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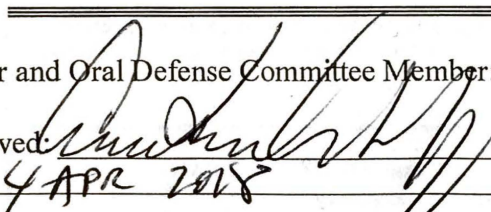
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Executive Summary

Title: Fighting Russia in the Time Gap.

Author: Major David Seppola, Norwegian Armed Forces.

Thesis: To deter or, if necessary, fight Russian New Generation Warfare, the Norwegian Armed Forces must reframe the problem using the cognitive steps of the Boydian OODA loop, and then design both an operating concept and a warfighting organization capable of fighting Russia in the *time gap* between the initial enemy assault and NATO reinforcement.

Discussion: Much of John Boyd's strategic theory derives from the heightened awareness, both internal and external, at the heart of the *orient* phase of the OODA (Observe, Orient, Decide, Act) loop, based on the destruction of preconceived notions and the creation of new understanding. One can integrate this cognitive process with Systemic Design methodologies as a way to develop military concepts and structures suitable for 21st century warfare during peacetime. Both the OODA loop and Design entail a realistic framing of the problem. Norway's strategic challenge is a situation that is too large for the NAF to handle with its current concept and organization, but too small for NATO to risk escalation to nuclear war. The operational problem for Norway is three-fold: it has a Cold War paradigm, a conservative defense concept, and a classic service structure ill-suited to fight Russia today. The historical Soviet threat provides insight into contemporary Russian operational art, but the NAF must also connect with allied operating concepts to ensure seamless integration with NATO, in particular the United States. Fighting a people's war against Russia in the *time gap* entails designing an operating concept and structure suitable for the complex 21st century battlefield. This study does not provide all the answers but provides a point of departure, building on the leadership philosophy, operational art, and Clausewitzian People's War already deeply rooted in Norwegian defense thinking.

Conclusion: The NAF must recreate its mental model of how it fights Russia in the *time gap*. Boydian theory and Systemic Design together can help synthesize the necessary elements to combat Russian New Generation Warfare. Norway must unite under what Boyd called a "noble vision," deeply rooted in Norwegian identity and heritage under the symbol of the flag and His Majesty the King. The OODA loop and Systemic Design are foundational to both creating a new operating concept and restructuring the NAF.

Preface

Since Russia's annexation of Crimea in 2014, I have spent a lot of time thinking about what it takes for Norway and its allies to win a war with Russia. The Norwegian Armed Forces (NAF) have already begun to examine the need for defense reform. A number of analysts have pointed out deficiencies with the status quo, particularly that a Cold War mindset exists in the NAF. I will draw on their work. This study is a thought experiment where I dive into NOR-USSR Cold War history, doctrine, military theory, and John Boyd's strategic ideas. It aims to answer the following question: how can the NAF increase its combat power to deter and if necessary fight Russia and its New Generation Warfare? Boyd's ideas coupled with Systemic Design can enable the NAF to re-frame the problem and develop a new operating concept. This new concept can drive a structural re-design of the NAF. Cooperation always yields results; the NAF is both small and smart enough to innovate and possibly transform itself into a world leading *joint force*. Integrated with our NATO allies—particularly the United States—a reformed NAF must be capable of combating Russia or any other adversary. Developing a new concept requires the NAF to orient and design collectively.

My objective is *not* to reinvent the wheel, let alone take credit for alerting others to the need for new ideas, but rather to suggest how applying new conceptual methodology—the combined 'destruction and creation' of Boyd's orientation plus a collective design effort—can enable the NAF to build on new insights and pool its talents and accelerate the process of breaking free of the Cold War-type thinking. I believe it is time to advance, and I hope to help in that effort.

The language is direct, and in many cases, blunt. My point is *not* to cite individuals for obtuseness, but to suggest the need for collective, inter-service re-orientation across the NAF. Today, there is a great opportunity for the NAF to ground its work in a thoroughly systemic understanding of future war, above all Russian New Generation Warfare.

I expect readers to find some of the ideas I present controversial. If so, great! I intend to both provoke and promote a discourse that is not only outside the box but also removes the box completely. The very existence of a box, as Boyd would say, limits our creativity. I have tried to let the quotes on the next page guide my studies. With that, I present a simplified design of a new operating concept and structure (a Boyddian 'snowmobile') for the NAF. As a mid-career officer, I do not have the knowledge, insight, or experience to understand and articulate how to defend a nation. Therefore, the simplified design reflects that. I take full responsibility for any misinterpretations or mistranslations of ideas from the literature I reviewed.

This study has challenged me in many ways. I have engaged in multiple intellectual 'gunfights' with Dr. Anne-Louise Antonoff. She pushed me way outside my comfort zone through critical questions, written, and oral feedback. Her relentless support and encouragement helped me to learn and at occasions even thrive in the ambiguous sphere of understanding military theory and future warfare. For that I am forever grateful. This paper came out in readable English thanks to Linda, Andrea, and Stase at the LCSC. I worried when I asked for a review of my number X draft, but Stase gladly helped me. Thank you!

I have spent a lot of time during this year at CSC at the expense of my family. I am grateful to my wife and daughter for their love and patience. Their continued support is the true success criteria for this study and all of my endeavors. Thank you and I love you.

Major David Seppola, April 3, 2018, Quantico, Virginia.

Guiding Quotes.

Nothing could be more dangerous than to follow sudden inspirations, however intelligent or brilliant they may appear without pursuing them to the logical conclusions, or to indulge in wishful thinking, however sincere our purposes. We need officers capable of following systematically the path of logical arguments to its conclusion, with disciplined intellect, strong enough on character and nerve to execute what the intellect dictates.

General Ludwig Beck

From a speech on the 125th anniversary of the *Kriegsakademie*, 10. October 1935.

A loser is someone — individual or group — who cannot build snowmobiles when facing uncertainty and unpredictable change;

Whereas,

A winner is someone — individual or group — who can build snowmobiles, and employ them in an appropriate fashion, when facing uncertainty and unpredictable change.

John R. Boyd

A Discourse on Winning and Losing – Revelation.

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Introduction

Fifty years of strategic stability during the Cold War created deep roots in Norwegian military conservatism and thinking. Four pillars constitute the traditional national defense concept: NATO membership, a balanced military, conscription, and total defense.¹ These pillars, combined with the enduring threat from the Soviet Union and now Russia, remain the foundation for the military territorial defense concept. The national identity—the people—connects the military and national defense concept across the pillars, providing the potential for people's war. While such a strategy remains sound, Norwegian operational thinking must adapt to the 21st century. Russia continues to build military power in the High North with the nuclear triad in Kola and the Northern fleet as its core capabilities. Norway thus remains within Russia's strategic Bastion defense. While Norway's defensive thinking remains trapped in a Cold War mentality, however, Russia has adapted its operational art to changing realities, embracing what the Russian chief of the General Staff, General Gerasimov calls 'New Generation Warfare' (NGW). Current Norwegian Armed Forces (NAF) concept and organization do not meet the needs of coping with this new threat. In any conflict with Russia – whether bilateral, such as over Svalbard, Finnmark County, or general, such as over the Baltic States – Norway will find itself at risk. To deter or, if necessary, fight Russian New Generation Warfare, the Norwegian Armed Forces must reframe the problem using the cognitive steps of the Boydian OODA loop, and then design both an operating concept and a warfighting organization capable of fighting Russia in the *time gap* between the initial enemy assault and NATO reinforcement on complex the 21st century battlefield.

This thesis, aimed at a practical solution, has a parallel in the cognitive realm, both in wartime and peacetime, based on John Boyd's "OODA loop" – Observe, Orient, Decide, Act. In wartime, the solution for Norway must center on meeting the Russian threat with the counter threat

of a Clausewitzian “People’s War,” one that will increase the cost to Russia by seeking to anticipate and confound the enemy’s plans while sustaining a high operational tempo to disorient him, force him into errors, and confront him with the prospect of systemic dislocation. Any design of a new operating concept and organizational structure must meet this objective. Breaking the Cold War paradigms and generating new ideas, the Norwegian defense community in peacetime must adopt new methods of thinking. Military theory provides two aids to facilitate such conceptual renewal: the *re-orientation* at the heart of the OODA loop, and conceptualizing methodologies of systemic design. Both are cognitive processes that build on free-flowing discourse.

Both orientation and design depend as well on analytical “destruction” and synthetic “creation” in Boydian terms.² In the OODA loop, *orientation* involves analysis of the problem for better internal and external situational awareness, including identification of possible biases and blinders. Following this step is a synthesis of a solution on the basis of a new perspective, while becoming receptive to new inputs and signals from the operating environment. The same process is inherent in design, not only for operations in wartime, but also for developing concepts in peacetime. Designing the proper operating concept and structure to achieve the desired battlefield result will therefore necessitate a *re-orientation* in Norwegian military thinking. With this cognitive approach, the NAF can reframe its problem and *re-orient* itself to a 21st century battlefield. Without doing so, it will remain trapped in old thinking in the face of a new threat.

The overarching frame of reference of the present work is thus a merger of Systemic Design and Boyd’s OODA loop, with an emphasis on *Destruction and Creation through orientation*. The study begins, like all *orientation* by framing the problem internally and externally with a set of analytical lenses, proceeds to a preliminary synthesis of findings, and ends by recommending

Systemic Design as the way for the NAF to develop its own more nuanced and fully articulated solution. Within this framework, it becomes possible to see how Boyd's famous OODA loop, understood in its complete original meaning, can serve as the basis of understanding not only for the individual analyst or decision maker but also for the NAF as a whole.

The argument presented below has a number of moving parts. It starts by framing and analyzing the problem through several lenses. The lenses include the following:

1. Geopolitical-Historical: Validating the continued strategic importance of Norway to both NATO and Russia through *analysis* of the historical context and Norwegian post-Cold War military thinking up to 2014.
2. Operational: Understanding Russian contemporary operational art through Russia's recent wars from 2008-2014.
3. Doctrinal: Reviewing current NAF doctrine, post-2014 military thinking and allied emerging concepts to identify valuable new suggestions for joint, integrated operations while also making clear the overall obsolescence of stove-piped, service-specific thinking founded on a Cold War scenario of NATO riding to the rescue of a Norway facing an immediate nuclear threat.
4. Systemic: Explicating the necessary systemic thinking and cognitive warfare, based on theories of John Boyd et al, along with Sun Tzu and Carl von Clausewitz to counter the Russian threat.

After a synthesis of the findings from this analysis, the paper concludes with the design of a simplified, preliminary solution to the problem of Norwegian defense. Far from definitive, it offers a point of departure for new ideas, and a proof of concept for the collective discourse that the NAF itself must conduct to revise its situational awareness and renew the structure and concept of Norwegian defense.

Framing the “Wicked Problem:”

Design offers a conceptualizing method particularly well suited to large, ill-structured “wicked problems,” wherein competing priorities exist. Human systems typically create such problems because they are nonlinear: Comprised of highly interdependent components, they defy simple causality and calculation. A brief review of the starting conditions of Norwegian defense thinking will demonstrate the dilemma.

NATO’s article V requires a unanimous decision in the North Atlantic Council (NAC) for NATO to intervene against an *armed* attack on any member state, but a Russian counter-response is likely to raise the risk of nuclear escalation. This dynamic will create a *time gap* before any reinforcement occurs. Norway therefore faces a two-fold dilemma. On the one hand, Russian ‘New Generation Warfare’ aims to mask warning signs before the onset of conventional war, thus accelerating the completion of the attack and allowing less warning time than ever for Norway and NATO to react; on the other hand, the prospect of nuclear escalation will likely induce a severe delay in decision-making in the NAC.

The Russian military exercise *Zapad 2017* was, according to the German newspaper *Bild*, “a dry run” for a full-scale conventional war against NATO in Europe.”³ Commander of the Estonian Defense Forces, General Riho Terras confirms *Bild*’s assertion.⁴ The Norwegian Intelligence (NIS) Service works full time to discern any Russian preparations for aggression. The NIS’ commanding general, Morten Haga Lunde, asserted in his annual speech to the Oslo Military Society that Russia practiced attacking Norwegian strategic locations with its air force, and deployed the nuclear capable *Iskander* missile system close to the Norwegian border both during *Zapad* and other times in 2017.⁵ Exercises like *Zapad* coupled with features from NGW can compress the *time gap* in Russian favor.

Norway expects an increase in Russian exercises in the High North.⁶ It is reasonable to think that Russia will set up a strategic assault through an exercise. If so, a number of days will elapse before Russia can complete its operation. These days constitute the *time gap* within which Norway and NATO can respond. Russian NGW aims to create ambiguity within a *new time gap* wherein Russian hostilities—camouflaged as exercises—will remain below the threshold of conventional war (armed attack), and therefore not warrant NATO intervention at the risk of nuclear escalation. This ambiguity, coupled with the Arctic geography, allows Russia to potentially launch a rapid assault, unimpeded by effective counterattack. At that point Norway will be engulfed before NATO can (or will) respond. Norway will therefore have to fend for itself with a defensive people's war in the *time gap*.

Currently, Russian influence operations arguably constitute an ongoing interval of NGW.⁷ Norway can respond if willing and sufficiently aware of what is happening. If Russia wants to attack, it will set the preconditions by NGW, thus compressing the traditional *time gap* between when Norway realizes it is at war, allowing Russia to complete its assault in days rather than weeks, and then perhaps a *new time gap* when the NAC decides what to do in the face of a seeming *fait accompli*. Both before and after the assault, NATO members may be unwilling to risk nuclear retaliation; before the assault, the justification may seem slim, whereas afterward the effort may seem futile. This means the NAC will above all need time. Norway founds its strategy on NATO and it probably will respond, but regardless, Norway will lose much time.

As a deterrent and in a protracted war a defensive nation at arms consisting of a mobilized army including a militia (Home Guard) is ideal in a defensive role.⁸ This traditional Norwegian concept is tied to geography and the people and therefore requires a certain type of military structure: a conscription Army, a Navy, an Air Force, and a Home Guard, all with large conscript

reserves. Thus, in a Norwegian context, the operating concept and military structure or organization are tightly coupled, and one must address them together in any discussion of Norwegian defense.

Norwegian defense reform, however, faces internal as well as external challenges. During the post-Cold War era, Norwegian operational art and joint operations stagnated as Russia ceased to be an immediate concern. The geopolitical and security situation in Europe changed dramatically when Russia annexed Crimea and started a covert operation to destabilize eastern Ukraine in 2014. Paradoxically, however, the core of the discourse today is not how Norway *should* structure its military and conceptually to fight its war in the current geopolitical and strategic setting; rather, it is the social and political impacts of military change, including popular opinion, employment, local economic growth, and Norwegian military ‘business as usual’ that dominates the discourse.⁹ Researcher Nina Græger asserts that the Norwegian defense discourse to a large degree is ‘nationally closed.’ She states that the tight coupling of the four military pillars with social, economic, and political factors is more important than military problems.¹⁰ This traditionalistic thinking bolsters a Cold War paradigm, which in turn leads to resistance against change. This paradigm and mindset sit at the core of the problem. Norwegian defense reform is truly an ill-structured¹¹ problem; it is extremely difficult to achieve agreement and systemic understanding, visualization, and description or hypothesis of what kind of military concept and structure Norway needs to solve its current strategic challenge.

Analytical Lenses

Strategic context: Geopolitics.

