THE LAST REFUGE OF THE UNIMAGINATIVE?

Doctrine and Its Role in the Military Profession

PhD thesis

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Abstract

This thesis explores the concept of military doctrine. It is an empirically informed philosophical inquiry into the role of doctrine in military practice. It examines how it is understood among practitioners, its use, and its limitations within the military profession. The thesis offers a novel approach to the concept of doctrine, viewing it as a process that constructs uniformities across time and space through agreed-upon rules, and follows it into practice to describe what it does. The study is based on fieldwork conducted at a NATO divisional headquarters during a one-year training cycle, as well as 33 interviews held with NATO commanders and senior staff officers.

I argue that doctrine is not limited to written publications in the military profession but encompasses a set of organisational givens and deeply embedded imaginaries, which are socialised into officers during their professional military education. Disagreements about doctrine are epistemological and ontological in nature; they raise philosophical questions that are never articulated due to the idea of pragmatism and the expectation that we are all talking about the same thing when we use the word 'doctrine'. The study also finds that mundane organisational routines, processes, and material components such as power point templates influence the translation of doctrine into operational plans. These often overlooked components are decisive in the military's understanding of the battlefield, the construction of plans, and the operationalisation of doctrine. They lead to a mechanical application of doctrine. Whenever there was a divergence from the mechanical application, commanders were found to play a key role. These findings also explain why new approaches to military planning, such as design thinking, cannot gain traction, namely, due to the fact that they clash with the prevailing notions of knowledge and ideals of professionalism.

At times, professionalism is rational and procedural; and at other times, it is the willingness to depart from the procedure. However, as this study shows, the demands placed on the staff officers means that the former is more likely to dominate, causing military problems to be conceived primarily as managerial problems or puzzles requiring *one* analytical process to solve. This kind of thinking promotes the prescriptive elements of written doctrine. In this case, doctrine indeed becomes a 'refuge', not because military officers are unimaginative but because they are implicitly expected to behave in this way.

Abstract in Danish - Resumé

Denne afhandling handler om militær doktrin. Det er en filosofisk undersøgelse af doktrinens rolle i den militære praksis. Afhandlingen undersøger hvordan doktrin forstås blandt militære praktikere; den anvendelse og dens begrænsninger i den militære profession. Afhandlingen anskuer doktrin som en proces, der skaber ensartethed på tværs af tid og rum ved at etablere regler og standarder. Afhandlingen følger doktrinen ud i praksis for at beskrive hvad den gør. Afhandlingen er baseret på feltarbejde ved at følge et multinational NATO-divisionshovedkvarter etårige træningscyklus samt 33 interviews med NATO-chefer og stabsofficerer.

Jeg argumenterer for at doktrin ikke alene skal forstås som skrevne reglementer, men udvides til at omfatte den vifte af organisatoriske antagelser og forestillinger, som officerskorpset socialiseres ind i under de strukturerede militære uddannelser. Afhandlingen viser, at uenigheder om doktrin og dens anvendelse ofte handler om meget forskellige grundlæggende antagelser om væren og viden, men at disse uenigheder sjældent diskuteres direkte på grund af professionens ideal om pragmatisme og forventningen om at vi alle taler om det samme, når vi anvender ordet doktrin. Afhandlingen afdækker også hvordan ganske hverdagsagtige arbejdsgange, organisatoriske processer, og power point skabeloner aktivt indvirker på hvordan doktrin omformes til operative planer. Disse oversete aktører har afgørende indvirkning på hvordan militæret forstår kamppladsen, hvordan planer bliver til og hvordan doktrin operationaliseres. Samlet fører dette til en mekanistisk anvendelse af doktrinen. Der hvor det lykkedes med at divergere herfra spiller den militære chef en afgørende rolle. Afhandlingens diskussioner forklarer også hvorfor nyere tilgange til militær planlægning så som design tænkning har svært ved at få fodfæste: metoderne modsiger nogle af de mest indgroede idealer og grundantagelser.

Nogle gange er militær professionalisme rationel og metodisk, andre gange er det villigheden til at afvige fra metoden og doktrinen. Denne afhandling viser, at de samlede krav som stabsofficererne mødes af gør at løsninger hælder mod det første. Militære problemer bliver til styrings-, koordination-, og optimeringsproblemer, som det kræver en metode at løse. Denne form for tænkning fremhæver de præskriptive dele af doktrinerne. Dermed bliver doktrin et 'tilflugtssted'. Ikke fordi officererne er fantasiløse, men fordi de mødes af en række krav, der implicit kræver at de opfører sig sådan.

