 1943-1945* (Aldershot, 2007), pp. 11-33.

Dallin, Alexander, 'The North Caucasus', in John A. Armstrong (ed.), *Soviet Partisans in World War II* (Madison, WI, 1964), pp. 557-632.

Deist, Wilhelm (ed.), *The German Military in the Age of Total War* (Leamington Spa, 1985).

Deist, Wilhelm, *The Wehrmacht and German Rearmament* (London, 1981).

Deist, Wilhelm et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 1: *Ursachen und Voraussetzungen der deutschen Kriegspolitik* (Stuttgart, 1979).

Deletant, Dennis, 'German-Romanian Relations, 1941-1944', in Jonathan R. Adelman (ed.), *Hitler and his Allies in World War II* (London, 2007), pp. 166-85.

Deletant, Dennis, *Hitler's Forgotten Ally: Ion Antonescu and His Regime, Romania 1940-44* (New York, 2006).

Deringil, Selim, *Turkish Foreign Policy during the Second World War: An 'Active' Neutrality* (Cambridge, 1989).

Dewar, Michael, *The Art of Deception in Warfare* (Newton Abbot, 1989).

DiNardo, Richard L., *Germany and the Axis Powers: From Coalition to Collapse* (Lawrence, KS, 2005).

DiNardo, Richard L., *Mechanized Juggernaut or Military Anachronism? Horses and the German Army of WWII* (Mechanicsburg, PA, 2008 [1991]).

Dombrády, Lóránd, *Army and Politics in Hungary, 1938-1944* (Highland Lakes, NJ, 2005).

Dreisziger, Nándor, 'Hungary Enters the War, March-December 1941', in *idem* (ed.), *Hungary in the Age of Total War (1938-1948)* (New York, 1998), pp. 61-72.

Dreisziger, Nándor (ed.), *Hungary in the Age of Total War (1938-1948)* (New York, 1998).

Dülffer, Jost, 'Wilhelm II. und Adolf Hitler: Ein Vergleich ihrer Marinekonzeption', in Jürgen Elvert, Jürgen Jensen and Michael Salewski (eds.), *Kiel, die Deutschen und die See* (Stuttgart, 1992), pp. 49-69.

Dunnigan, James F. (ed.), *The Russian Front: Germany's War in the East, 1941-45* (London, 1978 [1977]).

Dunning, Chris, *Courage Alone: The Italian Air Force, 1940-1943* (Ottringham, 2009).

Dupuy, Trevor N. (ed.), *International Military and Defense Encyclopedia*, vols. 1 and 3 (Washington, DC; New York, 1993).

Echevarria, Antulio J., *Clausewitz and Contemporary War* (Oxford, 2007).

Eichholtz, Dietrich, *Krieg um Öl: Ein Erdölimperium als deutsches Kriegsziel (1938-1943)* (Leipzig, 2006).

Eitner, Hans-Jürgen, *Der Führer: Hitlers Persönlichkeit und Charakter* (Munich, 1981).

Elliott-Bateman, Michael (ed.), *The Fourth Dimension of Warfare*, vol. 1: *Intelligence, Subversion, Resistance* (Manchester, 1970).

Elliott-Bateman, Michael, 'The Nature of People's War', in *idem* (ed.) *The Fourth Dimension of Warfare*, vol. 1: *Intelligence, Subversion, Resistance* (Manchester, 1970), pp. 127-52.

Elvert, Jürgen, Jürgen Jensen and Michael Salewski (eds.), *Kiel, die Deutschen und die See* (Stuttgart, 1992).

Erickson, John, *Stalin's War with Germany*, vol. 1: *The Road to Stalingrad* (London, 2003 [1975]).

Evans, Richard, *The Third Reich at War* (London, 2008).

Ferris, John, ''FORTITUDE' in Context: The Evolution of British Military Deception in Two World Wars, 1914-1945', in Richard K. Betts and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003), pp. 117-65.

Findley, Carter V., *Turkey, Islam, Nationalism, and Modernity: A History, 1789-2007* (New Haven, CT; London, 2010).

Förster, Jürgen (ed.), *Stalingrad: Ereignis, Wirkung, Symbol* (Munich, 1992).

Forstmeier, Friedrich (ed.), *Handbuch zur deutschen Militärgeschichte, 1648-1939*, vol. 5: *Abschnitt 9: Grundzüge der militärischen Kriegführung, 1648-1939* (Frankfurt, 1979)

Frank, Reinhard, *Lastkraftwagen der Wehrmacht – Deutsche und erbeutete Radfahrzeuge im Einsatz: Technik–Anstrich–Abzeichen–Zubehör* (Friedberg/Hessen, 1992).

Freytag-Loringhoven, Hugo von, *The Power of Personality in War*; in Thomas R. Phillips (ed.), *Roots of Strategy*, vol. 3 (Harrisburg, PA, 1991), pp. 173-349.

Fuller, J.F.C., *Machine Warfare: An Inquiry into the Influence of Mechanics on the Art of War* (London, 1942).

Gardiner, K. L., 'Squaring the Circle: Dealing with Intelligence-Policy Breakdowns', in Christopher Andrew, Richard J. Aldrich and Wesley K. Wark (eds.), *Secret Intelligence: A Reader* (London, 2009), pp. 129-39.

Gat, Azar, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford, 2001).

Gehlen, Reinhard, *Der Dienst: Erinnerungen, 1942-1971* (Mainz; Wiesbaden, 1971).

Geyer, Michael, 'German Strategy in the Age of Machine Warfare, 1914-1945', in Peter Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Oxford, 1986), pp. 527-97.

Glantz, David M., *Colossus Reborn: The Red Army at War, 1941-1943* (Lawrence, KS, 2005).

Glantz, David M., *Companion to Colossus Reborn: Key Documents and Statistics* (Lawrence, KS, 2005).

Glantz, David M., *Kharkov 1942: Anatomy of a Military Disaster Through Soviet Eyes* (Shepperton, 1998).

Glantz, David M., *The Military Strategy of the Soviet Union: A History* (London, 1992).

David M. Glantz, *Operation Barbarossa: Hitler's Invasion of Russia, 1941* (Stroud, 2011 [2001]).