The Expert Commission on Norwegian Security and Defense Policy asserts that the High Northⁱ (see figure 1) is an area of historical geopolitical struggle and that it is vulnerable to changing security situations in Europe.¹² For Norway, the High North is of vital importance for its economic base and development. Norway draws most of its economy generating resources (oil, natural gas, and fish) from the sea, and is therefore dependent on unrestricted

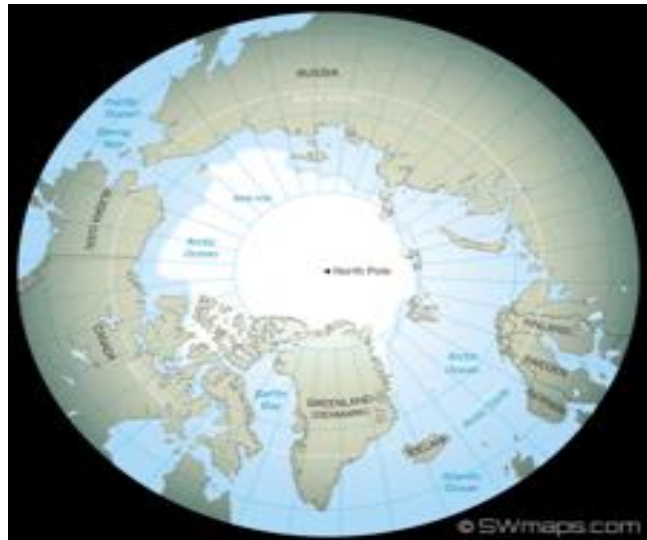


Figure 1 Map of the High North with the North Pole as the Center.

Source: <http://swmaps.com/arctic-and-north-pole-map/>

access to its Exclusive Economic Zone (EEZ) (see figure2¹³) to sustain its economy. To augment the need for unrestricted access to the EEZ, Norwegian NATO membership obliges it to support its allies in its territory should the need arise.¹⁴ Russia is a significant actor in the High North; it also draws economic resources from the sea and sees the High North as vital to its defense. In addition, the High North gives Russia access to both the Atlantic and the Pacific Oceans. Russia needs access to both oceans to be able to deploy its strategic submarines to both the Eastern and Western Hemisphere.

Norway's geographical location is of strategic significance to Russia, NATO, and the United States. A military conflict between what most knew during the Cold War as the East and

ⁱⁱ The High North in this paper refers to the Arctic Ocean, The Barents, Norwegian, North, and Greenland seas, as well as land areas north of the Arctic Circle on the Eastern Hemisphere. This area is considered by Russia as the Bastion.

West would inevitably have included a fight for the High North because Norwegian geography controls vital lines of communication (LOC) over the North Atlantic and Arctic Oceans. The transatlantic LOC was key for the Allies during the Second World War; the LOC was the lifeline for the supplies from the United States to the United Kingdom and to the Soviet Union. During the Cold War, the LOC was equally important, but for different reasons. The United States was dependent on an open transatlantic LOC to reinforce NATO in Europe. The Soviet Union wanted to prevent an open LOC in case of an escalating situation or even war. Today, the need for an open transatlantic LOC remains unchanged. The United States and NATO in Europe need freedom of navigation across the Atlantic Ocean, and as such, Norwegian geography is still of strategic geopolitical importance in a polarized United States–Russia, or East-West world.



Figure 2 Map of Norway's EEZ

Source: United Effort: Expert Commission, p 15.

The Soviet-Russian Bastion.

The Soviet Union (as Russia does today) viewed the High North as vitally important mainly because of the strategic nuclear triad that the Soviet Union kept in the Kola Peninsula and the need to defend it. The nuclear triad refers to land, air, and most important sea and submarine-based nuclear weapons. The concept of Soviet command of the High North formed the Bastion.

The Soviet Union called the Cold War defensive strategy the Bastion Defense Concept, and Russia's strategy is very similar today. (Figure 3¹⁵ depicts the Bastion's broad geographical limits.) The strategy's main purpose is



Figure 3 Schematic Diagram: The Russian Bastion and the Reach of the Bastion Defense.

Source: United Effort, Expert Commission, p 21.

denial, defense of the

strategic submarines and their bases, defense of the nuclear triad on Kola, and the general defense of Russia.¹⁶ The Soviet Union has historically asserted that control of the waters between Norwegian mainland and the Svalbard Archipelago is crucial to defend the homeland and the LOC to the Atlantic Ocean. Svalbard served (and continues to do so) as a key to control the strait to the Atlantic Ocean. If the United States or NATO controlled Svalbard, it could potentially lock the Soviet Union out of the Atlantic Ocean. It was very similar to the Soviet fear in the Baltic and the Black seas, a fear of being locked in.¹⁷ The actual bastion encompasses Svalbard and much of

northern Norway. Historically both the Soviet Union and the post-World War II allies saw Northern Norway and Svalbard as a “grey zone where legitimate Soviet security concerns might [cause] Soviet demands for a role in the defense of [the High North].”¹⁸ Norway, of course, was aware of that, and the situation served as a springboard to join NATO as a founding member in 1949. The Bastion concept includes, both historically and contemporary, parts of Norwegian sovereign terrain. A quarrel between the United States and Russia can catch Norway in the middle of a transatlantic conflict.

Historical Context

A Soviet Strategic Assault and Groundwork

Mid-1980s researchers Charles Peterson and Hugh O’Donnell confirm that the Soviets sought command of the sea in the High North in their works, *Soviet Military Objectives in the Arctic Theater and How They Might Be Attained*¹⁹ and *Northern Flank Maritime Offensive* from 1985.²⁰ Both explain that the Soviet Union did not limit its approach to command of the sea to naval operations; rather, the Soviet view was that land forces combined with air forces and nonmilitary means could control the straits, which led to all-domain superiority.²¹

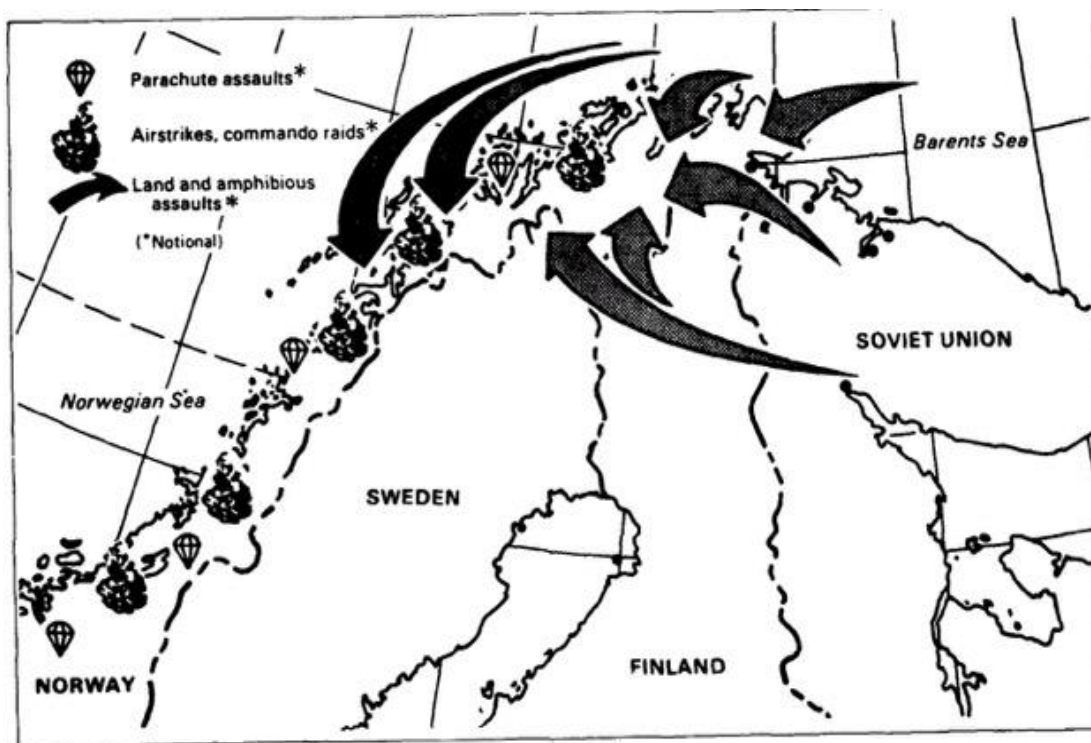
O’Donnell elaborates on a scenario of how a Soviet assault on Norway could unfold. In short, the Soviet concept was a strategic surprise assault: it would conduct simultaneous aerial attacks on air ports to suppress the Norwegian Air Force, a ground attack across the Norwegian-Russian border to seize key terrain, and amphibious assaults to seize ports in north Norway to deny the Norwegian Navy and NATO access to them.²² To set an operation to command the High North or a strategic assault on Norway up for success, however, nonmilitary means would have to precede the military operation.

O’Donnell falls short in his description of what Peterson calls Soviet groundwork, a term he uses to describe peacetime preparations.²³ Groundwork could include deployment of military

forces and nonmilitary actions such as espionage, sabotage, subversion, and propaganda designed to achieve indecision, misconception, and paralysis of high level decision-makers.²⁴ For the High North, Soviet groundwork was a nonlinear and indirect approach designed to exploit the *time gap*. Therefore, the Soviet Union aimed to achieve a *fait accompli* in Norway and in the High North.

Groundwork and a strategy of indirect approach were central to Soviet operational art during the Cold War (in the High North). A *fait accompli* in Norway would have limited NATO to two options: counterattack or negotiate with the Soviets. It is clear that the Russian operational art of today has its roots in the Cold War; historical analysis of Soviet Cold War groundwork can serve as a springboard to understanding how Russia, should the situation arise, will fight in the High North today.

Figure 4 Scenario for a Soviet Attack of North Norway



-Scenario for Soviet attack of North Norway

Source: John Lund: Don't Rock the Boat: Reinforcing Norway in Crisis and War, RAND CO. 1991,

Norway's historical response to the Soviet threat: A Peripheral Defense Concept.

Major General (R) Gullow Gjeseth is a former land component commander for south Norway.²⁵ In his work, *the [Norwegian] Land Forces' War Plans during the Cold War*, he asserts that Norway's primary goal was to achieve an unquestionable state of war, by establishing direct combat as soon as possible during the *time gap*.²⁶ A royal resolution of June 10, 1949²⁷ (known as The Poster on the Wall)ⁱⁱ functioned as a countermeasure to a Soviet strategic assault; the law made every conscript and military leader legally responsible to fight with or without orders from higher in case of an armed attack on Norway.²⁸ The strategy to avoid a *fait accompli* laid out a peripheral (or perimeter) defense concept that in practice implied a separate land, air, and sea fight, with the Army as the centerpiece.²⁹

The regional land component commander was the supported commander.³⁰ According to Rear Admiral (R) Jacob Børresen, the Navy was never big enough to contribute decisively in an East-West naval battle.³¹ Its purpose was to cooperate with coastal defense forts and defend the Army's naval flank and rear against amphibious assaults in cooperation with the Air Force's F-16s.³² Scholar and Air Force Colonel Gjert Dyndal argues that the Air Force's primary concern was the Soviet's air force in Kola; it was a threat to both the Norwegian Air Force itself and the Army bases in the High North.³³ Gjeseth argues that the Air Force saw itself as the strategic offensive part of the NAF and focused for the most part on integration with NATO's rapid reaction air forces.³⁴ Gjeseth, Børresen, and Dyndal agree that the individual services' war-plans and the Cold War strategy was sound. A problem during the Cold War, however, was the services' resistance

ⁱⁱ Also, the law was a consequence of German information operations in 1940 that aimed, and to some extent succeeded to halt mobilization, and made military leaders give up without fighting. Too many military leaders did not mobilize or fight because they waited for orders. Norway was determent to never let that happen again.

towards deep cooperation. This brought about separate service doctrines and fueled inter-service rivalry.

Following the Second World War, Norway developed a very strong Intelligence Service (NIS) to exploit its unique position to collect information on the Soviet Union.³⁵ The NIS exploited the Norwegian merchant fleet (NORTRASHIP) to deploy agents worldwide.³⁶ The NIS's comprehensive cooperation with the United States, the United Kingdom, and Sweden's intelligence services grew the NIS's power. The demanding intelligence operations increased the NAF's internal fight for resources, and the services expressed their dissatisfaction with the resource situation.³⁷ Today the intelligence cooperation with the United States persists.³⁸ To illustrate its importance, the NIS's task is the NAF's top priority; intelligence is fundamental to counter Russian operational art in the High North.³⁹

Insights from the Historical Context.

Norway planned to fight a comprehensive, all domain strategic assault from the Soviet Union primarily in the High North. The Soviet Union spent a lot of resources on its groundwork with nonmilitary means; Cold War groundwork is a precursor to Russian NGW. The Norwegian response to the Soviet threat was a *linear*, land-centric perimeter defense designed to establish a state of war to trigger NATO's article V as early as possible during the *time gap*. Norwegian risk assessment asked how long it could hold the Soviets off in the *time gap*, thus identifying a *holding time*. Norway structured its military with the purpose of *holding* until NATO could reinforce and counterattack based on *linear* mathematical-probability calculations. Above all, Norway, with the NIS in lead, aimed to gain and maintain superior situational awareness on Soviet war preparations and the nuclear triad in Kola. Table 1 illustrates how the Norway structured the NAF to fight the

Soviets. Table 1 also illustrates and compares the NAF in 1992 to the NAF in 2017; this proves that the current structure is too small to fight the Cold War plan today.

Table 1 The Norwegian Armed Forces in 1992 and in 2017.

NAF 1992, Source DA91.				
JOINT	ARMY	HOME GUARD	NAVY	AIR FORCE
NAF HQ Joint Command North Joint Command South NIS TOTAL STRENGTH: 330,000 when fully mobilized. Approximately 10% active duty.	Division command 10 Motorized Infantry BDEs 3 Mechanized BDEs 28 Independent BNs 52 Independent Cos HM King's Guard BN Army SOF BN	468 HG territories 84 HG districts 33 Naval HG territories 5 Naval HG districts 9 Air Defense batteries	7 Escort vessels 12 Submarines 30 Missile Torpedo Boats 9 Mine sweepers 7 Landing Vessels 2 Mine layers 29 Coastal Forts 5 Torpedo batteries 8 Minefields 6 Coast Guard Vessels 5 Naval EOD platoons Naval SOF platoon	81 FW Fighters 2 EW FW 6 ASW FW 10 Cargo FW 16 FW Trainers 18 Cargo RW 6 Coast Guard RW 10 SAR FW 6 NOAH AD Batteries 4 Main Air Bases 10 Air bases 11 Reserve Air Bases 4 Air Ops. Centers
NAF 2017, Source LTDP.				
NAF HQ NOR Joint HQ NIS NORSOE CYFOR NATO Air Ops Center NAF Medical TOTAL STRENGTH: 65,000 when fully mobilized. (12,000 active duty, 8,000 annual conscripts, 5,000 civilians, and 40,000 HG citizen- soldiers)	Land Component Command 1 Mechanized Brigade (-) Border Guard BN HM King's Guard BN	National Territorial Command 10 Districts 10 QRF Companies	Naval Component Command 5 Frigates 6 Corvettes 6 Submarines 6 Mine Sweepers 3 Logistical Vessels 4 Coast Guard RW	Air Component Command 52 FW Fighters 18 Cargo RW 6 ASP RW 4 Cargo RW 16 SAR RW

Norwegian Post-Cold War Military Thinking.