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A note on doctrine references

There are several references to national and NATO doctrine in this thesis. To the ordinary reader, a reference to page (p.) 4-3 might look weird. Indeed, several editors, proof-readers, and reviewers have pointed out such 'errors' to me. However, doctrine has its own form of pagination. P. 4-3 is, thus, chapter 4, page 3. The use of periods indicates a chapter and section. 4.3 would mean chapter 4, section 3 – which is not necessarily on page 4-3. I have used pages in the entire thesis.

Table 1: List of abbreviations

Abbreviation	Definition
AAP	Allied Administrative Publication
ADP	Army Doctrine Publication
AJP	Allied Joint Publication
APP	Allied Procedural Publication
CREVAL	Combat Readiness Evaluation
FM	Field Manual
G2	Intelligence staff
G3	Operations staff
G5	Planning staff
G7	Training and educational staff
GOWT	Global War on Terror
JP	Joint Publication
LSCOs	Large Scale Combat Operations
MDMP	Military Decision-Making Process
NATO	North Atlantic Treaty Organisation
OPP	Operational Planning Process
PME	Professional Military Education
SOI	Standard Operating Instructions
SOP	Standard Operating Procedures
SSK	Sociology of Scientific Knowledge
ST&S	Science, Technology & Society
STS	Science and Technology Studies
TTP	Tactics, Techniques, and Procedures

Table 1: List of abbreviations

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1. Introduction

> *There are two great difficulties with which the professional soldier, sailor, or airman has to contend in equipping himself as a commander. First, his profession is almost unique in that he may have to exercise it only once in a lifetime, if indeed that often. It is as if a surgeon had to practice throughout his life on dummies for one real operation; or a barrister appeared only once or twice in court towards the close of his career; or a professional swimmer had to spend his life practicing on dry land for an Olympic championship on which the fortunes of his entire nation depended. Second, the complex problem of running an army at all is liable to occupy his mind and skill so completely that it is very easy to forget what it is being run* for*.*
>
> *Sir Michael Howard (Howard, 1962, p. 7 emphasis in the original)*

This thesis concerns organisational knowledge in modern Western militaries. Such knowledge is typically codified in written manuals and known as doctrine. As the renowned military historian Michael Howard stated in the opening quote, the military professional faces two related problems. The first concerns the status and justification of knowledge about a future that has not yet emerged. The question 'what can we possibly know' resonates with a long philosophical tradition.

For military professionals, the problem is that they have to prepare for large-scale war between nation-states, which is rare; they can only imagine how future wars will be fought. According to historian Lawrence Freedman, this is an exercise of prediction, or guesswork, which Western militaries have been notoriously bad at (Freedman, 2017). Military professionals will spend most of their career training for an unknown future that they might get wrong. However, Howard's problem is not the future *per se* but rather the difference between theory and practice or different forms of practice. The military professional is caught in a web of theoretically and even historically informed practices. This is different from the practice that is to be expected in war; it is the difference between practising on dry land and swimming in the Olympic pool. This notion of being caught in a theoretical web clashes with the self-image of the military profession as practical and pragmatic – a profession which deals with 'leadership in reality', as the contemporary

recruitment slogan of the Danish Defence says. Most of the time, the peacetime army's reality is some form of simulation based on how future war is imagined.

The second problem is that running a military organisation is an enormous task. Therefore, as Howard states, organisational efficiency runs the risk of becoming an end in itself in the absence of war. As the problem of organising is ever-present and the military controls the simulated reality in which it trains, there is a risk that it might forget what it is training for. Scholars have pointed out that in times of peace, the military training establishment may even try to ignore short bursts of practical experience to preserve its rationalist authority, forgetting that future war is something inherently uncertain and reciprocal (Gordon, 1996; Høiback, 2003; Murray & Sinnreich, 2006). Instead, operational problems become managerial problems best solved using general managerial techniques not wedded to a particular professional sector. Here, officers apply generic management skills linked to performance, control, and accountability, violence disappears into 'kinetic effects', and the enemy others are mere targets on a list (Malm, 2019; Nordin & Öberg, 2015; Öberg, 2020). I shall return to Howard's two problems throughout this study given their practical and theoretical implications.