Glantz, David M., 'Prelude to German Operation Blau: Military Operations on Germany's Eastern Front, April-June 1942', *Journal of Slavic Military Studies*, 20 (2) (2007), pp. 171-234.

Glantz, David M., 'The Struggle for the Caucasus', *Journal of Slavic Military Studies*, 22 (4) (2009), pp. 588-711.

Glantz, David M. and Jonathan M. House, *The Stalingrad Trilogy*, vol. 1: *To the Gates of Stalingrad: Soviet-German Combat Operations, April-August 1942* (Lawrence, KS, 2009).

Glantz, David M. and Jonathan M. House, *When Titans Clashed: How the Red Army Stopped Hitler* (Edinburgh, 2000 [1995]).

Gorodetsky, Gabriel, 'Filip Ivanovich Golikov', in Harold Shukman (ed.), *Stalin's Generals* (London, 1997 [1993]), pp. 77-88.

Gosztony, Peter, *Hitlers Fremde Heere: Das Schicksal der nichtdeutschen Armeen im Ostfeldzug* (Düsseldorf; Vienna, 1976).

Gottwaldt, Alfred, *Heeresfeldbahnen: Bau und Einsatz der militärischen Schmalspurbahnen in zwei Weltkriegen* (Stuttgart, 1986).

Gottwaldt, Alfred and Diana Schulle, *Die 'Judendeportationen' aus dem Deutschen Reich, 1941-1945: Eine kommentierte Chronologie* (Wiesbaden, 2005).

Graham, Dominick and Shelford Bidwell, *Coalitions, Politicians and Generals: Some Aspects of Command in Two World Wars* (London, 1993).

Gray, Colin S., *Modern Strategy* (New York, 1999).

Gray, Colin S., *The Strategy Bridge: Theory for Practice* (Oxford, 2010).

Gray, Colin S., *War, Peace and International Relations: An Introduction to Strategic History* (London; New York, 2007).

Grechko, A. A., *Bitva za Kavkaz* (Moscow, 1967).

Grechko, A. A. (ed.), *Istorija Vtoroj mirovoj vojny 1939-1945 v dvenadtsati tomakh*, vol. 5: *Proval agressivnykh planov fashistskogo bloka*, ed. V. P. Morozov (Moscow, 1975).

Green, William, *The Warplanes of the Third Reich* (London, 1970).

Greiner, Helmuth, *Die Oberste Wehrmachtführung, 1939-1943* (Wiesbaden, 1951).

Groß, Gerhard P., 'Das Dogma der Beweglichkeit: Überlegungen zur Genese der deutschen Heerestaktik im Zeitalter der Weltkriege', in Bruno Thoß and Hans-Erich Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg – Ein Vergleich: Krieg, Kriegserlebnis, Kriegserfahrung in Deutschland* (Paderborn, 2002), pp. 143-66.

Gruner, Wolf, 'Von der Kollektivausweisung zur Deportation der Juden aus Deutschland (1938-1945): Neue Perspektive und Dokumente', in Birthe Kundrus and Beate Meyer (eds.), *Die Deportation der Juden aus Deutschland: Pläne–Praxis–Reaktionen, 1938-1945* (Göttingen, 2004), pp. 21-62.

Grylev, A. N. (ed.), *Boevoj sostav sovetskoj armii*, vol. 2: *Janvar'-dekabr' 1942 goda* (Moscow, 1966).

Guderian, Heinz, *Panzer Leader* (New York, 1996 [1952]).

Halder, Franz, *Hitler as War Lord* (London, 1950).

Hale, William, *Turkish Foreign Policy 1774-2000* (London; Portland, OR, 2002 [2000]).

Halliday, Jon, 'From the Washington Conference to the Pacific War (1922-41)', in Tim Megarry (ed.), *The Making of Modern Japan: A Reader* (Dartford, 1995), pp. 255-76.

Handel, Michael I. (ed.), *Intelligence and Military Operations* (London, 1990).

Handel, Michael I., 'Intelligence and Military Operations', in *idem* (ed.), *Intelligence and Military Operations* (London, 1990), pp. 1-95.

Handel, Michael I., 'Intelligence and the Problem of Strategic Surprise', in Richard K. Betts and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003), pp. 1-58.

Handel, Michael I., *Masters of War: Classic Strategic Thought* (London; Portland, OR, 2001 [1992]).

Harrison, Mark (ed.), *The Economics of World War II: Six Great Powers in International Comparison* (Cambridge, 2000).

Harrison, Mark, *Soviet Planning in Peace and War, 1938-1945* (Cambridge; New York, 1985).

Hart, S. and R. Hart, *German Tanks of World War II* (Staplehurst, 1998).

Hauner, Milan, 'Military Budgets and the Armaments Industry', in M. C. Kaser and E. A. Radice (eds.), *The Economic History of Eastern Europe, 1919-1975*, vol. 2: *Interwar Policy, the War and Reconstruction* (Oxford, 1986), pp. 49-116.

Häusler, Hermann, 'Deployment and Role of Military Geology Teams in the German Army, 1941-45', in Edward P. F. Rose and C. Paul Nathanail (eds.), *Geology and Warfare: Examples of the Influence of Terrain and Geologists on Military Operations* (Bath, 2000), pp. 159-78.

Haynes, Rebecca, *Romanian Policy towards Germany, 1936-40* (London, 2000).

Hayward, Joel, 'Adolf Hitler', in Charles Messenger (ed.), *Reader's Guide to Military History* (London; Chicago, 2001), pp. 229-32.

Hayward, Joel S., *Stopped at Stalingrad: The Luftwaffe and Hitler's Defeat in the East, 1942-1943* (Lawrence, KS, 1998).

Hayward, Joel S., 'Too Little, Too Late: An Analysis of Hitler's Failure in August 1942 to Damage Soviet Oil Production', *Journal of Military History*, 64 (3) (July, 2000), pp. 769-94.

Heer, Friedrich, *Der Glaube des Adolf Hitler: Anatomie einer politischen Religiosität* (Munich; Eßlingen, 1968).