Norwegian Post-Cold War Defense Planning.

At the onset of the post-Cold War era the geopolitical paradigm changed; the narrative was (and still is) that Russia poses no military threat to Norway. Therefore, Norway downsized the NAF from a counter-invasion force to a modern force capable of deploying in support of military

coalition operations abroad. The peripheral concept is ill-suited to counter contemporary Russian operational art. Openly available information can identify prepared positions, and precision guided munitions make forts and trenches useless and extremely vulnerable to nonmilitary means. Norway has since the early 1990s structured and funded its military based on modified strategic Cold War scenarios because Russia remains the key factor for Norwegian security policy. To understand why the Norwegian Cold War pattern of thought persists, one must understand Norwegian long-term defense planning.

Norwegian Long-Term Defense Planning: A Scenario-Based Approach.

The Norwegian Defense Research Establishment (NDRE), the NAF staff, and the Ministry of Defense (MoD) have constituted a planning trinity for more than forty years. The planning trinity conducted the Defense Analysis 91 (DA91)—a study that NDRE researcher Ragnvald Solstrand regards as last the holistic defense analysis—from 1987-1992.⁴⁰ DA91 consisted of separate Army, Navy, and Air Force analyses, and the core DA91 trinity-group analyzed the results with the purpose of *finding balance* between the military services.⁴¹ DA91 used a Cold War strategic assault scenario as the foundation, and the idea was that a *balanced* NAF could withstand a Russian assault.⁴² DA91 lacked collective, integrated *orientation* since it aimed to arbitrate among individual service-specific analyses as to produce one recommendation. In 1995, the MoD tightened the political grip on the NAF and split the planning trinity. From 1995, the trend continued; there was no true collective orientation, and the balancing idea stems from functional fixedness.ⁱⁱⁱ This begets inter-service rivalry, hampers jointness, and strangles the planning trinity, according to Solstrand.⁴³

ⁱⁱⁱ Functional fixedness is a cognitive bias that involves a tendency to see objects as only working a particular way.

Solstrand argues that the military and political Cold War chain of thought continued well into the turn of the century.⁴⁴ The NAF said in the early 1990s that “for the moment the security situation [in Europe] is uncertain with regards to the future development. Therefore, [we] cannot recommend large reductions in the military.”⁴⁵ With this standpoint from the NAF, Solstrand says “we [the NDRE] were equally ‘brainwashed’ by the Cold War [mindset] as many of the other [DA91] actors were.”⁴⁶ The geopolitical paradigm change did not happen in the NAF or in the Norwegian defense intellectual community. This is evident because DA91 concludes that the NAF still needs to plan and prepare for a renewed Cold War scenario of a Russian strategic assault, thus demonstrating that linear thinking took place.⁴⁷

One understands the inclination for planners to use a renewed Cold War scenario as a point of departure; there was no real threat and for research purposes one can analyze a military structure and compute a theoretical outcome of a battle with Russia.⁴⁸ Solstrand offers—as does Admiral Børresen—threat (or scenario)-independent defense planning. He suggests conceptualizing what Norway wants to protect (freedom and way of life) as opposed to what (or who) Norway must defend against⁴⁹ and from there, conduct collective orientation of the NAF’s tasks instead of a linear planning approach against a scenario.⁵⁰

A Continued Cold War Mindset.

The Expert Commission affirms the Cold War mindset. The Commission asserts that there is no operating concept for a conflict with Russia⁵¹ and points to the need for a new concept based on “national military effort, allied support, conscription and a renewed Total Defense Concept.”⁵² The commission nevertheless analyzes and synthesizes Norway’s contemporary challenges through tasks and primarily a renewed Cold War scenario⁵³, and it does not recommend structural changes.⁵⁴ The Commission recommends seamless integration with NATO allies, the United

States in particular in a so-called United Effort. The Expert Commission and Solstrand analyze what the NAF and Norway must *do* to defend itself against Russia in the renewed Cold War scenario. To break the Cold War mindset, the NAF must free itself from the scenario and change how it *thinks*; it should visualize *a* war with Russia, and not *the* renewed Cold War.

Insights from Norwegian Post-Cold War Military Thinking.

Norwegian military thinking is stuck in a Cold War paradigm. Understanding old scenarios and plans is important for future development, but without continuous feedback from the contemporary operational environment, old scenarios and plans loses some validity. The Expert uses a renewed Cold War scenario to develop its ideas thus continuing a trend of rebranding obsolete scenarios to support military arguments. Solstrand wants to reintroduce the planning trinity, in essence for the purpose of Boydian destruction and creation and avoid stagnation in linear defense planning.⁵⁵ If the NAF destroys its own biases and functional fixedness and synthesizes *feedback* from the operational environment through collective OODA looping and systemic design, it can develop new ideas and break the Cold War mindset. The problem is that scenarios induce planning in place of conceptualizing, which leaves problem framing ‘dead in its tracks’. It is unwise to isolate tasks from scenarios altogether because Norway can’t ignore that it sits in the Russian Bastion; however, it is time to break away from linear development of ‘new’ scenarios. It is clear that privileging the scenario in concept development curbs innovation in the NAF and unintentionally sustains the Cold War paradigm.

Operational Lens.

Russian Contemporary Operational Art.

To understand contemporary Russian operational art in more recent historical terms, one can gain another perspective on Norway’s problem by analyzing operational art in the Russian wars in Georgia and Ukraine. In these wars, smaller nations fought a military superpower; Russia

is one because it never gave up its nuclear triad.⁵⁶ For clarity: Norway does not have the same character as Georgia or Ukraine do. There is no significant Russian minority living in Norway, and Norway is by no means dependent on trade with or energy (oil/gas/coal) from Russia. Russia will have a difficult time with the early phases of NGW in Norway. That said, Norway must not underestimate Russian nonmilitary capabilities. Russia can use any situation involving Russian citizens and Norwegian authorities to its advantage. Accordingly, the Svalbard archipelago and the border region are the most vulnerable areas.

Since it is clear that Putin is willing to use force to achieve his goals, Norway must first and foremost meet Russia at the primary battlespace, namely the cognitive. Norwegian characteristics reduce Russian possibilities to attack it to more traditional and conventional (and in absolute worst case nuclear) ones. Deterrence is a cognitive game with the goal of making Russia believe that the cost of attacking Norway is greater than the potential gain. Constant interaction with Russia in the cognitive end of the conflict continuum is essential to get feedback and to make deterrence credible.

The Russo-Georgian War 2008.

The NDRE researchers Tor Bukkvoll and Kristian Åtland reveal several flaws at the Russian joint level. Several western researchers see the war as a joint success because there were no known cases of fratricide. Russian internal evaluation agrees with NDRE.⁵⁷ Combined arms integration of armor, infantry, and indirect fires worked well for the Army.⁵⁸ At the joint level Russia struggled with suppression of air defense, air-ground integration, close air support, and integration of nonmilitary measures. Russian cyber-operations received a great deal of attention in the aftermath of the war, but no evidence suggests that cyber-operations reduced Georgian coherence.⁵⁹ No special operation succeeded in subverting or sabotaging the Georgians, or in

enabling the joint operation with military or nonmilitary means.⁶⁰ Bukkvoll and Åtland assert that command and control was the fundamental Russian flaw. A Russian historical trademark—superior ground-based firepower—compensated for a lacking ability to control a joint dynamic fight and in effect led to victory against the Georgians.⁶¹

The Russo-Georgian War reveals that Russian operational art survived the aftermath of the Soviet collapse. The war also reveals a number of deficiencies. It is clear that Russia tried to incorporate nonmilitary measures, but failed to create the desired effects. Russia used the period from 2008-2014 to modernize and reform the military organizations, concepts, and doctrines. Russia used lessons from Georgia to adapt to a modern operational environment, especially when it comes to synchronization of military and nonmilitary measures and the scope of Russian use of force.⁶² This led to the New Generation Warfare concept (discussed later) that formed the fundamental change in the *modus operandi* for the Russo-Ukrainian War in 2014.

The Russo-Ukrainian War from 2014.

The annexation of Crimea in 2014 differs significantly from the Russo-Georgian War. The latter was a short but classical conventional war; in contrast, the Russians executed the annexation as a Sun Tzuian style “special operation without firing a shot”⁶³ and broke the enemy’s resistance without fighting.⁶⁴ Russian Special Operations Forces (RUSOF) performed well in conjunction with air mobile forces (VDV) and Marines. The Russians were well trained and ideologically motivated.⁶⁵ The Russian strategy consisted of establishing an ethnically Russian ‘insurgency’ inside Ukraine coupled with a conventional force demonstration on the Russo-Ukrainian border to create fear, paralysis, and domestic alienation of the Ukrainian government,⁶⁶ plus compelling the Ukraine military to mobilize, making it look like a civil war. To the latter end, nonmilitary measures were a vital part of the annexation and the follow-on war in eastern Ukraine. Two

components—weaponized information and covert SOF—were highly effective. First, the Russian controlled media, including covertly Russian-employed embedded journalists reinforced deception. The *Sunday Times* journalist Mark Franchetti says, “[Journalists] are directly responsible for contributing to people taking up arms and justifying it with messaging from [Russian media] *Rossija 24*.”⁶⁷ Second, SOF enabled and led the insurgency. The Russians succeeded in Ukraine because nonmilitary measures created and fueled the narrative of an uprising against the Ukrainian government, and that is the significant difference from Georgia.⁶⁸

From the Ukrainian battlefield, Phillip A. Karber notes that Ukraine effectively denied Russia a *fait accompli* by a rapid army deployment army as a countermeasure to the Russian force build up on the border.⁶⁹ In effect, Ukrainian countered a strategic surprise. Due to significant losses on both sides, the war developed into a World War I style entrenched stalemate.⁷⁰ The Ukrainians broke the stalemate at times by penetrating enemy gaps with *joint* forces consisting of SOF and semi-autonomous combined arms companies operating as—in Boydian terms—cooperative centers of gravity (CoG). The joint force isolated the enemy from its support and created panic and disorder.⁷¹ The problem was that the attacks were not nested with a strategy and hence merely produced shortsighted tactical victories without strategic progress on the battlefield. According to General Phillip Breedlove, a former NATO commander, ten Russian battalion task forces battled the Ukrainian Army in the central Donbas region.⁷² Here, Russians forces demonstrated a strength by neutralizing Ukrainian air power with ground-based air defense.⁷³ The Russian task forces were vulnerable to disorientation, which successful Ukrainian operations prove. This demonstrates that the Russian conventional battle capability still relies on massed firepower and top-down authoritarian leadership.

The Ukrainian war demonstrated that Russian contemporary operational art is a mix between nonmilitary measures and conventional maneuvers. Russia paralyzed Ukrainian decision-makers with weaponized information and disoriented Ukrainian leaders' or minds to such an extent that they could not cope with the situation. However, the Russo-Ukrainian war revealed weaknesses in Russian operational art. The so-called Donbas central battles demonstrate that the Russians still have a second-generation conventional force.⁷⁴ The Russians are aware of that and compensate for it with the New Generation Warfare doctrine.

Russian New Generation Warfare

Russia sees itself as a victim of American and European security and economic expansion, and believes that Western Wilsonian idealism is a cognitive war to take over Russian interests.⁷⁵ Russia claims that the West broke its promise not to expand after the Cold War, and President Putin thinks that the West threatens Russian traditional values in an information campaign to 'westernize Russia.'⁷⁶ Putin knows that Russia is militarily and economically inferior to NATO, and that is the jump off point for NGW.

General Valery Gerasimov, Chief of the Russian General Staff describes his vision for New Generation Warfare in his article "The Value of Science Is in the Foresight."⁷⁷ Parts of his visions are not unlike what Commandant of the Marine Corps, General Robert Neller describes in the Marine Corps Operating Concept.⁷⁸ Both generals encourage innovation and education to develop new ways of fighting in a complex world. To gain an advantage over adversaries one must exploit new technology to create friction and ambiguity, as well as to identify, strike, maneuver, and make decisions faster than the enemy. Gerasimov and Neller see human capital as the centerpiece for innovation.

In future warfare, Russia aims to target the enemy's weakness with weaponized information, generating mass uncertainty, fear, and domestic rise against its own government, just as it did in Ukraine.⁷⁹ Western nations are vulnerable to their own rules, laws, and democratic decision-making processes; that is the gap that NGW's whole-of-Russia approach exploits to gain a strategic advantage. NGW is first and foremost an art of conducting holistic and directed nonmilitary actions across all five domains followed by military operations when the strategic narrative is that the use of kinetic force is defensive. Summed up, Gerasimov argues that the character of war has changed and Russia simply has to keep up in the 21st century. At the heart of the contemporary operational environment lies the cognitive dimension as the primary battlefield. That points to influence as the core of NGW. This core stems from the Soviet reflexive control doctrine.⁸⁰ Reflexive control is "[Russian] means of conveying to an [enemy] specially prepared information to incline him to voluntarily make [the desired] decision."⁸¹ Accordingly, Russian NGW aims to influence the Western civilization's values, culture, political system, and ideology in future warfare.⁸²

Sun Tzu and Carl von Clausewitz's theories offer an alternative lens to understand NGW. Russia aims to influence the people and create an alternative reality. The narrative legitimizes Russian actions and enables deception; hence, it sets the stage for attacking the enemy where he does not expect it. Merged with Clausewitz's idea of people's war—in essence that clever use of an armed population will gain superiority against a nation that does not mobilize its people in concert with conventional forces⁸³—the general strategy of NGW becomes apparent.⁸⁴ The strategy combines "direct/symmetrical actions with asymmetric instruments to achieve [political goals]."⁸⁵ Successful NGW strategy attacks NATO's strategy and can influence the North Atlantic Council to delay or deny a unanimous decision to execute NATO's article V. In a given situation,

if Russia successfully influences the NAC, NATO will lose all credibility and collapse. This sets the stage for Russian reflexive control towards its small neighboring states. Russia can use the border countries' dependence on Russian energy to coerce their emergent behavior in the NAC. With Reflexive Control, Russia achieves the Sun Tzuian ideal of obtaining its political goals without fighting. Figure 4 illustrates New Generation Warfare.

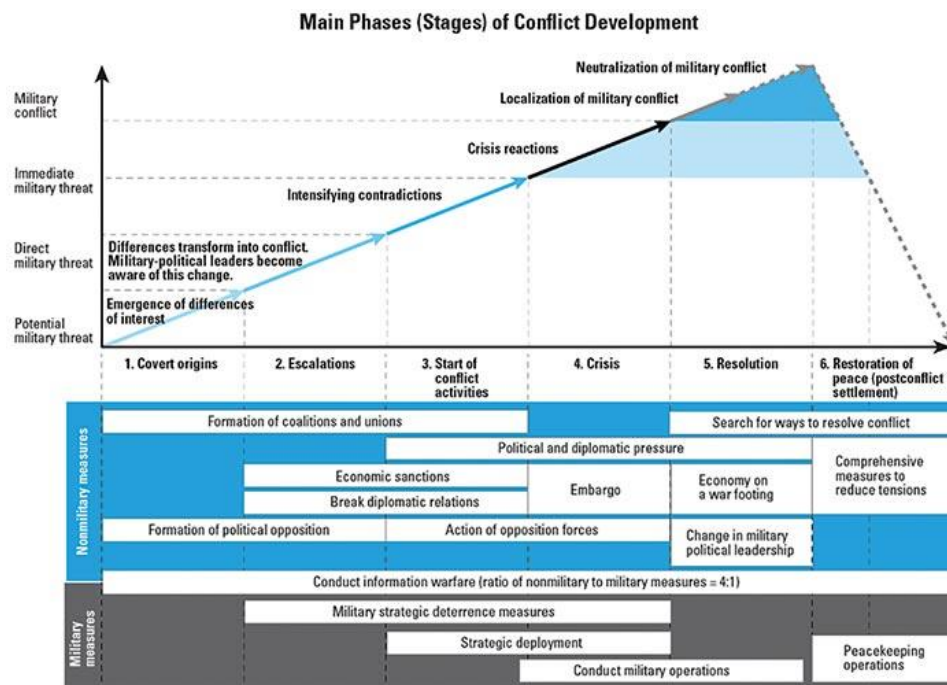


Figure 5 Stages of New Generation Warfare

Source:
https://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_20160228_art008.pdf

Russian Nuclear De-Escalation Strategy.