Doctrine is the military organisation's answer to Howard's two problems. NATO defines doctrine as 'Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgement in application' (NATO, n.d.). Doctrine exists in written publications on several levels, from philosophical discussions about the nature of war and warfare's subjection to politics to procedures describing how a staff plans military action or how an intelligence collection plan should look. Høiback argues that only the documents sitting on top of this 'doctrinal heap' are to be considered doctrine, while Jackson argues that doctrine exists on several levels (Høiback, 2013; Jackson, 2013). NATO's doctrinal structure generally follows Høiback's heap approach, which labels lower doctrines as 'tactics, techniques, or procedures' (TTPs) (NATO, 2019a). Alas, doctrine describes a vision of how future wars ought to be fought, and its TTPs prescribe how to manage the complex military organisation.

Two new problems arise: First, how future wars will be fought partly depends on the ideas that the practitioners bring with them into that future. These ideas are not neutral but shape what constitutes a proper course of action in the case of war. Indeed, military history is full of cases in which at least one of the parties lost or almost lost a war based on wrong

assumptions about the coming war; France in 1940 is probably one of the most well-known examples (Barno & Bensahel, 2020; Doughty, 2014). Secondly, how should the swimmer or the military professional respond to a suboptimal strategy once in the pool? Should they stick to the principles and approaches they have trained for on dry land, or should they improvise?

Despite the importance of doctrine in the military profession, there is little agreement on what it is and even less agreement on how it should be interpreted or applied. An old debate in the military community concerns the relative weight of dualities, such as creativity against stability, or whether the doctrine should be formulated and understood as prescriptive or descriptive rules (E. A. Cohen & Gooch, 1990; Høiback, 2013; Palazzo, 2008). Another issue is that scholarly research most often concerns written doctrine, because traditional academic scholars are unable to access the military headquarters or staff colleges where doctrine is used. The few scholars with access to the field do not focus specifically on doctrine but consider broader questions of culture, power, bureaucratisation, or leadership (King, 2019; Long, 2016; Malm, 2019; Ruffa, 2014). This creates two further challenges for the military practitioner. First, there is a gap between what is written and what scholars have called the actual behaviour of armies. This gap is often bridged by a set of taken-for-granted beliefs often referred to as 'the culture' or what might be called 'doctrine-in-practice', 'doctrine-in-action', or 'the predominant theory-in-use' (Ben-Ari, 1998; Johnston, 2000; Long, 2016; Shamir, 2011). Secondly, practitioners are mainly interested in applying doctrine (De Munnik, 2012; Jans, 2014). Thus, academic critique of written doctrine can be discarded simply since it is 'long on criticism but short on constructive advice or positive alternative proposals' (Parton, 2008, p. 81). This thesis attempts to bridge the gap by developing an understanding of how doctrine is actualised in the field and how military practitioners use doctrine to justify military action.

My interest in military doctrine began as a cadet at the Royal Danish Military Academy (RDMA) and continued when I commissioned as an infantry officer in the; I was tasked with translating doctrine into operational plans, particularly at the small unit level during deployments in Iraq and Afghanistan. Afterwards, I taught doctrine at the Royal Danish Defence College (RDDC) and the RDMA. In Iraq and Afghanistan, I witnessed how our understanding of the operating environment was shaped by the conceptual tools in our doctrine as well as by the ways of thinking we had been socialised to accept. I experienced

winter, spring, and summer in the Basra province of Iraq and in the Helmand province of Afghanistan, but through safety glasses, binoculars, and the telescopic sight of my rifle. And through the doctrinal concepts, I had been socialised to perceive a hedgerow as an axis of advance; a ditch as a battle position, and the bridge over the river Euphrates as a choking point where one had to spot for a possible ambush. Through these means, one form of reality came into being while others could not. In Iraq, the operational reality was far from the reality of the Arabic *One Thousand and One Nights* folklore, which I read in the evenings. Afghanistan was only vaguely like the Swedish author Jan Myrdal described in *Resa in Afghanistan*, who travelled through the country in the late 1950s (Myrdal, 1960). I was in some of the same locations as Myrdal but had different experiences. This is probably to be expected given that the first reference is folklore and the second was fifty years old. Though the sensory descriptions of the sun, the trees, and the river seemed very similar to mine, my world also revolved around sensory experiences understood through concepts that turned a green hedgerow into an axis and an irrigation ditch into a battle position.