Heiber, Helmut, *Joseph Goebbels* (Munich, 1965 [1962]).

Herman, Michael, *Intelligence Power in Peace and War* (Cambridge, 1996).

Hermann, Carl Hans, *Deutsche Militärgeschichte: Eine Einführung* (Munich, 1979 [1966]).

Herring, George C., *Aid to Russia, 1941-1946: Strategy, Diplomacy, the Origins of the Cold War* (New York; London, 1973).

Herwig, Holger H., 'The Dynamics of Necessity: German Military Policy during the First World War', in Allan R. Millett and Williamson Murray (eds.), *Military Effectiveness*, vol. 1: *The First World War* (Boston, MA; London, 1989 [1988]), pp. 80-115.

Herwig, Holger H., 'The Failure of German Sea Power, 1914-1945: Mahan, Tirpitz, and Raeder Reconsidered', *The International History Review*, 10 (1) (Feb., 1988), pp. 68-105.

Hesse, Erich, *Der sowjetische Partisanenkrieg 1941 bis 1944 im Spiegel deutscher Kampfanweisungen und Befehle* (Göttingen, 1969).

Hilberg, Raul, *The Destruction of the European Jews* (London, 1961).

Hilberg, Raul, *The Destruction of the European Jews*, vol. 2 (New York; London, 1985).

Hillgruber, Andreas, *Hitlers Strategie: Politik und Kriegführung, 1940-1941* (Frankfurt, 1965).

Hillgruber, Andreas and Gerhard Hümmelchen, *Chronik des Zweiten Weltkrieges* (Bindlach, 1989 [1966]).

Hitchins, Keith, *Rumania, 1866-1947* (Oxford, 1994).

Hoffman, Lloyd, 'Military Intelligence', in Trevor N. Dupuy (ed.), *International Military and Defense Encyclopedia*, vol. 3 (Washington, DC; New York, 1993), pp. 1307-15.

Hoffmann, Peter, 'The Gulf Region in German Strategic Projections, 1940-1942', *Militärgeschichtliche Mitteilungen*, 44 (1988), pp. 61-73.

Holmes, Richard (ed.), *The Oxford Companion to Military History* (Oxford, 2001).

Hoyt, Edwin, *199 Days: The Battle for Stalingrad* (London, 1993).

Hughes, Daniel J., 'Auftragstaktik', in Trevor N. Dupuy (ed.), *International Military and Defense Encyclopedia*, vol. 1 (Washington; New York, 1993), pp. 331-2.

Hürter, Johannes, *Hitlers Heerführer: Die deutschen Oberbefehlshaber im Krieg gegen die Sowjetunion, 1941/42* (Munich, 2007).

Irving, David, *Führer und Reichskanzler Adolf Hitler* (Munich; Berlin, 1989).

Irving, David, *Hitler's War* (New York, 1990).

Irving, David, *Hitler und seine Feldherren* (Frankfurt/Main; Berlin, 1975).

Isby, David C., 'The Air and Sea War', in James F. Dunnigan (ed.), *The Russian Front: Germany's War in the East, 1941-45* (London, 1978 [1977]), pp. 151-60.

Jablonsky, David (ed.), *Roots of Strategy*, vol. 4 (Mechanicsburg, PA, 1999).

Jäckel, Eberhard et al. (eds.), *Enzyklopädie des Holocaust: Die Verfolgung und Ermordung der europäischen Juden*, 3 vols. (Berlin, 1993).

Jansen, Marius B., *The Making of Modern Japan* (Cambridge, MA, 2000).

Jentz, Tom and Hilary Doyle, *Tiger 1: Heavy Tank, 1942-45* (London, 1993).

Jowett, Philip and Brent Snodgrass, *Finland at War, 1939-1945* (Oxford, 2006).

Jukes, Geoffrey, *Hitler's Stalingrad Decisions* (Berkeley, CA, 1985).

Kahn, David, *Hitler's Spies: German Military Intelligence in World War II* (London, 1978).

Kahn, David, 'The Rise of Intelligence', *Foreign Affairs*, 85 (5) (Sep.-Oct., 2006), pp. 125-34.

Kahn, David, 'World War Two History: The Biggest Hole', *Military Affairs*, 39 (2) (Apr., 1975), pp. 74-6.

Kane, Thomas M., *Military Logistics and Strategic Performance* (London; Portland, OR, 2001).

Kaser, M. C. and E. A. Radice (eds.), *The Economic History of Eastern Europe, 1919-1975*, vol. 2: *Interwar Policy, the War and Reconstruction* (Oxford, 1986).

Kay, Alex J., *Exploitation, Resettlement, Mass Murder: Political and Economic Planning for German Occupation Policy in the Soviet Union, 1940-1941* (New York; Oxford, 2006).

Kehrig, Manfred, *Stalingrad: Analyse und Dokumentation einer Schlacht* (Stuttgart, 1974).

Kennedy, Paul (ed.), *Grand Strategies in War and Peace* (New Haven, CT, 1991).

Kennedy, Paul, 'The Influence and the Limitations of Sea Power', *The International History Review*, 10 (1) (Feb., 1988), pp. 2-17.

Kershaw, Ian, *Hitler*, vol. 1: *1889-1936: Hubris* (London, 1998)

Kershaw, Ian, *Hitler*, vol. 2: *1936-1945: Nemesis* (London, 2000).

Kirby, D. G., *Finland in the Twentieth Century* (London, 1979).

Klink, Ernst, 'Heer und Kriegsmarine', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 4: *Der Angriff auf die Sowjetunion* (Stuttgart, 1983), pp. 451-652.

Klink, Ernst, 'Die Landkriegführung', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 4: *Der Angriff auf die Sowjetunion* (Stuttgart, 1983), pp. 190-277.

Klink, Ernst, 'Die militärische Konzeption des Krieges gegen die Sowjetunion', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 4: *Der Angriff auf die Sowjetunion* (Stuttgart, 1983), pp.

Knox, MacGregor, *Common Destiny: Dictatorship, Foreign Policy, and War in Fascist Italy and Nazi Germany* (Cambridge, 2000).