Considering the recent wars and NGW there is the prospect of nuclear escalation. Russian military doctrine states that “Russia [reserves the right] to use nuclear weapons... when the very existence of [Russia] is in jeopardy.”⁸⁶ Norway does not pose an existential threat to Russia, but according to Russia, NATO does.⁸⁷ Russia sees NATO exercises, the Norwegian purchase of the F-35, and the discourse of Norway joining the NATO missile defense program as provocative.⁸⁸ The Marine Corps’s semi-permanent presence in Norway adds to the narrative that NATO threatens the nuclear triad in Kola.⁸⁹ If Norway decides to invest in missile defense systems, it can

incline Russia to “resist [the Norwegian] attempt to achieve [local] military superiority [in the border region] through the deployment of strategic missile defense systems....”⁹⁰ This inclination includes the threat of nuclear war.

The so-called nuclear de-escalation strategy is to escalate to de-escalate. Russia might use tactical nuclear weapons to achieve a local decisive effect, and a strategic de-escalation of the war. The use of nuclear arms puts NATO in a dilemma: either escalate the conflict or bow to Russia’s will.⁹¹ British General (R) Sir Richard Shirreff says, “President Putin can gamble that the nuclear armed nations of NATO [will] never risk the total destruction of Europe for the sake of [75,000 people in Finnmark], and [Putin] is probably right. Which is why he would get away with it.”⁹² A nuclear war between Russia and NATO will end the world as one knows it. While Shirreff paints a dark picture, NATO⁹³, the United States⁹⁴, and the United Kingdom⁹⁵ remain clear: they will not tolerate the use of nuclear weapons against the alliance. Therefore, it is a fair assessment that there is no direct nuclear threat to Norway. However, nuclear weapons are important to Russian NGW strategy and contemporary operational art.

Insights from the Operational Lens.

While the lessons in operational art from the Russo-Georgian and Russo-Ukrainian wars are not directly applicable to the Norwegian case^{iv}, as there is no real threat of direct attack on Norway, the Norwegian dilemma rests primarily at the strategic level. Bukkvoll and Åtland argue that “[T]he most dangerous scenario for Norway is [...] a general decline of NATO [coherence] that leads to reduced credibility in [American] security guarantees.”⁹⁶ The former point is of the utmost concern for the Baltic nations since those have large Russian minorities living in them and

^{iv} The study has purposefully not assessed tactical lessons because it is relatively simple to develop tactics, techniques, procedures and acquire technology such as electronic warfare, drones, and firepower to counter it, and tactical lessons are not the focus of this study. That said, multiple relevant tactical lessons from both wars exist.

therefore are vulnerable to NGW. Should the Baltic nations get into a quarrel with Russia, it will affect Norway.⁹⁷ Since Norway has deployed forces to in Lithuania in 2017 as part of NATO's Enhanced Forward Presence,⁹⁸ understanding the wars, NGW, and Russian operational art is key for the NAF.

Some things are transferable to the Norwegian case. Norway needs to exploit every moment of the *time* gap with its independent capability. There are two prerequisites for success: a timely political-strategic decision to 'go to war', which rests on collective understanding and feedback from the operational environment, and a general, all domain, joint, combined arms maneuver capable readiness increase in the NAF to mitigate the effect of strategic surprise. Readiness rests on mental and moral mindset coupled with constant feedback from the operational environment and internal sharing of information. The risk lies with the possibility that Russian NGW can influence Norway to delay its strategic war-decision as well as with the NAC. It seems that neither political nor the military levels understand the strategic Russian environment well, but Norway must be cognizant of it. A key operational lesson is that Norway must develop and reinforce aggressive sharing of information (intelligence) within the NAF to enable collective orientation and better strategic decisions. Rapid and good decisions married with adaptability will contribute to cracking the hard nut that constitutes the Norwegian strategic challenge.

Doctrinal lens

Norwegian Doctrine and Publications.

Norway can meet its strategic challenge if it develops a shared orientation to the problem and understanding of the solution. According to Norwegian Joint Doctrines dating to the mid-1990s, Maneuver Warfare forms the underpinning of a common culture across services. From the political standpoint, the question was always: what is the *minimum* military Norway needs? The question is irrelevant, and Generals Sverre Diesen and Robert Mood assert that politicians have

been indifferent towards the NAF⁹⁹ and continued with a reduction of military capabilities against common sense. The NAF is extremely loyal and has changed accordingly¹⁰⁰ using mission-based leadership (MBL). The NAF's operational leadership philosophy is a Norwegian version of the German *Auftragstaktik*; called MBL. MBL aims to exploit the NAF's innovative mindset and initiative. MBL elaborates on the importance of acting within the commander's intent, it emphasizes empowerment and decentralized execution, and it states that the foundation for MBL is mutual trust.¹⁰¹ MBL facilitates operations to meet the strategic challenge into the future, and it is foundational in both development and the practice of Norwegian doctrine.

Norwegian Joint Doctrine.

In 1995, the Chief of Defense (CHOD) ordered the NAF to base future concept development on Maneuver Warfare (MW),¹⁰² and he published the first Norwegian Joint Doctrine (NJD) in 1999 and the current in 2014. The NJD spells out that the NAF does not prefer any one theory or concept.¹⁰³ This choice of words does create ambiguity in terms of what the NAF operating concept is. Nevertheless, with the right mindset it can act as encouraging innovation of new concepts with the MW and MBL tenets in mind. The Norwegian joint principles for command and control (C2) include egalitarian leadership, relationship building, and communication—the goal is maximizing flexibility and adaptability. The NJD makes it clear that one must worship jointness to succeed.¹⁰⁴ MBL coupled with the joint principles is a manifestation of the contemporary MW mindset, and from that standpoint the NJD dictates *joint operations* as the very foundation for Norwegian operational art.

The NJD's Subordinate Service Doctrines and Publications.

The NJD has subordinate doctrines for each service (Army¹⁰⁵, Navy¹⁰⁶, and Air Force.¹⁰⁷) MW, MBL, and joint operations are the foundation for all of them. To maximize the potential of

limited air power for the joint fight, the Air Force centralizes decision making and decentralizes execution (air sorties).¹⁰⁸ The land doctrine from 2004 predicts the evolvement of distributed joint operations enabled by a Network Centric [military] Force (NCF) concept. The doctrine hypothesizes that “NCF is a networked military force that will generate increased combat power through employment of different types of [forces/munitions] throughout the joint operations area.”¹⁰⁹ Further, it argues “that the units of the future will represent a level of war (or command) rather than the actual size of the unit.”¹¹⁰ From the NJD and the service doctrines, the NAF’s vision of operational art becomes clear: MW, MBL, and joint operations drive the development of the NAF.

The Norwegian Defense Command and Staff College (NDCSC) argues in its publication “*Joint Operations Insights*” that solid military components working together is the foundation for joint operations.¹¹¹ NDCSC argues for flexibility and adaptability, and he implies that the NAF does not need a new tool; it needs to sharpen its ‘axe.’¹¹² NDCSC argues in line with the NAF that a balanced NAF in itself maximizes inter- service synergy.¹¹³ Optimizing cooperation requires a cultural change; one cannot as Harald Høiback says, “choose between minimum or maximum [jointness],”¹¹⁴ stay out of each other’s way, or integrate to reduce each other’s weaknesses and accentuate strengths.¹¹⁵ Norwegian doctrine talks of joint operations, but no doctrine contains evidence that suggests the full integration of all services into a joint force. The NAF owned magazine “*F*” recently interviewed the service commanding generals (CG) (and admiral); statements confirm that the CGs focus on doing *their part* in the joint defense of Norway, rather than conceptualizing what the joint vision should be. All CGs raise concern of their services’ size; the services’ structures are either too small, lack equipment or capabilities, or they are undermanned.¹¹⁶ The underlying assumption in the interviews suggests that the CGs are measuring

their services' potential against the renewed Cold War scenario and the linear peripheral concept. This makes sense given the current geopolitical situation with Russia, but it also suggests a continued Cold War pattern of thinking.

Insights from Norwegian Doctrinal Thinking.

The Norwegian doctrinal approach to contemporary operational art and warfighting is an open-ended one. MW and MBL serve as guiding theories, but the NJD does not outline an operating concept. The overarching theme is joint operations. To that end, it is an interesting statement that "In Norway, operational art is not connected to any one organizational level [or type], but rather a discipline that leaders at every level must master."¹¹⁷ The NJD emphasizes the *art* of converting abstract strategic (or political) goals with military means. With these traits and a focus on the art, the NAF's people are fully capable of collective orientation to design a new operating concept.

Recent Norwegian Defense Studies and Thinking

Recent defense studies reveal that the current solution to Norway's strategic challenge is not very innovative. The NAF conducted a military study called "*a changing NAF, the CHOD's Military Advice*" (CMA). The NAF presented the study to the Defense Minister in 2015. The key recommendation is to develop an NAF capable of defending Norway *as part of NATO* (emphasis added) where the military strictly prioritizes its structure.¹¹⁸ The NAF's structural recommendation is a classic service organization where the Army, in particular, relocates and rebuilds combat power closer to Russia in the High North.¹¹⁹ The central idea in the CMA is very similar to the Cold War peripheral defense concept, only with what the CHOD calls a *minimum* NAF with state-of-the-art technology with the risk of losing flexibility. One can view the advice as unimaginative and

stovepipe-thinking when contrasting it with the NJD's vision of open-mindedness, creativity, leadership, operational art, and joint focus.

The Expert Commission derives five premises for a new operational concept from its study: a dispassionate and rapid assessment of the nature of the threat, an immediate ability and will to respond to aggression, capability to handle challenges stemming from asymmetry [with Russia] and distance [in the High North], a strong and customized national effort, and early allied engagement.¹²⁰ The Expert Commission further states:

In the event of a serious security crisis or a strategic assault in forward locations, resistance in the land domain is crucial... the Norwegian authorities must send additional forces to the area as quickly as possible. The intention will be to demonstrate the violation of Norwegian sovereignty and to trigger the Alliance guarantee through an active response. The initial aim of the military will be to disrupt the intruder and deny him the opportunity to utilize bases and infrastructure.¹²¹

To achieve this the NAF must, fully in line with NJD, execute a relentless response to any threat with the utmost speed. In other words, achieve the strategic and possibly ill-defined goals with military means as a response to a surprise assault as quickly as possible.

The Long-Term Defense Plan

From the CHOD's military advice and the Expert Commission's study, the Ministry of Defense (MoD) developed the Long-Term Defense Plan (LTDP). The LTDP identifies Russia's enhanced military capability as the most significant factor in Norwegian defense planning.¹²² The key challenges the LTDP addresses are increasing complexity and technology proliferation including electronic warfare capabilities, cyber, and space weapons.¹²³ The LTDP presents a solution that is above all an investment in what the MoD refers to as strategic capabilities; these are submarines, F-35 fighter aircraft, air defense, naval surveillance aircraft, and intelligence

capabilities. The LTDP elaborates on how the NAF must adjust its structure to ensure the most effective use and modernization of the overall *joint force*.

The Land Power Study

In 2016, the MoD ordered the CHOD to conduct a Land Power Study (LPS) in order to “determine how the [NAF can best develop] the Army and Home Guard (land power) within the economic frame, to meet today and tomorrow’s [security] needs” (original emphasis).¹²⁴ The LPS emphasizes the challenge of countering Russian nonmilitary means better than for instance the Expert Commission; however, it focuses mainly on defensive high-intensity ground operations.¹²⁵ The latter is key because it relates back to the renewed Cold War scenario. Therefore, the LPS also uses a renewed scenario to support its ideas, thus demonstrating an underlying Cold War mindset; contextually however, an invasion in Finnmark scenario makes sense for the LPS.

The LPS acknowledges that Norway can never face a Russia with military volume; therefore, Norway must operate with an indirect approach strategy—i.e. strike the enemy’s critical vulnerabilities, in all domains, and above all avoid a Clausewitzian decisive battle.¹²⁶ The LPS states that for a full exploitation of the NAF’s *joint* potential it must organize, train, and equip¹²⁷ and aim for a modern land power in concert with a new operating concept.¹²⁸ The underlying assumption in the LPS is that the future defense of Norway is a *joint maneuver warfare* fight where the NAF is the smallest force.

Insights from Recent Norwegian Defense Studies and Thinking.

Throughout the various studies conducted under the auspices of the MoD, it is clear that the Norwegian military has not yet come to grips with the fundamental challenges of the 21st century situation. As with DA91, planners revert back to what they know; linear Cold War thinking and *planning*. There is a low risk for an invasion, so the focus on strategic assets makes sense in

that context,¹²⁹ but it drives the discourse onward with an assumption that balancing the service ‘silos’ is more important than joint synergy i.e. combat power. The defense studies should have done a better job of synthesizing the combat lessons from Afghanistan with feedback from the contemporary operational environment and see how it applies to a conflict with Russia. This could have created other ideas than prioritizing strategic assets, which is in essence designed to fill the void in NATO’s strategy and above all strengthen United States-Norwegian relations.

Alternative and Independent Military Thinking

Recent independent work can contribute new ideas to overcome some of the limitations and build on some of the inherent advantages in Norwegian security. Two Norwegian Special Operations Forces (NORSOF) officers represent a different school of thought in the realm of Military Assistance (MA). They use Norwegian security and defense policy pillars of deterrence and reassurance coupled with MA to drive their argument. They argue for three courses of action (COA) where NORSOF can augment the NAF’s fight against Russia. COA 1 is MA to support deterrence. NORSOF and allied SOF assist the Home Guard (HG) in countering Russian nonmilitary means. NORSOF capitalizes on the HG’s local knowledge and capability to detect anomalies. In addition, MA operations will provide HG with access to joint assets and high-level decision-makers.¹³⁰

The second COA, MA in support of reassurance asserts that SOF is diplomacy by other means. The idea is that NORSOF can prevent aggression by building trust and personal relationships with RUSOF and facilitate for relationship building between senior military (and political) leaders.¹³¹ Reassurance and bilateral trust with Russia is key relative to the contemporary geopolitical situation; Russia does not trust NATO.¹³² This COA requires deep understanding and knowledge of Russia and Russo-Norwegian history.

The third COA is MA in support of negotiations, where NORSOFF supports the Norwegian government with conflict resolution and facilitates negotiations with military advice. The Oslo agreement is a historical example. This represents nothing new, but the idea is interesting because it suggests civilian-military *integration* and unity of effort. This is key in countering Russia too. Like COA 2, it is imperative with personal relations and networks.¹³³ It is a poor choice to make it exclusive to NORSOFF because countering Russian nonmilitary means requires integration, cooperation, and expertise that lies outside NORSOFF's tasks, according to the NJD.