Doctrine, understood in the broadest sense, influenced which worlds emerged. The theory of counterinsurgency, which at that time became official US doctrine, was about winning hearts and minds (B. Jensen, 2016). Still, much of our actual operations aimed to strike the adversary or occupy the ground, which the infantry does according to mainstream doctrine. In some sense, our operations were neither 'intelligence-driven' nor 'population centric', as the US counterinsurgency doctrine called for (Petraeus & Amos, 2006). Instead, they were partly driven by adherence to the mainstream doctrine not written for counterinsurgency and measurable metrics developed by the staff organisation; this could include the number of patrols in a particular area of interest, the number of wells drilled, or meetings with local key leaders. These were all things that might fit a template or a spreadsheet. The reality of staff officers included metrics, templates, and maps. The world of templates was so different from the sensory reality I operated in that, at times, we took staff officers with us on patrols so that they could better understand the operational realities behind the metrics they used to plan the operations. However, we still seemed to inhabit different worlds. What counted as knowledge in one world was not necessarily transferable to the other without some form of reworking, repackaging, or retranslating. The staff officers were concerned with the averages, means, and trends presented in briefings, which subsequently became the basis for operational decisions. My world was

empirically driven to a large degree by the significance of minute differences: A purple piece of cloth hanging in a tree next to a small ford could be a marker for a roadside bomb. One piece of cloth was not important to the staff, but it could mean the difference between life and death for me and my troopers. Our sensory experience would go into a written report where the complex experiences of the 40–80 soldiers on the ground under my command were translated onto a map with tactical graphics, written testimony of what happened, and my estimate of the incident. In this report, I used doctrinal concepts to pack and convey information. Hedgerows became once again an axis of advance; the ditch, a battle position, and the toll of extreme heat was left out since I considered it obvious. A 12-hour operation would be translated into one or two sheets of A4 paper or a few power point slides that the report format allowed. The report would be sent to the staff, who would turn that experience into a post-it note on the 'incident map' and file the report on the computer network drive once it had been processed and compared to earlier reports from other units operating in the same area. Over time an aggregate of reports might become an intelligence estimate, a trend, or a development that the staff would monitor. Over time purple cloths might also interest the staff, but only as something to be managed or conveyed, not as a trigger to change how an operation was carried out. In an operational setting, what counts as reality, what counts as important, and what counts as knowledge seem to be based partly on one's task and place in the military hierarchy.

The anecdote underlines that the operational and organisational decision-making involved in military planning is not merely a rational estimate of the mission variables – mission, enemy, terrain, troops available, time, and civilian considerations, captured in the acronym METT-CC – as the US Army military decision-making process suggests (Department of the Army [US], 2019b p. 1-12). This approach involves complex interpretations of operational realities into manageable information the organisation can process. Indeed, as March and Heath argued, rational choice theory cannot explain how organisational decision-making happens in practice (March & Heath, 1994). Instead, organisational decision-making can better be understood as solutions looking for problems; it helps us understand why Marines will prefer ground combat and fighter pilots will prefer air power (Soeters, 2021). And, in my case, it explains why I encountered local problems in one form of reality and solved them using the means I had immediately available, whereas the staff encountered a different set of problems in yet another form of reality. Nonetheless, the staff organisation

and I were a part of the same military unit, the Danish Battle Group. We had the same mission and had to align our realities to work together.

The point is that the military decision-maker does not understand the situation objectively from a disinterested perspective. Instead, the decision-maker and the staff organisation are thrown into the flux of war and given mental and physical tools to make sense of the operating environment. The natural world is read from inside the organisation (Eden, 2004). Reality emerges as human members in the organisation interact with non-human entities such as doctrine, organisational schemes, and documents.

Standardisation, plans, and centralised or structured decision-making are ways to cope with the ambiguity of organisational decision-making related to military planning. Documents and documentation become central tools to achieve rationality in organisational life. Documents are manifestations of rationality and irrationality (Harper, 1998). In his study of the International Monetary Fund, Harper showed how documents are more than just descriptions of completed work or constructed for rational purposes. They instruct and explain; they predict the future and account for the past. These documents speak for the organisation in the very process of organising the organisation. Documents are essential in constructing organisational realities (Hull, 2012; Prior, 2004; Riles, 2006).