Knox, MacGregor, *Hitler's Italian Allies: Royal Armed Forces, Fascist Regime, and the War of 1940-43* (Cambridge, 2000).

Konrad, Rudolf, *Kampf um den Kaukasus* (Munich, 1954).

Krebs, Gerhard and Bernd Martin (eds.), *Formierung und Fall der Achse Berlin-Tōkyō* (Munich, 1994).

Krecker, Lothar, *Deutschland und die Türkei im Zweiten Weltkrieg* (Frankfurt/Main, 1964).

Kreidler, Eugen, *Die Eisenbahnen im Machtbereich der Achsenmächte während des Zweiten Weltkrieges* (Frankfurt; Zürich, 1975).

Kroener, Bernhard R., 'Squaring the Circle: Blitzkrieg Strategy and Manpower Shortage, 1939-1942', in Wilhelm Deist (ed.), *The German Military in the Age of Total War* (Leamington Spa, 1985), pp. 282-303.

Kroener, Bernhard R. et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 5: *Organisation und Mobilisierung des deutschen Machtbereichs*, part I: *Kriegsverwaltung, Wirtschaft und personelle Ressourcen, 1939-1941* (Stuttgart, 1988).

Kroener, Bernhard R. et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 5: *Organisation und Mobilisierung des deutschen Machtbereichs*, part II: *Kriegsverwaltung, Wirtschaft und personelle Ressourcen,1942-1944/45* (Stuttgart, 1999).

Krug, Hans-Joachim et al., *Reluctant Allies: German-Japanese Naval Relations in World War II* (Annapolis, MD, 2001).

Kuhns, Woodrow J., 'Intelligence Failures: Forecasting and the Lessons of Epistemology', in Richard K. Betts and Thomas G. Mahnken (eds.), *Paradoxes of Strategic Intelligence: Essays in Honor of Michael I. Handel* (London; Portland, OR, 2003), pp. 80-100.

Kundrus, Birthe and Beate Meyer (eds.), *Die Deportation der Juden aus Deutschland: Pläne– Praxis–Reaktionen, 1938-1945* (Göttingen, 2004).

Liddell Hart, Basil, *History of the Second World War* (London, 1973 [1970]).

Liddell Hart, Basil, *Strategy: The Indirect Approach* (London, 1967 [1954]).

Longerich, Peter, 'The Wannsee Conference in the Development of the 'Final Solution'', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004), pp. 121-53.

Lonsdale, David J., *Alexander the Great: Lessons in Strategy* (London; New York, 2007).

Loßberg, Bernhard von, *Im Wehrmachtführungsstab: Bild eines Generalstabsoffiziers* (Hamburg, 1950).

Lozowick, Yaacov, 'Malice in Action', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004), pp. 223-53.

Lupfer, Timothy T., *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War* (Fort Leavenworth, KS, 1981).

MacIsaac, David, 'Voices from the Central Blue: The Air Power Theorists', in Peter Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Oxford, 1986), pp. 624-47.

Macksey, Kenneth, *For Want of a Nail: The Impact on War of Logistics and Communications* (London, 1989).

Magenheimer, Heinz, 'Hintergründe und Wurzeln der Kriegswende, 1942/43: Der Weg nach Stalingrad und El Alamein', *Wehrwissenschaftliche Rundschau*, 31 (1) (Jan.-Feb., 1982), pp. 149-157.

Magenheimer, Heinz, *Hitler's War: Germany's Key Strategic Decisions, 1940-1945* (London, 1999 [1998]).

Mahan, Alfred Thayer, *The Influence of Sea Power Upon History, 1660-1783*, in David Jablonsky (ed.), *Roots of Strategy*, vol. 4 (Mechanicsburg, PA, 1999), pp. 43-146.

Maier, Klaus A. et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 2: *Die Errichtung der Hegemonie auf dem europäischen Kontinent* (Stuttgart, 1979).

Manstein, Erich von, *Lost Victories* (St. Paul, MN, 2004 [1958]).

Margiotta, Franklin D. (ed.), *Brassey's Encyclopedia of Land Forces and Warfare* (London, 2000 [1996]).

Marolda, Edward J., 'The Failure of German World War II Strategy in the Black Sea', *Naval War College Review* (summer, 1975), pp. 39-54.

Martin, Bernd, 'Der Schein des Bündnisses: Deutschland und Japan im Krieg (1941-1945)', in Gerhard Krebs and Bernd Martin (eds.), *Formierung und Fall der Achse Berlin-Tōkyō* (Munich, 1994), pp. 27-53.

Masson, Philippe, *Die deutsche Armee: Geschichte der Wehrmacht, 1935-1945* (Dießen, 1997 [1994]).

Mathias, Peter and Sidney Pollard (eds.), *The Cambridge Economic History of Europe*, vol. 8: *The Industrial Economies: The Development of Economic and Social Policies* (Cambridge, 1989).

Matthews, Rupert, *Hitler: Military Commander* (London, 2003).

Mawdsley, Evan, 'Eastern Front', in Richard Holmes (ed.), *The Oxford Companion to Military History* (Oxford, 2001).

Mawdsley, Evan, *Thunder in the East: The Nazi-Soviet War, 1941-1945* (London, 2005).

McCarthy, Edward, 'The Course of the Battle', in James F. Dunnigan (ed.), *The Russian Front: Germany's War in the East, 1941-45* (London, 1978 [1977]), pp. 23-70.

McNeilly, Mark, *Sun Tzu and the Art of Modern Warfare* (Oxford, 2001).

Medina, Carmen, 'What To Do When Traditional Models Fail', in Christopher Andrew, Richard J. Aldrich and Wesley K. Wark (eds.), *Secret Intelligence: A Reader* (London, 2009), pp. 108-15.

Megargee, Geoffrey P., *Inside Hitler's High Command* (Lawrence, KS, 2000).

Megarry, Tim (ed.), *The Making of Modern Japan: A Reader* (Dartford, 1995).

Meister, Jürg, *Der Seekrieg in den osteuropäischen Gewässern, 1941-45* (Munich, 1958).

Messenger, Charles (ed.), *Reader's Guide to Military History* (London; Chicago, 2001).