The NORSOFF officers envision that NORSOFF leads the way in developing the Home Guard into a networked force, which in turn is enabling the Army's transformation into a swarm-like force. Further, the NORSOFF officers contemplate that NORSOFF leads doctrinal change by teaching the Army guerrilla tactics and directing long-range firepower against Russian targets. The strategic purpose is protracting the war to ensure NATO support. Finally, the NORSOFF officers envision that NORSOFF efforts facilitate Russo-Norwegian cooperation and inform decisions in the NAC as a way to ensure security in the High North.¹³⁴

The NORSOFF MA school of thought to the Norwegian strategic challenge is a valuable addition to the ongoing discourse. Its main focus is understandably on how NORSOFF itself can enhance Norway's capacity to reach strategic security and defense-political objectives relative to the deterrence and reassurance pillars. The underlying assumption however, offers the basis for a broader vision: well and broadly educated personnel with a wide network can enhance Russo-Norwegian cooperation. The ideas are sound, and if one changes the word NORSOFF in their 2025 vision with NAF the ideas become better. By creating a MA corps of officers and senior NCOs with broad education and knowledge, the NAF can assist itself in collective orientation and concept

development. Cooperation always yields results, and in a military as small as the NAF, it is wise to break down social and service barriers to increase cooperation and ultimately combat power.

Others also have ideas of ‘swarming’ concepts. Colonel Håkon Warø argues that a “BattleSwarm” doctrine is the right one for the NAF in the near-future.¹³⁵ The RAND corporation developed the BattleSwarm concept in 2000.¹³⁶ In short, a swarming force is a networked force consisting of small, semi-autonomous teams that seek to simultaneously attack the enemy from multiple directions utilizing elusiveness, superior situational understanding, and long-range stand-off weapons.¹³⁷ Going forward Warø correctly asserts that BattleSwarm can only work if small unit (team) leaders have the skills and education that higher commanders have today.¹³⁸ He argues for a “smaller, smarter, and more autonomous force.”¹³⁹ Capitalizing on the comparative advantageous quality (versus Russia) of the Norwegian soldier and the implemented MW and MBL mindset, it is possible to transform the NAF according to the BattleSwarm concept. High quality personnel can operate according to SOF principles (simplicity, speed, security, purpose, and surprise) and take initiative according the commander’s intent.¹⁴⁰ Another Norwegian advantage for the BattleSwarm, Warø argues, is that the terrain is well suited for elusiveness and concealed maneuver.¹⁴¹ Warø concludes that the Army should optimally retain mechanized combined arms forces, while developing a parallel swarming force.¹⁴²

From Norwegian advantages—terrain, human quality, and culture—Lieutenant (then cadet) Sebastian Langvad developed the Norwegian-Swarm (NS) concept. Langvad argues that the Army should maximize what he calls the Norwegian advantage, the human.¹⁴³ Langvad quotes social scientist Geert Hofstede who asserts that “Norwegian culture and society is characterized by low power distance, which makes it well suited for flat organizations and decentralized leadership.”¹⁴⁴ The difference between BattleSwarm and NS is that Langvad places more emphasis

on autonomy and less on technology. According to NS, several swarm teams will operate within a designated area according to an operational level commander's intent. NS seeks to maximize the element of surprise and continuous counterattacks while avoiding losses. If the enemy pursues, other teams will attack its flank and rear. This compels the enemy to become reactive to the swarm. Cooperation with civilians and the HG is fundamental to NS; the teams will collect intelligence and use civilian communication infrastructure to augment military communications.¹⁴⁵ Above all, NS will prevail by virtue of "the Norwegian soldier's personal initiative, professionalism."¹⁴⁶

If one assumes that the Norwegian soldier possesses the qualities attributed to him by Langvad and that Norwegian Swarm works, it is up to the Norwegian population—united under a *vision* and narrative—to bear the burden of protracted Clausewitzian people's war.¹⁴⁷ Protracted warfare is the fundamental key to NS; the idea is to utilize time and slowly inflict losses, and that eventually becomes too high for Russia.¹⁴⁸ The NS concept is very similar to the NORSOF school's third COA when it comes to cooperation with civilians. In practice, the NS will achieve the same effect, with the exception of the priority and access to decision-makers that SOF typically has.

The above thinkers have grasped essential features of a new Norwegian operating concept for fighting in the *time gap* in the event of a failure of deterrence. General Diesen developed an even further-reaching vision with the ISTAR^v concept. The ISTAR concept's hypothesis is that in order to revitalize the core of MW, i.e. outmaneuver the enemy (in all domains) through a rapid OODA loop, one must let technology and the transition to a network-centric NAF drive conceptual and organizational change.¹⁴⁹ The concept's core is that technology will drive a radical

^v Intelligence, Surveillance, Target Acquisition, Reconnaissance.

improvement of the ability to detect, decide, and engage^{vi} the enemy.¹⁵⁰ The ISTAR concept leans towards centralized decision-making and targeting, almost the opposite of NS. In theory, the core of the ISTAR concept, detecting, deciding, and engaging the enemy can significantly speed up the decision-making cycle.

Diesen argues that the NAF must create strategic effect with tactical assets, in other words, conduct operational art. In the renewed Cold War scenario, the military problem is time, distance, and forces available. According to Diesen, “the probability that the answer to [Norway’s strategic Challenge] is a downscaled version of the [Cold War era NAF] based on a traditional, mechanized [all-arms army] operating concept is practically equal to zero.”¹⁵¹ ISTAR teams, on the other hand, solve the time-distance problem because their strategic mobility is better than heavy armor and they are not interdependent as a mechanized task force is. The dilemma is that high strategic mobility often results in low tactical mobility because light vehicles in high numbers still require a lot of mobility assets.¹⁵² Diesen argues that ISTAR teams are the future maneuver units and that one must organize the NAF to bring 21st century Norwegian operational art to life.¹⁵³

Insights from Alternative and Independent Thinking

The three alternative concepts and MA school of thought that the NORSOFF officers, Warø, Langvad, and Diesen discuss are very similar. All of the concepts are human-centric, require highly qualified, educated leaders and soldiers, and a focus on MW. In addition, the concepts rest on utilizing the people; the Home Guard and conscription are foundational to wage a people’s war.¹⁵⁴ The underlying core of the concepts is a Sun Tzuian idea of formlessness.¹⁵⁵ Swarming and SOF MA support to the Home Guard seeks to develop a capability to switch between the orthodox and

^{vi} This “triad” is very similar to the D3A (Decide, Detect, Deliver, Assess). process that the United States Military uses for joint targeting in JP- 3-60.

unexpected to disorient the enemy and strike his critical vulnerabilities. Formlessness for a military organization takes shape in the cognitive domain. As long as the enemy observes a “formless” opponent, it will increase confusion and create menace. BattleSwarm and Norwegian Swarm will slow down the operational tempo and protract the war with autonomous and semi-autonomous teams. Hence, the latter concepts embrace MBL over MW. The ISTAR concept emphasizes a high operating tempo with real-time targeting and centralized decisions, ergo the ISTAR concept value MW over MBL. All three concepts emphasize *joint synergy*, and the authors imply that full implementation of the concepts will require radical structural change. A common deficiency is that they all use the renewed Cold War scenario to justify their reasoning. Similar to what Gjeseth describes in his Cold War work, the discourse is army or land centric. This is problematic because it unintentionally (and possibly unconsciously) reinforces Cold War thinking.

Multi-Domain Battle.

The United States is Norway’s essential ally; the ongoing conceptual discourse in America highlights that the future involves joint forces fighting across multiple domains. The US Marine Corps and the US Army in cooperation with the rest of the US Military are developing the Multi-Domain Battle (MDB) concept.¹⁵⁶ The military problem is almost identical with the one the Marine Corps Operating Concept describes: “US forces... are not sufficiently trained, organized, equipped, nor postured to deter or defeat highly capable peer enemies to win a future war.”¹⁵⁷ From the problem, MDB seeks to evolve AirLand Battle (ALB) into MDB, using a combined arms methodology to achieve cross-domain synergy, much like AirLand battle seeks to achieve synergy in air and land (and maritime) domains. MDB is a response to contemporary developments, among others, Russian New Generation Warfare.¹⁵⁸ The latter is key because it sets the stage for a global

competition in a polarized world. Military services understand that, and therefore develop MDB in a joint cooperation.

US Army General David Perkins describes that winning is when competition does not develop into war in the conflict continuum (figure 6). Perkins frames the future operational environment using ALB as a cognitive tool to conceptualize MDB. If one compares MDB to Russian NGW it becomes clear how Russia and the United States (and NATO) compete against each other in the cognitive battlefield where the goal is to outmaneuver the other and achieve a position of relative advantage in accordance with the Maneuver Warfare theory.

The US Army and US Marine Corps summarize MDB like this:

*Combined Arms for the 21st Century requires ready and resilient Army and Marine Corps combat forces capable of outmaneuvering adversaries physically and cognitively through the extension of combined arms across all domains. Through credible forward presence and resilient battle formations, future Army and Marine Corps forces integrate and synchronize capabilities as part of a joint team (emphasis added) to create temporary windows of superiority across multiple domains and throughout the depth of the battlefield in order to seize, retain, and exploit the initiative; defeat enemies; and achieve military objectives (Original emphasis).*¹⁵⁹

General Perkins says that it is critical to understand the ideas of MDB to remain in the game and win the competition. MDB is still a draft-concept, but it is obvious that it will drive organizational change, and the key word is joint.¹⁶⁰ The US Army experiments with a so-called Multi-Domain Task Force capable of projecting power and influencing (kinetic and non-kinetic) in all domains under a single commander.¹⁶¹

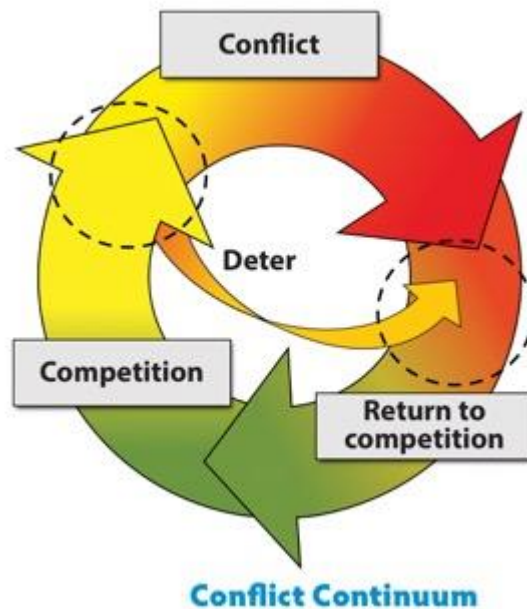


Figure 6 Conflict Continuum.
Source: Perkins, Military Review, Nov-Dec 2017 p10.

Insights from of the Doctrinal Lens.

The Norwegian doctrine and contemporary thinking is partly in line with the American discourse. MDB takes 21st century challenges into account, and the Multi-Domain Task Force demonstrates a break in stovepipe thinking. A 2017 Army major and graduate of NDCSC sees the need to develop both Norwegian doctrine and operating concept to face contemporary challenges. The major asserts that Norwegian MLB and the NAF's personnel are fully capable of both leading change and executing MDB. However, the major restricts his study to how MDB applies to

Norwegian *Land Power* and not the whole NAF.¹⁶² General Mark Milley says “in the past, changes in the character of war, the elements, were all evident prior to that war... People couldn’t *connect the dots*, they couldn’t anticipate. It is our *collective* task to do it better.” (emphasis added).¹⁶³ For Norwegian future success against Russia in the *time gap*, the NAF needs to break the Cold War mindset, quit stovepipe thinking, and connect the dots that the feedback from the operational environment provides.

General Diesen asserts that historically one needs a command climate and culture for innovation to become a learning organization.¹⁶⁴ Diesen argues that the NAF needs to change its mindset and accept feedback from the operating environment instead focusing on retaining the services as they exist.¹⁶⁵ Current Norwegian doctrine, alternative thoughts, and MDB are sound foundations that the NAF must capitalize on and evolve into the future. MBL, and the NAF’s human capital are key ingredients that can change NAF’s culture and spark its interest to become a true learning organization. John Boyd’s theories offer a way to become a learning organization that can thrive in uncertain environments while sustaining the ability for vitality and growth in Boydian terms.

Theoretical lens: John Boyd et al.

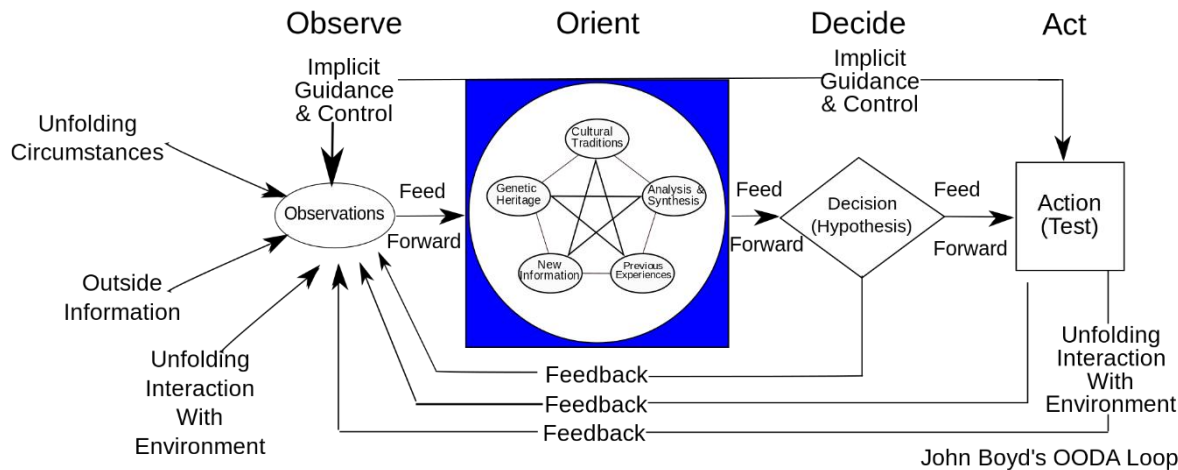


Figure 7 John Boyd's OODA Loop.

Notice the feedback from and interaction with the environment. Note how orientation shapes observation, shapes decision, shapes action, and in turn is shaped by the feedback and other phenomena coming into our sensing or observing window.

Also note how the entire “loop” (not just orientation) is an ongoing many-sided implicit cross-referencing process of projection, empathy, correlation, and rejection.

Source: John Boyd, *The Essence of Winning and Losing*, p6.