Messerschmidt, Manfred, 'Aussenpolitik und Kriegsvorbereitung', in Wilhelm Deist et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 1: *Ursachen und Voraussetzungen der deutschen Kriegspolitik* (Stuttgart, 1979), pp. 535-701.

Messerschmidt, Manfred, 'German Military Effectiveness between 1919 and 1939', in Allan R. Millett and Williamson Murray (eds.), *Military Effectiveness*, vol. 2: *The Interwar Period* (Boston, MA; London, 1990 [1988]), pp. 218-55.

Meyer, Hermann Frank, *Blutiges Edelweiß: Die 1. Gebirgs-Division im Zweiten Weltkrieg* (Berlin, 2008).

Mierzejewski, Alfred, *Hitler's Trains: The German National Railway and the Third Reich* (Stroud, 2005).

Mierzejewski, Alfred, *The Most Valuable Asset of the Reich: A History of the German National Railway*, vol. 2: *1933-1945* (Chapel Hill; London, 2000).

Mierzejewski, Alfred, 'A Public Enterprise in the Service of Mass Murder: The Deutsche Reichsbahn and the Holocaust', in David Cesarani (ed.), *Holocaust: Critical Concepts in Historical Studies*, vol. 3: *The 'Final Solution'* (London, 2004), pp. 285-98.

Millett, Allan R. and Williamson Murray (eds.), *Military Effectiveness*, vol. 2: *The Interwar Period* (Boston, MA; London, 1990 [1988]).

Millett, Allan R., Williamson Murray and Kenneth H. Watman, 'The Effectiveness of Military Organizations', *International Security*, 11 (1) (summer, 1986), pp. 37-71.

Mitcham, Samuel W., *Hitler's Field Marshals and their Battles* (London, 1988).

Morzik, Fritz, *German Air Force Airlift Operations* (New York, 1961).

Morzik, Fritz and Gerhard Hümmelchen, *Die deutschen Transportflieger im Zweiten Weltkrieg* (Frankfurt/Main, 1966).

Mueller, John, 'Changing Attitudes towards War: The Impact of the First World War', *British Journal of Political Science*, 21 (1) (Jan., 1991), pp. 1-28.

Muller, Richard, *The German Air War in Russia* (Baltimore, MD, 1992).

Müller, Rolf-Dieter, 'Albert Speer und die Rüstungspolitik im totalen Krieg', in Bernhard R. Kroener et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 5: *Organisation und Mobilisierung des deutschen Machtbereichs*, part II: *Kriegsverwaltung, Wirtschaft und personelle Ressourcen,1942-1944/45* (Stuttgart, 1999), pp. 275-773.

Müller, Rolf-Dieter, 'Die Mobilisierung der deutschen Wirtschaft für Hitlers Kriegführung', in Bernhard R. Kroener et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 5: *Organisation und Mobilisierung des deutschen Machtbereichs*, part I: *Kriegsverwaltung, Wirtschaft und personelle Ressourcen, 1939-1941* (Stuttgart, 1988), pp. 349-689.

Mulligan, Timothy Patrick, *The Politics of Illusion and Empire: German Occupation Policy in the Soviet Union, 1942-1943* (New York, 1988).

Murray, Williamson, 'History and Strategic Planning', in *idem*, *War, Strategy, and Military Effectiveness* (Cambridge, 2011), pp. 98-138.

Murray, Williamson, *The Luftwaffe, 1933-1945: Strategy for Defeat* (Washington, DC, 1996 [1983]).

Murray, Williamson, 'The Problem of German Military Effectiveness, 1900-1945', in *idem*, *War, Strategy, and Military Effectiveness* (Cambridge, 2011), pp. 195-230.

Murray, Williamson, *War in the Air, 1914-45* (London, 1999).

Murray, Williamson, *War, Strategy, and Military Effectiveness* (Cambridge, 2011).

Murray, Williamson and Allan R. Millett, *A War to be Won: Fighting the Second World War* (Cambridge, MA; London, 2000).

Muscha, William R., *Strategic Airpower Elements in Interwar German Air Force Doctrine* (Fort Leavenworth, KS, 2001).

Ness, Leland, *Jane's World War II Tanks and Fighting Vehicles: The Complete Guide* (London, 2002).

Neulen, Hans Werner, *In the Skies of Europe: Air Forces Allied to the Luftwaffe, 1939-1945* (Marlborough, 2000).

Newell, Clayton R., *The Framework of Operational Warfare* (London, 1991).

Nikiforov, V. G. (ed.), *Sovetskaja aviatsija v Velikoj Otechestvennoj vojne 1941-1945 gg. v tsifrakh* (Moscow, 1962).

Noakes, Jeremy and Geoffrey Pridham (eds.), *Nazism, 1919-1945*, vol. 3: *Foreign Policy, War and Racial Extermination* (Exeter, 1997 [1988]).

Ogorkiewicz, Richard M., *Armoured Forces: A History of Armoured Forces and their Vehicles* (London, 1970).

Önder, Zehra, *Die türkische Außenpolitik im Zweiten Weltkrieg* (Munich, 1977).

Orwell, George, *The Collected Essays, Journalism and Letters of George Orwell*, vol. 2, eds. Sonia Orwell and Ian Angus (Harmondsworth, 1970).

Overy, R. J., *Goering: The 'Iron Man'* (London, 1984).

Overy, R. J., 'Hitler and Air Strategy', *Journal of Contemporary History*, 15 (3) (July, 1980), pp. 405-21.

Overy, R. J., 'Hitler's War Plans and the German Economy, 1933-1939', in *idem*, *War and Economy in the Third Reich* (Oxford, 1994), pp. 178-204.

Overy, R. J., *War and Economy in the Third Reich* (Oxford, 1994).

Overy, R. J., *Why the Allies Won* (London, 1996).

Pahl, Magnus, *Fremde Heere Ost: Hitlers militärische Feindaufklärung* (Berlin, 2012).

Paret, Peter (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Oxford, 1986).

Pegg, Martin, *Transporter: Luftwaffe Transport Units, 1939-1943* (Burgess Hill, 2006).