Frans Osinga is one of a few true Boyd scholars. His seminal work *Science, Strategy and War* is an in-depth study of Boyd's ideas. Boyd's theories stem from human cognition, social and political science, systems, chaos and complexity theories, economics, physics, math, quantum mechanics, thermodynamics, and many other fields.¹⁶⁶ Boyd's main theme is, according to Osinga, “the ability to evolve, to adapt, to learn and deny such capability to the enemy (original emphasis).”¹⁶⁷ Osinga sees Boyd's discourse as a “general theory of strategic behavior of complex adaptive systems (CAS) in adversarial conditions.”¹⁶⁸

Boyd argues in his essay “Destruction and Creation” that the goal of every individual and organization (or CAS)—which Boyd metaphorically sees as organisms (or open/nonlinear systems)—aims to “survive at its own terms and to improve their capability for independent action.”¹⁶⁹ Through a systemic view coupled with science, Boyd argues that it is impossible to determine the character of a system within itself and if one tries it will lead to confusion and

disorder.¹⁷⁰ The latter is abstract and difficult to comprehend. The value of the argument is if one tries to sub-optimize a concept down to the smallest detail, the level of uncertainty will paradoxically increase and lead to internal confusion and disorder (entropy). The consequence of sub-optimizing in a complex, competitive world is that one develops rigidity. As such, the mental model of the concept one tries to develop actually moves further away from reality when one tries to perfect it in detail. The LTDP and the LPS aim at a sub-optimal solution. According to Boyd's theories, this will lead to internal entropy. Therefore, a sub-optimized concept where the NAF extracts the maximum potential from every entity in the system is inadvisable. In effect, sub-optimization will paradoxically reduce the capability for the NAF to survive on its own terms; sub-optimized systemic efficiency becomes the enemy of adaptability.

The NAF's top priority is situational awareness (SA), which suggests a natural quest for certainty.¹⁷¹ By Boyd's theories, intelligence predictions, like the renewed Cold War scenario, will eventually destroy themselves. Unexplained anomalies, inconsistencies, and ambiguity will emerge regardless of the quality of Norwegian intelligence on Russia. Boyd divides conflict into three interconnected categories of conflict:^{vii} moral, mental, and physical.¹⁷² For the NAF to retain its capability for independent action on its own terms in the *time gap*, it must continually evolve, exploit insight (knowledge), take initiative, be highly adaptable, and execute operations with variety and rapidity while maintaining internal harmony. In other words, penetrate Russia's system morally, mentally, and physically to operate within Russia's cognition-time-space or OODA loop. To develop that ability, the NAF must aggressively share intelligence within itself to build a holistic and general mental model of contemporary Russian operational art. This will create what General Stanley McChrystal calls shared consciousness. A shared mental model within the NAF

^{vii} Boyd also categorizes attrition warfare. Attrition warfare is not within the scope of this study.

cannot contain all details, but it will be more resilient than if the NAF tries to create one at the onset of war, and less likely to destroy itself completely, thus giving the NAF an upper hand on the cognitive battlefield.

Operating inside Russia's OODA loop is as the Expert Commission says: it is a unified effort between the NAF and its allies.¹⁷³ For Boyd, *orientation* is the *schwerpunkt*. Boyd argues that menace, ambiguity, deception, rapidity, uncertainty, and *mistrust* (emphasis added) cause friction, and that implicit (and shared) understanding, trust, cooperation, simplicity, and focused direction reduce friction.¹⁷⁴ Therefore, building shared consciousness through collective shared *orientation* (OODA-looping) at all levels within the NAF will improve the NAF's organic fitness. Fitness builds *cooperative* centers of gravity (CoG) within the NAF and speeds up the OODA loop. As such, the NAF must exploit its small size and egalitarian culture to maximize harmony and to avoid stovepipe thinking.¹⁷⁵ If the NAF does not do so, Russian NGW can create paralysis and systemic collapse, thus getting inside Norway's OODA loop.

Boyd aimed to teach his ideas through a continuous discourse; discourse is the central feature in the field of systemic design.¹⁷⁶ This allowed him to evolve his ideas by combining analysis and synthesis as a way of thinking.¹⁷⁷ He uses an analogy of building a snowmobile. In short, he illustrates how skis, an outboard motor, a handlebar, and rubber treads together become a snowmobile.¹⁷⁸ This simple analogy coupled with what Boyd sees as the strategic game "*interaction and isolation*" (original emphasis)¹⁷⁹ is what it takes to win in a highly complex and hostile environment.¹⁸⁰ Boyd suggests that all organizations move into "a paradigm for survival and growth."¹⁸¹ He says:

Since survival and growth are directly connected with the uncertain, ever-changing, unpredictable world of winning and losing we will exploit this whirling (conceptual) spiral of orientation, mismatches, analysis/synthesis, reorientation, mismatches, analysis/synthesis...so

that we can comprehend, cope with, and shape, as well as be shaped by that world and the novelty that arises out of it.¹⁸²

From this, Osinga makes it clear that “to survive and prosper in a nonlinear world dominated by change, novelty and uncertainty, *adaptation*” is key to Boyd’s strategic theory. This is an excellent starting point for a discourse on how to develop a new operating concept.

Boyd’s theories—particularly the OODA¹⁸³ loop—provide a model for creating concepts through destruction and creation.¹⁸⁴ The OODA loop requires that the NAF gains a true Sun Tzuian understanding of itself. To create an operating concept, the NAF must take apart its current compilation of ideas as yet unsynthesized in the destruction. Through orientation, it must destroy biases that stem from genetic heritage, cultural traditions (in essence service heritage), and previous experiences. These are unavoidable baggage that color perceptions. Collective orientation and discourse can mitigate such biases to a great extent. From there, the NAF must create a novel mental model that merges all the *observations* from the strategic, historical, doctrinal, and contemporary military thinking lenses. The NAF must create a concept by absorbing available information through discourse, critical thinking, analysis, and synthesis. Next, it must develop a hypothesis while incorporating constant feedback and then test the concept within the expected operating environment and match it up with reality. This process must cycle through the destruction and creation process multiple times, combining deduction and induction, until the NAF can create a unifying vision and narrative that makes sense in the 21st century operating concept.

To unify Norway, the highest level, both politically and militarily, must create a unifying vision. Boyd says:

[W]hat is needed is a vision rooted in human nature so noble, so attractive that it not only attracts the uncommitted and magnifies the spirit and strength of its adherents, but also undermines the dedication and determination of any competitors or adversaries. Moreover, such a unifying notion should be so compelling that it acts as a catalyst or beacon around

which to evolve those qualities that permit a collective entity or organic whole to improve its stature in the scheme of things. Put another way, we are suggesting a need for a supra-orientation or center-of-gravity that permits leaders, and other authorities, to inspire their followers and members to enthusiastically take action toward confronting and conquering all obstacles that stand in the way.¹⁸⁵

This quote is an example of what unified the Norwegian people during the German occupation from 1940-1945. The symbol and monogram of His Majesty King Haakon VII and his slogan “All for Norway” unified the people in a noble vision to resist the Germans. A noble vision is the one key injection that is absolutely imperative for the NAF and Norway to fight and win against Russia in the *time gap* and also in the event of an occupation.

Summed up, Boyd advocates “an agile cellular organization—networked through [a noble vision], experience, trust, aim and orientation pattern—that thrives in uncertainty and fosters innovation, creativity, and initiative.”¹⁸⁶ For Boyd, people, ideas, and hardware merged with a progressive culture were absolute keys to success.¹⁸⁷ That means that the NAF must, as Langvad suggests, fully exploit the comparative advantage of the Norwegian people to develop soldiers and leaders who can ultimately wage a people’s war in accordance with two of the four traditional pillars, conscription and total defense. The OODA loop’s full meaning and emphasis on continuous *feedback* from the operational environment provides a valuable tool for learning and evolving for the NAF. Boyd argues for leadership and appreciation to command an organic whole.¹⁸⁸ The NAF is well suited for that by its MBL heritage.

One can tap a more recent theory for its potential contribution to a new NAF operating concept: General McChrystal’s idea of a team of teams, and a related but more generalized version developed by Chris Fussell for the business world. These ideas address the ‘tribal’ character of

militaries and their inherent conservatism. They conquer that tendency through restructuring under a new leadership philosophy.

McChrystal asserts that technology creates an interdependent and fast-paced world, i.e. a complex world. He further asserts that this makes the world less predictable or, as Boyd would say, an uncertain world. McChrystal finds that this environment requires a new type of leadership and organization to cope with the rapidly unfolding circumstances.¹⁸⁹ McChrystal says that “[the enemy] achieved adaptability by way of their networked structure which could ‘*organically reconfigure*’ with surprising agility and resilience.”¹⁹⁰

McChrystal’s challenge was not unlike that of the NAF. The NAF demonstrates tribal character through strong service-cultures and a history of rivalry. McChrystal faced severe internal pushback, but he could show how effective Joint Special Operations Command (JSOC) could be when it cooperated well internally. Traditional methods of hierarchical organizing are very efficient, but they are not effective on the complex 21st century battlefield. Hierarchies are simply too slow to *learn* and adapt as teams.¹⁹¹ McChrystal emphasizes that “[traditional military organizations] have produced barriers to information sharing and the kind of systemic understanding they need”¹⁹² a statement that holds true for the NAF too.

In a nutshell, McChrystal argues the same thing as Boyd. To operate inside the OODA loop of a highly adaptable enemy and penetrate his moral-mental-physical system, one has to allow everyone to develop ideas, share information, and most important cooperate and communicate across hierarchical silos.¹⁹³ This is basically an argument for discourse and systemic design. Regarding leadership, McChrystal argues for empowered execution; that is inherently the same as *auftragstaktik* or MBL.¹⁹⁴ For that to work, he as commanding general of JSOC had to keep his “Eyes-on, Hands-off.”¹⁹⁵

In related fashion, Fussell's main idea is that *one mission* unites a corporation. Fussell understands that business leaders are not going to totally transform the organizations, so he offers a hybrid model as a solution. Basically, that is a hierarchical model that allows and encourages information sharing across silos by creating and utilizing already existing informal relationships.¹⁹⁶ Going forward, Fussell, like Boyd and McChrystal, says that one needs an aligning narrative to "force member to choose between small-tribe norms and the one mission of the enterprise."¹⁹⁷ Essentially that is the noble vision Boyd argues for.

JSOC's primary tool for aggressive information sharing and creating shared consciousness was a daily Operations and Intelligence (O&I) brief and liaison officers (LNO). A common military term is 'need to know.' McChrystal flipped it and moved towards a principle of 'who does not know?' The O&I broke down barriers and gave JSOC members access to its commander every day. McChrystal would use the opportunity to continuously communicate his priorities and more important, the noble vision/common purpose/aligning narrative JSOC operated by. That built trust across silos.¹⁹⁸

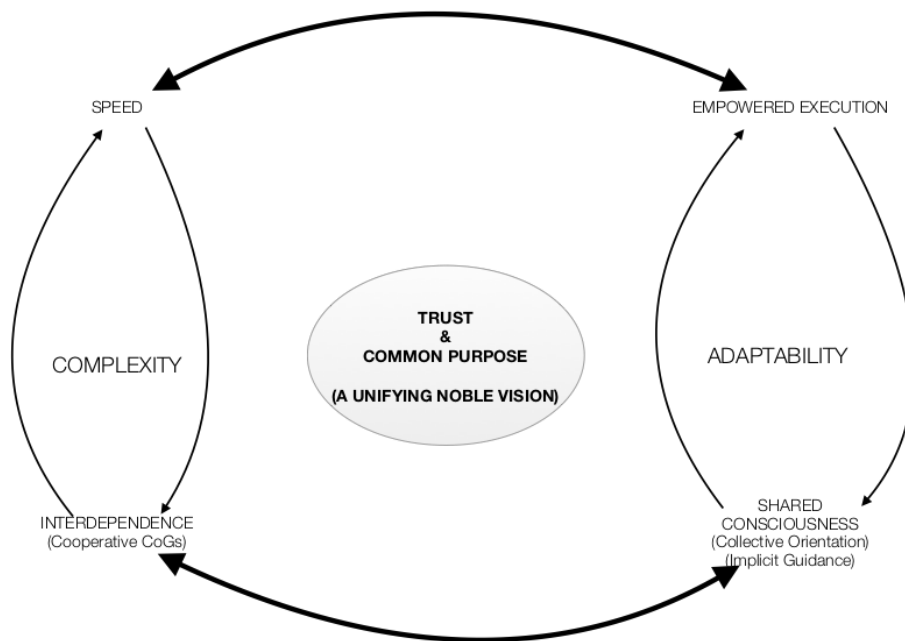


Figure 8 General McChrystal's Model.

Boydian terms are added in parenthesis. Note the similarity to Boyd's OODA loop and the focus on a common purpose/vision and shared consciousness/collective orientation. Source: Team of Teams p245.

Carl Von Clausewitz understood the interdependence in a military unit and the complexities and nonlinear nature of war.¹⁹⁹ He saw, just as Boyd and McChrystal does, that military organizations generally are slower to react than the enemy and the operating environment they try to control.²⁰⁰ In other words, Clausewitz acknowledges the need for interaction with the enemy and the operating environment.²⁰¹ He says "it is impossible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at any time."²⁰² He also says that "the same [observation] can elicit differing reactions from different peoples, and even from the same people at different time."²⁰³ As such, Clausewitz in a sense argues the need

for collective orientation to create trust and common purpose. This will increase the tempo of the OODA loop in a complex world.

Clausewitz argues that a nation that utilizes people's war will add immense strength to itself and gain superiority over an adversary. His challenge is merely how a nation should utilize people's war to win.²⁰⁴ This is well in line with two of the traditional Norwegian defense pillars, conscription and total defense. Clausewitz argues that there are certain conditions that enable people's war²⁰⁵; Norway arguably possess them all, and it is clear that geography, protraction, and human capital sit at the center of it. The swarming concepts encompass people's war well. Applying Clausewitz's people's war theory, Norway's fate does not hinge on a Russian surprise assault and observed *fait accompli*. Norway must not forego post-invasion efforts or assume part of the country is lost.²⁰⁶ Clausewitzian people's war rests on the notion of faith, or as Boyd would say a unifying vision. His Majesty King Haakon VII refused to accept German demands in April 1940; this both empowered and unified Norwegian resistance. Refusing potential Russian demands is equally important today. Norwegian capability for people's war rests primarily with conscription and the Home Guard, but perhaps more importantly, it rests on a strong unifying vision should the worst happen.

Insights from of the Theoretical Lens

Summed up, Boyd, McChrystal, Fussell, and Clausewitz's theories are relevant for the NAF because they demonstrate that traditional hierarchies are ill-suited to cope with a rapidly changing, complex, and hostile environment, i.e. 'closed system organizations' (efficient factories/bureaucracies) will fail against complexity. Boyd coupled with the JSOC authors show that an operating concept and structure is directly related to its battlefield performance. Key words are egalitarian leadership, mutual trust, information sharing, networking, and improved fitness as

an organic whole. The NAF must overcome its own inter-service barriers; what is best for the services is not necessarily what is best for the NAF.

The OODA loop requires destruction of the NAF's mental model of the operational environment and creating a new one based on *interaction* with and *feedback* from actors in the operational environment. Clausewitzian theory supports the idea that an operating concept must constantly evolve. The NAF must share its mental model as broadly as possible, which means breaking down silos and stovepipe thinking. Common culture requires a shared warfighting philosophy under a noble vision, in essence what MCDP-1 *Warfighting* aims to create for the Marine Corps.²⁰⁷ The real goal of "OODA looping" is operating without tight control—to allow for adaptation and adjustment through the feedback loop even as individual units react quickly to their individual observations. Achieving that is the true value of the OODA loop.

Synthesis

Preliminary Findings:

The above analysis constitutes only a first step toward a more comprehensive, system-wide "design" effort within the NAF. The NAF itself must conduct the design. As the problem is wicked, the NAF as a whole will never agree on what the problem is, or any one hypothesis of the solution. The top nodes, such as the commanding generals and the MoD, will not agree on how to solve it, or what the desired end-state is. This study highlights the complexity of the problem. The challenge for the NAF is to disassemble its old thinking and build something new and more suitable to the 21st century. Six interrelated findings emerge from this study:

- First, the NAF must relearn and understand the historical context. Norway's strategic importance for transatlantic security is unchanged; Norway still sits in the middle of the Russian Bastion. That means that Soviet groundwork and maneuver plans provide valuable insights for understanding Russian contemporary operational art.
- Second, the NAF must destroy and recreate its mental model of the how it fights Russia in the *time gap*. The NAF's most challenging task is to "defend Norway and allies

against... attacks.”²⁰⁸ Therefore, a new mental model must focus on *a war* with Russia (or other belligerents) and not *the new Cold War*. When a new concept emerges, the NAF can test it against the renewed scenario, and not the other way around. A combination of deduction and induction is necessary.

- Third, the NAF must capitalize on its approach to operational art founded in Norwegian doctrine. Maneuver Warfare, Mission Based Leadership, and Joint Operations are all ingrained in the NAF. The challenge is to evolve that heritage to face complexity; sub-optimizing the NAF creates rigidity, and rigidity loses against complexity.
- Fourth, the NAF must explicate systemic thinking. This contributes to collective OODA looping; focused direction and leadership can foster innovation and by that set conditions for vitality and growth.
- Fifth, to capitalize on collective OODA looping, the NAF must welcome and encourage alternative schools of thought. Again, this can spark military professionals’ interest for innovation, which contributes to finding solutions to Norway’s strategic challenge.
- Sixth, the NAF must connect itself to allied concepts such as Multi-Domain Battle and the Marine Corps Operating concept. The Expert Commission emphasizes seamless integration with NATO allies, above all the United States. Therefore, allied concepts will continue to inspire as much as to constrain the NAF in its creative design of operating concepts, structures, or Boydian snowmobiles.

The above findings coupled with traditional thinking constitute some ‘bits and pieces’ for the design. It is imperative that a new concept removes something; not everything has a place in 21st century warfare. In addition, every asset, organization or military system is economically sustainable when creating new capabilities, something has to go.²⁰⁹ In generating a new concept, the CHOD and the Minister (plus their staffs) cannot in Boydian terms *isolate* themselves. Reintroducing the planning trinity—MoD, NDRE, and NAF—to conduct constant *interaction* with the system can produce a lot of energy and change emergent behaviors. That way a broader part of the NAF can contribute to collective OODA looping by, with, and through communication across silos and up and down the hierarchy. Done with sufficient effort, a ‘new snowmobile with a large engine’ – the new concept to which Boyd aspired – can and will change the whole system. An important aspect of the design process is that it is never ending. Boyd would agree that if a

concept works, it is obsolete. Accordingly, the concept and structure must continually change and also the application of it against any enemies across all domains and across the conflict continuum. These findings are the foundation for the following simplified design and suggestion for a capstone concept.

Systemic Lens: A Mental Model of the Norwegian Armed Forces.

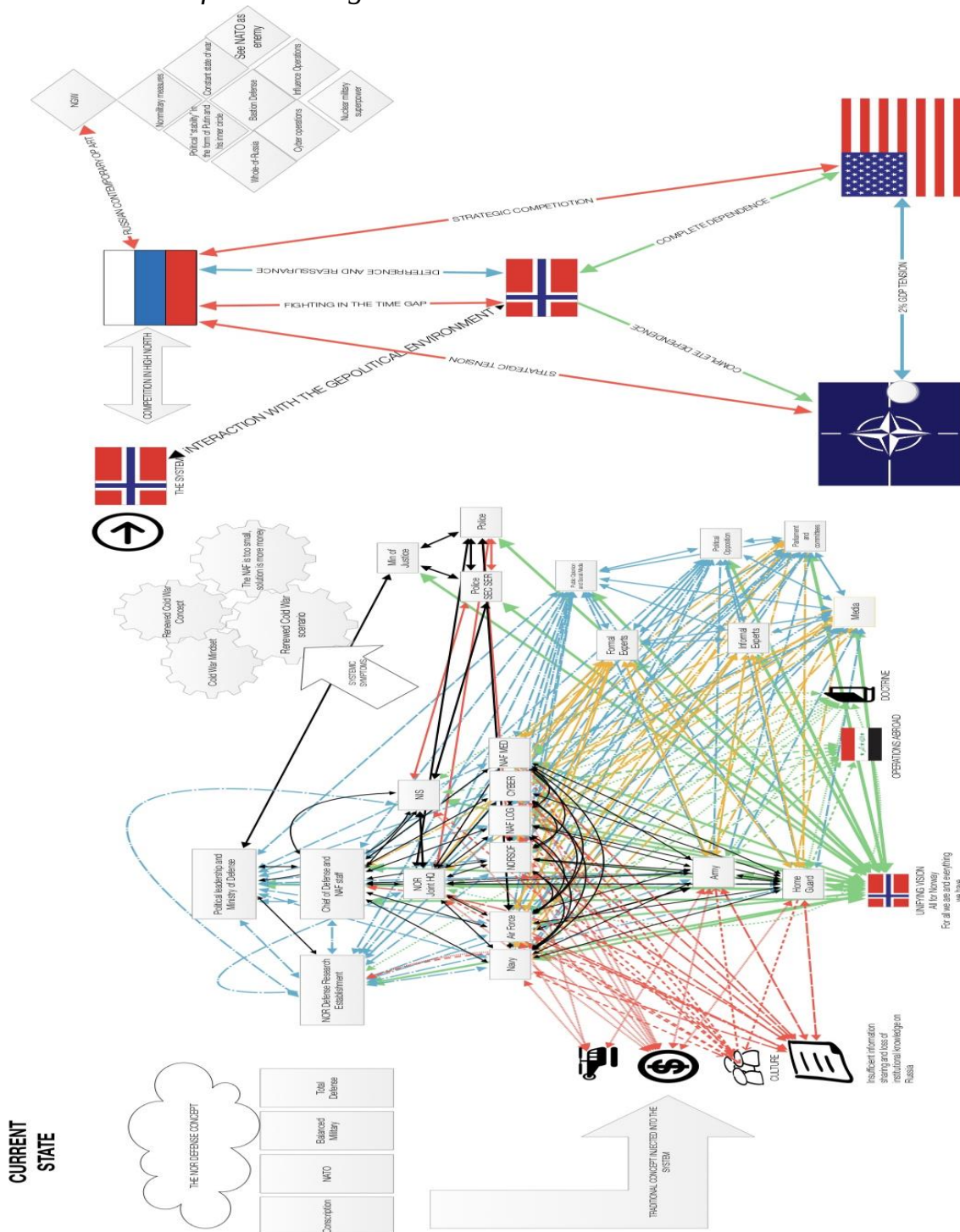


Figure 9 Systemic Analysis of the NAF's current state, traditional concept and operating environment.

Source: Author's Creation.

From the synthesis, it is clear that systemic thinking and understanding is key for 21st century warfighting. General Systems Theory (GST),²¹⁰ developed by Ludwig von Bertalanffy, recognizes similar patterns in physics, medicine, social science, economy, and philosophy; it states that there is a general law that applies to all systems.²¹¹ GST is a theory of ‘wholes’, where the whole is more than the sum of its parts.²¹² It starts at the top with the assertion that there is only one system: the universe. Every other system is connected to it.²¹³ There are closed and open systems (also known as linear/nonlinear or structurally complex/interactively complex systems).²¹⁴ The prominent feature of a closed system is that its behavior is predictable. A certain input to a closed system will always yield the same result. An open system is the opposite; one can break it down and understand its parts, but its emergent behavior is unpredictable. The understanding of a part in itself may not contribute to understanding the system per se.²¹⁵ All living things are open systems. A common example of an open system is the weather; it is vulnerable to initial inputs and therefore not predictable in the long term. This is the so-called butterfly effect—a butterfly that flaps its wings in Asia can potentially inject enough energy to the system to create a hurricane in America (or it may not)—which is the centerpiece for chaos theory.²¹⁶ GST provides valuable insights for how to think about the NAF and the operating environment in a systemic way.

There is another type of open systems already mentioned called Complex Adaptive Systems (CAS). A CAS consists of multiple interrelated parts. The parts have a high degree of freedom for independent action, which makes the system complex.²¹⁷ The prominent feature with a CAS is that it learns, adapts, and changes from experience and feedback. Feedback causes minor modifications that eventually change the systemic behavior. This makes a CAS capable of self-organizing. A military organization is in Boyd’s view a complex adaptive system.²¹⁸ Before

designing solutions, the NAF must develop systemic understand of itself and its interactions with the operational environment, including Russia.

To break the problem of the Cold War mindset and create an operating concept suitable for fighting Russia in the *time gap*, the NAF has to build a visual map of itself. The simplified mental model in figure 9 illustrates the NAF as a system and how it interacts with the operating environment. One can use a set of fundamental questions about the existing system to reframe the problem. These are as follows:

- What reinforces tension?
- What strengthens relations?
- What drives change?
- What resists change?
- What is the underlying assumption?

The following narrative describes the mental model depicted in figure 9.

The NAF is a complex adaptive system (CAS). The traditional four defense concept pillars—conscription, NATO membership, balanced military, and total defense—are the foundation for people's war. This conservative concept shapes the system and drives the national defense discourse. The NJHQ and the current 'plan' for fighting in the *time gap* is a heritage from the peripheral (territorial) defense concept where the Army is the centerpiece of a joint fight. The services aim at self-preservation. Conservatism and business as usual thinking suggest that the NAF have lost some ability to adapt and fight as joint force.²¹⁹ The latter is fueled by biases such as confirmation and sunk cost. Culture both reinforces and reduces tension pending on the issue. Joint operations, especially high-risk missions abroad unite people across services, and this is where culture reduces inter-service tension. Underfunding both drives and resists change. Lack of resources such as money, helicopters, and manpower can lead to creativity but also stagnation. The model demonstrates systemic rigidity, and the operational environment belongs in the realm of chaos and complexity. Combatting complexity with rigidity is unwise.

Black lines represent formal relations, red lines tensions. Green lines represent factors that reinforce joint cooperation. Blue lines are influence and informal relations, and the yellow represent backchannels that some use to reinforce their message or agenda.

The systemic symptoms are a sustained Cold War mindset and a firm belief that a conservative concept and service organization is the only way to fight in the *time gap*. This is probably not known or acknowledged broadly. The renewed Cold War scenario that the NAF and external entities use for long-term defense planning contributes to the symptoms. The paradox is that the NAF and the MoD acknowledge that fighting Russia is a task that Norway cannot handle on its own.

Offset to the bottom right there is a secondary system that has influence and backchannel lines connected to the primary system. This system contributes significantly to the systemic symptoms. There are multiple reasons for it; most important is that national core terms such as people's war, total defense, and visions like 'never again 9. April' are deeply rooted in the national identity. Conscription generates strong opinions amongst the people, and many have political influence on the development on the NAF. Key reasons why the NAF is slow to adapt include but are not limited to local district politics, self-interest, individual or collective /political gains, heritage and/or nostalgia with respect to what the NAF used to be, or what the perception of it was.

The system interacts with geopolitics and strategic actors such as Russia, NATO, and the United States. Paradoxically, the latter do not impact the system as military logic should. This problem suggests that the NAF changes because of social factors and domestic discourse rather than geopolitical situations. Possibly, the Norwegian defense discourse in preclude systemic change. These things combined form the underlying assumption of conservatism in the Norwegian discourse.

The land component has the most formal, tension, influence, and backchannel lines connected to it. This suggests that the land component relies on every other component when it operates as a warfighting component. This is not the case with for instance the Air Force or the Navy. The latter services can de-facto operate in isolation as part of the defense of Norway, and the Army cannot. The Army is the only service^{viii} that does not operate on a daily basis as part of the active defense and NATO operations in Norway (except readiness, training, and building situational understanding). All other services patrol, react, and act to surveil, counter, and show presence towards Russia in the High North. Therefore, there is a natural disconnect between the services.

The systemic map and analysis reveals three important reasons for this disconnect: cultural differences, resource allocation, and an erroneous underlying assumption within the NAF that the current concept and organization is suited to fight in a renewed Cold War scenario as a part of NATO.

Since the end of the Cold War, the Army has been primarily focused on operations abroad. The operations brought the Army valuable combat experience, primarily at the tactical level, but the operations also provided insight in allied combined joint operations.²²⁰ When the services deployed together as part of the operations, the cooperation between them worked well.²²¹ Since all the services, except the Army,^{ix} had their daily operations in Norway, the Cold War mindset

^{viii} The Army operates on the Russo-Norwegian border with a border-guard battalion. After the Cold War, this battalion transformed into a policing unit with a primary focus on the Schengen agreement and police tasks to uphold the specific rules and regulations in the border area. As of 2018, the border guard battalion is not a warfighting organization. The LTDP have ordered a transformation back to a warfighting organization, while still retaining the police tasks. For the purpose and scope of this study, the border guard battalion is not a factor that is assessed.

^{ix} Until 2014 when the Army increased its readiness in accordance with the geopolitical change in European security as a consequence of Russian operations in Ukraine.

and culture lived in the NAF.²²² Systemically, the NAF's culture is very conservative and rooted in its historical task, the defense against the Soviet Union, and it does not effectively absorb lessons from combat abroad.²²³

The MoD reduced the NAF from about 400.000 to 65.000 since 1985, for the most part in the land component.²²⁴ The secondary system reinforces the traditionalistic view and Cold War mindset through influence and backchannel lines. The key word is a *balanced* NAF; the systemic analysis reveals that there is a belief that balance by itself makes the NAF better. This suggests that both the formal NAF system and the secondary system suffer from several cognitive biases. The ongoing discourse is, according to political scientist Roar Wold, populist.²²⁵ This means that most of the secondary system reinforces a functional fixedness bias.^x In other words, social factors and populist rigidity dominate the discourse.²²⁶ The CHOD asserts in his 2018 annual speech at the Oslo Military Society, “[The NAF’s structure is reduced to a minimum” and “the [NAF’s] structure is being modernized and it assures a modern NAF in the long term.”²²⁷ This suggests rigidity towards sustaining concept and organization, and therefore the Cold War mindset lives well within the NAF. The mental model of NAF system reveals that even if it seems streamlined, it is ill suited for rapid strategic decisions or OODA looping as the Expert Commission also asserts.²²⁸ In line with this study’s thesis, the NAF must redesign its concept and structure to face complexity; it is likely that the biggest change must occur in the land component.

Insights from of the Systemic Lens.

In sum, the systemic analysis reframes the problem in contemporary terms: the NAF does not have a truly joint concept or structure suitable for fighting Russia in the *time gap* in the 21st century warfare. That problem seems simplistic, but is truly wicked.²²⁹ This means that the *mess*

^x Functional fixedness is a cognitive bias that involves a tendency to see objects as only working a particular way.

depicted in the mental model is a constructed problem; it is symptomatic of an even larger *messy* system outside the NAF, and different people will view it differently depending on their *observation and orientation*. No one formulation, understanding, or solution to the problem exist, only better or worse ones.²³⁰ The service CGs in the NAF all point to *joint* effort when speaking;²³¹ there is no doubt that the general officers understand the need to maximize Norwegian combat power through *jointness* and seamless integrations with NATO allies. General Diesen argues that “it is only when the CHOD and the Minister of Defense stand together that they have the necessary authority to in enforce radical change and the ability to break the NAF’s resistance towards change.”²³² Diesen is right to say the change requires a champion at the top, but to truly change culture and sustain innovation, one must generate understanding from the bottom. Moreover, the NAF system is vulnerable to internal tensions, influence lines, and backchannels from the outside secondary system. The interconnected systems will simply wait them out, and go back to their traditional behavior. Therefore, the NAF must address the wicked problem systemically through reasoning and discourse, i.e. collective OODA looping or design. This is the best way to develop a 21st century operating concept and structure.