Philippi, Alfred and Ferdinand Heim, *Der Feldzug gegen Sowjetrussland, 1941-1945: Ein operativer Überblick* (Stuttgart, 1962).

Phillips, Thomas R. (ed.), *Roots of Strategy*, vol. 3 (Harrisburg, PA, 1991).

Plocher, Hermann, *The German Air Force versus Russia, 1942* (New York, 1966).

Pospelov, P. N. (ed.), *Istorija Velikoj Otechestvennoj vojny Sovetskogo Sojuza 1941-1945 v shesti tomakh*, 6 vols. (Moscow, 1960-5).

Pottgiesser, Hans, *Die Reichsbahn im Ostfeldzug, 1939-1944* (Neckargemünd, 1960).

Radice, E. A., 'The German Economic Programme in Eastern Europe', in M. C. Kaser and E. A. Radice (eds.), *The Economic History of Eastern Europe, 1919-1975*, vol. 2: *Interwar Policy, the War and Reconstruction* (Oxford, 1986), pp. 299-308.

Rahn, Werner, 'Die deutsche Seekriegführung, 1943 bis 1945', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 10: *Der Zusammenbruch des Deutschen Reiches*, part 1: *Die militärische Niederwerfung der Wehrmacht* (Munich, 2008), pp. 3-273.

Rahn, Werner, 'Strategische Optionen und Erfahrungen der deutschen Marineführung 1914 bis 1944: Zu den Chancen und Grenzen einer mitteleuropäischen Kontinentalmacht gegen Seemächte', in Bruno Thoß and Hans-Erich Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg – Ein Vergleich: Krieg, Kriegserlebnis, Kriegserfahrung in Deutschland* (Paderborn, 2002), pp. 211-40.

Ránki, György (ed.), *Hungarian History – World History: Indiana University Studies on Hungary* (Budapest, 1984).

Ránki, György, ''Unwilling Satellite' or 'Last Satellite': Some Problems of Hungarian-German Relations', in György Ránki (ed.), *Hungarian History – World History: Indiana University Studies on Hungary* (Budapest, 1984), pp. 261-288.

Raspin, Angela, *The Italian War Economy, 1940-1943: With Particular Reference to Italian Relations with Germany* (New York; London, 1986).

Ready, J. Lee, *The Forgotten Axis: Germany's Partners and Foreign Volunteers in World War II* (Jefferson, NC; London, 1987).

Reid, Brian Holden, *J.F.C. Fuller: Military Thinker* (Basingstoke, 1987).

Reinhardt, Klaus, *Moscow – The Turning Point: The Failure of Hitler's Strategy in the Winter of 1941-42* (Oxford, 1992).

Richter, Ludwig, 'Military and Civil Intelligence Services in Germany from World War I to the End of the Weimar Republic', in Heike Bungert, Jan G. Heitmann and Michael Wala (eds.), *Secret Intelligence in the Twentieth Century* (London; Portland, OR, 2003), pp. 1-22.

Roberts, Geoffrey, *Stalin's Wars: From World War to Cold War, 1939-1953* (New Haven, CT; London, 2006).

Roberts, Geoffrey, *Victory at Stalingrad: The Battle that Changed History* (London, 2002).

Rohde, Horst, *Das deutsche Wehrmachttransportwesen im Zweiten Weltkrieg: Entstehung–Organisation–Aufgaben* (Stuttgart, 1971).

Roon, Ger van, 'Graf Moltke als Völkerrechtler im OKW', *Vierteljahrshefte für Zeitgeschichte*, 18 (1) (1970), pp. 12-61.

Rose, Edward P. F. and C. Paul Nathanail (eds.), *Geology and Warfare: Examples of the Influence of Terrain and Geologists on Military Operations* (Bath, 2000).

Ruge, Friedrich, *Die Sowjetflotte als Gegner im Seekrieg, 1941-1945* (Stuttgart, 1981).

Sakmyster, Thomas, *Hungary's Admiral on Horseback: Miklós Horthy, 1918-1944* (New York, 1994).

Salewski, Michael, *Die deutsche Seekriegsleitung, 1935-1945*, vol. 2: *1942-1945* (Munich, 1975).

Sander-Nagashima, Berthold J., *Die deutsch-japanischen Marinebeziehungen, 1919 bis 1942* (Hamburg, 1998).

Sawjalow, A. S. and T. J. Kaljadin, *Die Schlacht um den Kaukasus, 1942-1943* (Berlin, 1959).

Schlemmer, Thomas, *Die Italiener an der Ostfront, 1942/43: Dokumente zu Mussolinis Krieg gegen die Sowjetunion* (Munich, 2005).

Schönherr, Klaus, 'Die Türkei im Schatten Stalingrads: Von der 'aktiven Neutralität' zum Kriegseintritt', in Jürgen Förster (ed.), *Stalingrad: Ereignis, Wirkung, Symbol* (Munich, 1992), pp. 397-415.

Schramm, Percy Ernst, 'Hitler, Oberster Befehlshaber der Wehrmacht, als 'Feldherr'', in *idem* (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940-1945*, vol. 4: *1. Januar 1944 – 22. Mai 1945*, ed. Percy E. Schramm (Frankfurt/Main, 1961).

Schramm, Percy Ernst, *Hitler, the Man and the Military Leader* (London, 1971).

Schramm, Wilhelm von, *Geheimdienst im Zweiten Weltkrieg* (Munich, 1979 [1974]).

Schüler, Klaus, 'The Eastern Campaign as a Transportation and Supply Problem', in Bernd Wegner (ed.), *From Peace to War: Germany, Soviet Russia and the World, 1939-1941* (Providence, RI; Oxford, 1997), pp. 205-222.

Schulze-Wegener, Guntram, *Die deutsche Kriegsmarine-Rüstung, 1942-1945* (Hamburg; Berlin; Bonn, 1996).

Seaton, Albert, *The German Army, 1933-45* (London, 1982).

Seaton, Albert, *The Russo-German War, 1941-45* (Novato, CA, 1993 [1971]).

Seidler, Franz, *Die Organisation Todt: Bauen für Staat und Wehrmacht, 1938-1945* (Koblenz, 1987).

Semenko, V. I. and L. A. Radchenko, *Velikaja Otechestvennaja vojna: kak èto bylo...* (Belgorod; Khar'kov, 2008).

Serdjukov, A. È. (ed.), *Velikaja Otechestvennaja vojna 1941-1945 godov v dvenadtsati tomakh*, vols. 1-3 (Moscow, 2011-13).

Shalyt, L. I. (ed.), *Skhemy zheleznykh dorog i vodnykh putej soobshchenija SSSR* (n.p., 1943).

Showalter, Dennis, 'Military Innovation and the Whig Interpretation of History', in Harold R. Winton and David R. Mets (eds.), *The Challenge of Change: Military Institutions and New Realities, 1918-1941* (Lincoln, NE, 2000), pp. 220-36.

Showalter, Dennis E., 'Total War for Limited Objectives: An Interpretation of German Grand Strategy', in Paul Kennedy (ed.), *Grand Strategies in War and Peace* (New Haven, CT, 1991), pp. 105-23.

Shukman, Harold (ed.), *Stalin's Generals* (London, 1997 [1993]).

Simpkin, Richard E., *Race to the Swift: Thoughts on Twenty-First Century Warfare* (London, 1994 [1985]).

Singer, Hedwig (ed.), *Quellen zur Geschichte der Organisation Todt*, vols. 1 and 2: *Entwicklung und Einsatz der Organisation Todt (OT)* (Osnabrück, 1998).

Skinner, J. H., 'Logistics: A General Survey', in Trevor N. Dupuy (ed.), *International Military and Defense Encyclopedia*, vol. 3 (Washington, DC; New York, 1993), pp. 1493-1513.

Smith, Charles L., 'Soviet Maskirovka', *Airpower Journal*, 2 (1) (spring, 1988), pp. 28-39.

Stahel, David, *Operation Typhoon: Hitler's March on Moscow, October 1941* (Cambridge, 2013).

Stegemann, Bernd, 'Der zweite Anlauf zur Seemacht', in Klaus A. Maier et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 2: *Die Errichtung der Hegemonie auf dem europäischen Kontinent* (Stuttgart, 1979), pp. 70-6.

Strachan, Hew, *The First World War*, vol. 1: *To Arms* (Oxford, 2001).

Strawson, John, *Hitler as Military Commander* (London, 1973).

Sudoplatov, P. A., *Spetsoperatsii: Lubjanka i Kreml' 1930-1950 gody* (Moscow, 1997).

Sullivan, Brian R., 'The Path Marked Out by History: The German-Italian Alliance, 1939-1943', in Jonathan R. Adelman (ed.), *Hitler and his Allies in World War II* (London, 2007), pp. 116-51.

Taras, D. A., *Bronetankovaja tekhnika Vermakhta: tanki i SAU* (Moscow; Minsk, 2005).

Tarrant, V. E., *Stalingrad: Anatomy of an Agony* (London, 1992).

Taylor, A.J.P., *The Origins of the Second World War* (London, 1961).

Teichova, Alice, 'East-Central and South-East Europe, 1919-39', in Peter Mathias and Sidney Pollard (eds.), *The Cambridge Economic History of Europe*, vol. 8: *The Industrial Economies: The Development of Economic and Social Policies* (Cambridge, 1989), pp. 887-983.

Teske, Hermann, 'Die Eisenbahn als operatives Führungsmittel im Kriege gegen Rußland', *Wehrwissenschaftliche Rundschau* 9/10 (1951), pp. 51-5.

Tessin, Georg (ed.), *Verbände und Truppen der deutschen Wehrmacht und Waffen-SS im Zweiten Weltkrieg, 1939-1945*, 20 vols. (Osnabrück, 1967-2002).

Thomas, David, 'Foreign Armies East and German Military Intelligence in Russia, 1941-45', *Journal of Contemporary History*, 22 (2) (Apr., 1987), pp. 261-301.

Thomas, Georg, *Geschichte der deutschen Wehr- und Rüstungswirtschaft, 1918-1943/1945* (Boppard, 1966).

Thomas, Nigel and László Pál Szábó, *The Royal Hungarian Army in World War II* (Oxford, 2008).

Thompson, Julian, *The Lifeblood of War: Logistics in Armed Combat* (London, 1991).

Thoß, Bruno and Hans-Erich Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg – Ein Vergleich: Krieg, Kriegserlebnis, Kriegserfahrung in Deutschland* (Paderborn, 2002).

Tieke, Wilhelm, *The Caucasus and the Oil* (Winnipeg, 1997 [1970]).

Tillotson, H. M., *Finland at Peace and War, 1918-1993* (Norwich, 1993).

Toland, John, *The Rising Sun: The Decline and Fall of the Japanese Empire, 1936-1945* (Barnsley, 2005 [1971]).

Tooze, J. Adam, *Statistics and the German State, 1900-1945: The Making of Modern Economic Knowledge* (Cambridge, 2001).

Tooze, Adam, *The Wages of Destruction: The Making and Breaking of the Nazi Economy* (London, 2006).

Trischler, Helmuth, 'Nationales Sicherheitssystem – nationales Innovationssystem: Militärische Forschung und Technik in Deutschland in der Epoche der Weltkriege', in Bruno Thoß and Hans-Erich Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg – Ein Vergleich: Krieg, Kriegserlebnis, Kriegserfahrung in Deutschland* (Paderborn, 2002), pp. 107-31.

Tucker-Jones, Anthony, *Hitler's Great Panzer Heist: Germany's Foreign Armour in Action, 1939-45* (Barnsley, 2007).

Tuyll, Hubert P. van, *Feeding the Bear: American Aid to the Soviet Union, 1941-1945* (New York; Westport, CT; London, 1989).

Upton, Anthony F., *Finland in Crisis, 1940-1941: A Study in Small-Power Politics* (London, 1964).

Vasilevskii, A. M., 'Between Moscow and Stalingrad', in Seweryn Bialer (ed.), *Stalin and His Generals: Soviet Military Memoirs of World War II* (New York, 1969), pp. 401-5.

Vehviläinen, Olli, *Finland in the Second World War: Between Germany and Russia* (Basingstoke, 2002).