Developing a Solution: A Design Approach.

By applying the methods of Systemic Design, one can both synthesize the fundamental problem to be solved and begin to identify the components of a solution. Systemic Design is emerging as the method of choice for developing operational art in “wicked problem” situations.²³³

Systemic Design (SD) stems from Brigadier General Shimon Naveh’s Systemic Operational Design (SOD) theory, which has its roots in GST.²³⁴ SD exists at three levels: mindset, methodology, and method.²³⁵ The mindset is in line with Boyd’s focus on interactions collective orientation, and the six methodology activities—inquiring, framing, formulating, generating,

reflecting, and facilitating--²³⁶ resemble Boyd's *discourse*. The methods—visualizing, modeling, and creating--²³⁷ are in essence a rewording of Boyd's destruction and creation. There are no set steps in design, but rather four general actions: describe the current and future desired states of the system, define and frame the problem or problem set, develop an (operational) approach, and reframe the problem through discourse and collective orientation. The US Army states that design is framing the environment, problems, and solutions.²³⁸ The products can include mind maps, rich pictures, causal loop diagrams,²³⁹ or anything that can visualize and tell a story that makes sense to the design team.²⁴⁰ In John Schmitt's metaphor, "design is the thematic sketches of an architect based on conversations (discourse) with the client and an appreciation of the surrounding environment within the building will exist."²⁴¹ Basically, design is an extension of Boyd's theories, although he never used the term. Designing is not planning, but conceptualizing in the abstract sense while planning is making a blueprint that someone can execute.²⁴²

First, the NAF must center in on framing the problem systemically, and from there visualize the future NAF fighting Russia in the *time gap*. This collective OODA looping design process will lead to shared assumptions under a variety of circumstances or contingencies. Discourse will allow articulation and identification of assumptions, biases, etc. that currently impede a common vision; discourse allows the gradual synthesis of disparate viewpoints into a shared orientation to the operating environment. A properly structured design team will ensure the presence of differing viewpoints so as to avoid groupthink and service preferences. Further discourse, however, may allow for a refined approach to understanding how the various schools of thought might serve a new conceptualization of the problem and its possible solution. Design sets the problem and NAF historical, doctrinal, and leadership heritage should be well suited to

design as an operational art as it aims to convert strategic goals into tangible actions suited to fight in the *time gap*.

A Contribution to a Norwegian Capstone Concept 2030 vision.

The following simplified design and narrative is a contribution to the ongoing discourse. It is a brief description of a capstone concept based on John Schmitt's guide to writing concepts, and figures 9-11 visualizes it. Schmitt argues, "a capstone concept is the most fundamental operating concepts that [...] articulate in broad terms the way military art and science is applied across the fullest possible range of military operations. A capstone operating concept is the primary description of how a joint force [...] operates."²⁴³

The central idea is that the NAF fights and wins as an integrated joint force. The successful deterrence and ultimately a fight for Norway rests on the notion of conscription, total defense, i.e. Clausewitzian people's war. The NAF exploits the Norwegian soldier, citizen, and citizen-soldier to the maximum extent under a unifying noble vision of Norwegian identity, the symbol of the flag and His Majesty the King. The NAF systemically recognizes the 21st century warfighting challenges, in particular Russian developments in operational art and the nonlinear whole-of-Russia approach. The NAF builds on its historical heritage, Maneuver Warfare mindset, Mission Based Leadership, and focus on Russia. The NAF reinstates institutional understanding of Russia and other potential threats. The purpose of the concept is to generate cross-domain synergy and combat power to fight in the High North and any other climates and places as a part of a NATO or international coalition. An integrated joint force addresses the military problem: countering Russian nonmilitary measures prior to an attack and fighting in the *time gap* in a complex 21st century operational environment. The NAF fosters cooperation with extensive use of LNOs across the NAF's joint forces to avoid sub-optimization and *unnecessary* developments of dual capabilities. Maneuver Warfare and collective OODA looping is imperative to achieve cross domain synergy especially in the cognitive domain. Contrasting the 2017 Long-Term Defense Plan with the Multi Domain Battle and Marine Corps Operating Concept in a fight against Russian New Generation Warfare, it becomes clear that the current NAF of today cannot *seamlessly* integrate with NATO. The new NAF must achieve seamless integration.

The NAF capitalizes on recent combat experience and cross-service cooperation from the wars in Afghanistan, Iraq, Libya, and the Gulf of Aden to drive change. Personnel rotation in the NAF is crucial for institutional learning. Competence and experience from war must transfer between the NAF's operating forces. The institutional part of the NAF develops in a joint fashion the art and science of war. The administrative part of the NAF ensures that manning and equipping of the NAF to meet contemporary and future requirements. The 2030 NAF recognizes systemic complexity and acknowledges that it

must continually change to keep up. The NAF follows four basic rules to achieve joint cohesion: continue to evolve, work closely together across fields of expertise, avoid ‘colliding’ (internal conflict), aim towards the noble unifying vision.

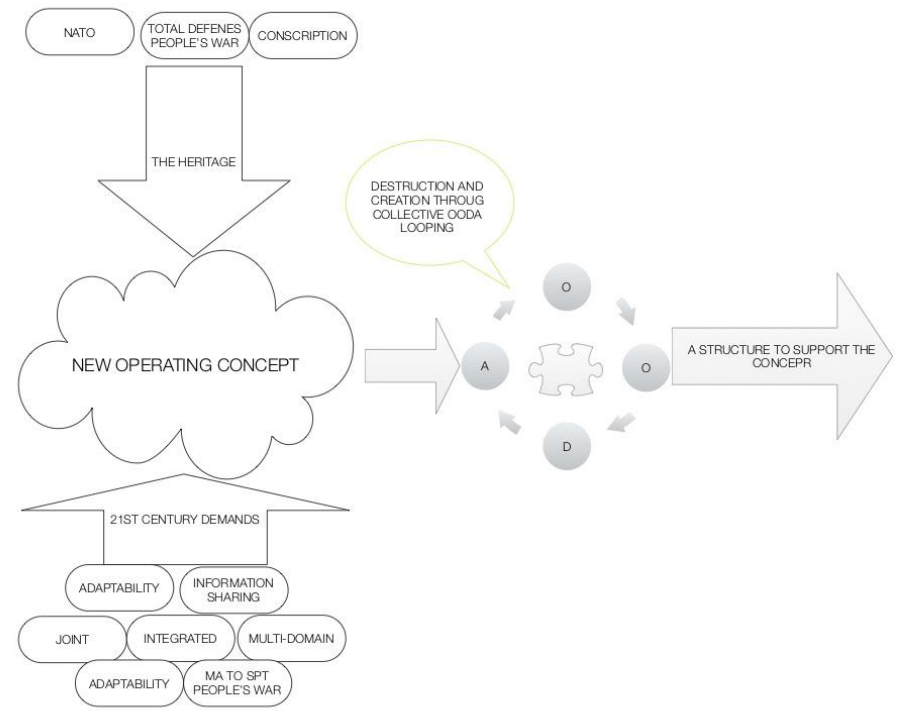
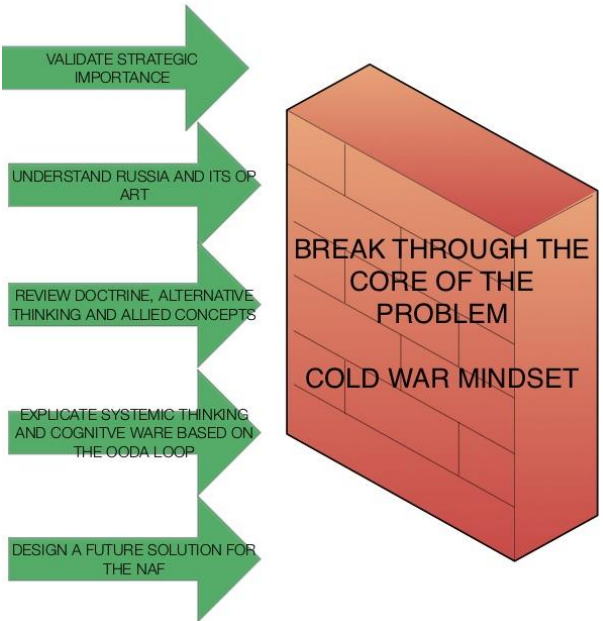
Since it is unlikely and unwise to pursue an extreme structural change in the realization of a new capstone operating concept, the NAF should start with creating an experimental expeditionary joint task force (JTF-E). JTF-E must be a multi-domain task force that contains land, air, maritime, SOF, cyber, intelligence, information forces, and interagency LNOs. Such a force can act as a primary source of continuous learning from combat operations abroad and experience across the range of military operations. The NAF must cycle people through JTF-E to avoid creating an A and B team or rivalry between JTF-E and the services. Once the concept, organization, and equipping of JTF-E proves its validity, the time will come to fully realize the new concept, redesigning and restructuring the NAF. Cooperation always yields results, and Norway and the NAF is small enough to take the lead and generate a world class, *true* joint force.



UNIFYING
VISION

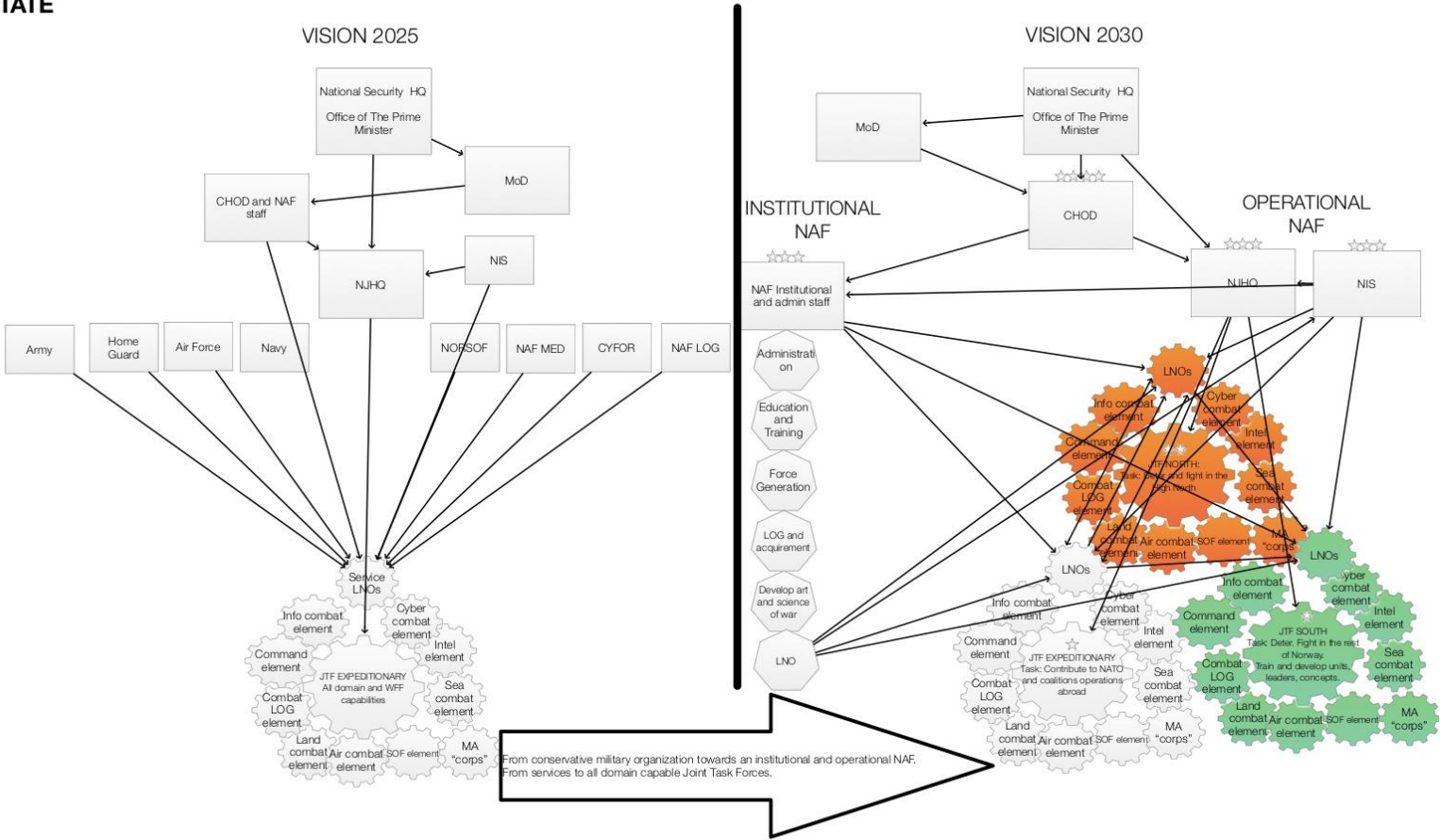


**DESIGN
APPROACH**



Source: Author's creation.
Figure 10 Design Approach

FUTURE STATE



Source: Author's creation.
Figure 11 Future State

Conclusions

Pieces of the traditional defense concept and structure are critical for fighting Russia in the *time gap*. Conscription and total defense set Norway up to wage a Clausewitzian people's war primarily through the Home Guard. Norway possesses characteristics suitable for people's war, but Norway must create the conditions for success through the NAF.²⁴⁴ This entails developing a new operating concept and restructuring the NAF to meet the challenges of a complex and rapidly changing operating environment. This process is best understood in Boydian terms and best conducted through systemic design. Fortunately, pieces of the solution already exist, and the NAF must simply integrate it into a unifying vision of Norwegian identity and under the symbol of His Majesty the King. Combined, this will break the Cold War mindset, change the operating concept, and drive structural changes. This study does not provide all the answers; rather, this approach to the problem offers a demonstration of how to think differently about it. This study strongly argues that Norway must rethink its current approach to warfighting. The NAF should seize the opportunity to create and experiment with a Joint Expeditionary Task Force to validate any concept and learn from operations abroad. John Boyd's theories offer strategic ideas for how to think to thrive in an ambiguous world and how to embrace uncertainty. Norway and the NAF must start changing its mindset now; above all, time is the most limiting factor.

Systemic Design can help to start pulling together the elements of a solution to Norway's security in the 21st century. Even though Norway does not see Russia as the enemy, it is clear that Russia, its New Generation Warfare, and its growing military capability in the High North create complexity and present the most significant challenge to Norwegian security.²⁴⁵ To modify Leon Trotsky's famous words, "Norway may not be interested in war, but war might be interested in Norway."²⁴⁶ Berzins argues that Russia sees itself in a permanent state of war; this denotes that

there is a permanent enemy; for Russia that is clearly the United States and NATO.²⁴⁷ Norway's traditional security policy pillars of deterrence and reassurance have great value in contemporary terms and into the future, and they rest on a premise of American and NATO involvement as early as possible. NATO's article V is fundamentally important for Norway.²⁴⁸ Unfortunately, the discourse does not take into consideration the full requirements of 21st century warfare. The Cold War mindset and lack of a true joint concept is ever present. Building on the present discourse, however, Systemic Design can help bring about a shared understanding of the problem and a tentative way forward for a conceptual solution to Norway's security in the High North.

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