Wagener, Carl, *Heeresgruppe Süd: Der Kampf im Süden der Ostfront, 1941-1945* (Bad Nauheim; Dorheim, 1967).

Walsh, Stephen, *Stalingrad, 1942-1943: The Infernal Cauldron* (London, 2000).

Warlimont, Walter, *Inside Hitler's Headquarters, 1939-45* (Novato, CA, 1991 [1964]).

Weber, Thomas, *Hitler's First War: Adolf Hitler, the Men of the List Regiment, and the First World War* (Oxford, 2010).

Wegner, Bernd, 'Einführende Bemerkungen', in Bruno Thoß and Hans-Erich Volkmann (eds.), *Erster Weltkrieg, Zweiter Weltkrieg – Ein Vergleich: Krieg, Kriegserlebnis, Kriegserfahrung in Deutschland* (Paderborn, 2002), pp. 135-41.

Wegner, Bernd (ed.), *From Peace to War: Germany, Soviet Russia and the World, 1939-1941* (Providence, RI; Oxford, 1997).

Wegner, Bernd, 'The German Campaigns in Russia, 1941-43', *Journal of Strategic Studies*, 13 (1) (Mar., 1990), pp. 105-27.

Wegner, Bernd, 'Hitlers Strategie zwischen Pearl Harbor und Stalingrad', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 6: *Der globale Krieg: Die Ausweitung zum Weltkrieg und der Wechsel der Initiative, 1941-1943* (Stuttgart, 1990), pp. 97-127.

Wegner, Bernd, 'Der Krieg gegen die Sowjetunion, 1942/43', in Horst Boog et al., *Das Deutsche Reich und der Zweite Weltkrieg*, vol. 6: *Der globale Krieg: Die Ausweitung zum Weltkrieg und der Wechsel der Initiative, 1941-1943* (Stuttgart, 1990), pp. 761-1093.

Wegner, Bernd, 'The Tottering Giant: German Perceptions of Soviet Military and Economic Strength in Preparation for "Operation Blau" (1942)', in Christopher Andrew and Jeremy Noakes (eds.), *Intelligence and International Relations, 1900-1945* (Exeter, 1987), pp. 293-312.

Wegner, Bernd, 'Vom Lebensraum zum Todesraum: Deutschlands Kriegführung zwischen Moskau und Stalingrad', in Jürgen Förster (ed.), *Stalingrad: Ereignis, Wirkung, Symbol* (Munich, 1992), pp. 17-38.

Weinberg, Gerhard L., 'Adolf Hitler und der NS-Führungsoffizier (NSFO)', *Vierteljahrshefte für Zeitgeschichte*, 12 (4) (Oct., 1964), pp. 443-56.

Weinberg, Gerhard L., *A World at Arms: A Global History of World War II* (Cambridge, 1994).

Wilhelm, Hans-Heinrich, 'Die Prognosen der Abteilung Fremde Heere Ost, 1942-1945', in Hans-Heinrich Wilhelm and Louis de Jong, *Zwei Legenden aus dem Dritten Reich* (Stuttgart, 1974), pp. 7-75.

Wilhelm, Hans-Heinrich and Louis de Jong, *Zwei Legenden aus dem Dritten Reich* (Stuttgart, 1974).

Williams, John F., *Corporal Hitler and the Great War, 1914-1918: The List Regiment* (London, 2005).

Winton, Harold R. and David R. Mets (eds.), *The Challenge of Change: Military Institutions and New Realities, 1918-1941* (Lincoln, NE, 2000).

Wood, Tony and Bill Gunston, *Hitler's Luftwaffe* (London, 1997 [1977]).

Worthington, Ian, 'Alexander the Great, Nation Building, and the Creation and Maintenance of Empire', in Victor Davis Hanson (ed.), *Makers of Ancient Strategy: From the Persian Wars to the Fall of Rome* (Princeton, NJ; Woodstock, 2010), pp. 118-37.

Zaloga, Steven J. and James Grandsen, *The Eastern Front: Armour Camouflage and Markings, 1941 to 1945* (London, 1993 [1983]).

Zamagni, Vera, *The Economic History of Italy, 1860-1990* (Oxford, 1997 [1993]).

Ziemke, Earl F., 'Operation Kreml: Deception, Strategy, and the Fortunes of War', *Parameters*, 9 (1) (1978), pp. 72-83.

Ziemke, Earl F. and Magna E. Bauer, *Moscow to Stalingrad: Decision in the East* (New York, 1988 [1968]).

Zolotarëv, V. A. (ed.), *Velikaja Otechestvennaja vojna, 1941-1945*, vol. 1: *Surovye ispytanija* (Moscow, 1998).

Zürcher, Erik J., *Turkey: A Modern History* (London, 1997 [1993]).

Hitler as Military Commander: From *Blau* to *Edelweiß*, January-November 1942

Alan Donohue

Abstract

In the vast amount of literature written about Adolf Hitler as a military commander, historians generally agree with those who served him that he was a dilettante who was ultimately responsible for Germany's defeat in the Second World War. As an original contribution to research on this issue, the following dissertation will examine Hitler's strategy and operational decision-making with respect to the war against the Soviet Union – specifically the southern sector of the Eastern Front in 1942 – by focusing on what he knew, how he acted on this information, and why he came to decisions which have often been derided as blunders in postwar historiography. His command of Army Group A towards the end of the year was the only time during the war when he took personal command of such a formation, yet his record in this role has only been studied in a cursory manner.

The present thesis includes a thorough investigation of the strategic, operational and tactical intelligence which Hitler received in his capacity as Supreme Commander of the German Armed Forces as well as Commander-in-Chief of Army Group A – the type of information which is crucial to understanding the orders issued by commanders at all levels. It will also address other aspects of warfare in general and the campaign in southern Russia in 1942 which are frequently neglected in the literature, such as Hitler's thoughts on all aspects of the military, including air and naval warfare; the state of the Wehrmacht and its allies during the period under review, including the economic and material support given to Germany's Axis partners; and his appreciation of the importance of logistics as a result of the mistakes made in the previous year.