To summarise, a set of overlapping problems and tensions concerning doctrine exists. First, the two problems addressed by Howard are that wars are a rare occurrence, and there will always be a difference between theory or how war is imagined and the actual practice of a future war. Next, running a military organisation is such a complex task that practitioners in peacetime might forget the organisation's objective and focus solely on managerial issues. Doctrine is the military organisation's solution to overcoming Howard's two problems. Second, there is little agreement on what doctrine is and how it should be applied, and the scholarly work tends to focus on doctrine in its written form. Third, doctrine and its related concepts affect how operational situations are interpreted. Military decision-making related to planning and conducting military operations is not purely 'rational'. Doctrine actively shapes how solutions come into being and how military practitioners understand their world. This gives rise to a set of dualisms that military professionals are expected to navigate: rationality and creativity, standardisation and uniqueness, authority and reflexivity, theory and practice, and order and chaos. How

practitioners do this in practice or imagine this should be done is the main theme of this thesis.

1.1 Research Question

The overall research question of the thesis is twofold: *How do military practitioners understand doctrine, and what is the role of doctrine in planning and conducting military operations in the staff organisation?*

I have drawn from the field of *Science and Technology Studies* (STS) and the subfield of social standardisation theory to answer this dual question. The design of the study was inspired by the earliest laboratory studies in which philosophers, anthropologists, and sociologists ventured into scientific laboratories to understand and describe how science was practiced (Knorr-Cetina, 1981; Latour & Woolgar, 1986). This enabled me to focus on the actual practices related to doctrine and its role in constructing operational plans. This methodological choice made it possible to notice and describe a range of cognitive, material, social, and normative actors within the staff alto at work alongside doctrine.

However, what is important is not merely noting the different actors at work. To advance our understanding of doctrine and its implementation, we must describe who these actors are and how they work. Grasping how staff officers and commanders work within this range of actors is above all significant. The resulting operational plan is, thus, not the result of a purely rational or humanistic process but a social process in which ideas and materiality are at work alongside doctrine and human actions in the planning processes – just like the original SSK programme showed how scientific facts could be socially deconstructed and later how technology was adopted in ways that were not envisioned in the design phase (Akrich, 1992; Orlikowski, 1992; Timmermans & Epstein, 2010).

To find out how disagreements are settled, I explored cracks and breakdowns in the temporal order within the staff. It turns out that doctrine is not merely one actor among a range of actors, but is the main actor, as staff officers and commanders regularly refer to it when justifying their actions. The doctrine they reference is not in the form of written manuals, but is the embodiment of professionalism, or a way of thinking and acting that one has been socialised to accept throughout the entirety of their career. However, this varies

depending on the situation, and, upon closer inspection, it was found that the officers themselves disagree on this matter.

Against this background, I suggest approaching doctrine as a standard defined as a 'process of constructing uniformities across time and space through the generation of agreed-upon rules' (Timmermans & Epstein, 2010). 'Agreed-upon rules' must be understood as something a professional community agrees on and which newcomers to the profession are socialised to believe (Holmes, 2009). This also means that some form of professional judgement or knowledge needs to be applied to operationalise these rules. In contrast, rigorous adherence to rules in combat would render one's actions predictable and less optimal in the face of an adversary. NATO doctrine advises practitioners to depart from doctrine when necessary. This is what is meant when doctrine is defined as 'authoritative, but requires judgement in application' (NATO, 2017 p. 1-1). Such calls for judgement and intuition are not foreign to other traditional professional fields, such as medicine or law. In these fields, judgement and local practices are invoked to translate abstract principles, standards, or rules into workable solutions in the complex social reality. Standards are often devoid of context, and context is everything for the practitioners in such fields. Schemes and standards would fail altogether if local knowledge or 'street-level bureaucracy' were not applied (Li, 2005; Røn-Larsen, 2019).

The military profession shares characteristics with other professions, especially in terms of professional practice, the utility and usefulness of standardisation, rationality, and rule-following, as well as creativity, innovation, and discretion. The debate on the role of discretion and the related concept of intuition is most mature in the organisational and decision-making literature among medical doctors, social workers, judges, and top executives (Caza, 2012; Evans, 2020; Grimen & Terum, 2008; Hawkins, 1992; Holmes, 2009). Interestingly, the debate on using intuition for decision-making has its roots in military research conducted in the 1990s (Kaempf et al., 1996; Klein, 1998; J. Schmitt & Klein, 1996). Today, this debate is known as the 'heuristics and bias' approach. It treats intuition with scepticism (Kahneman, 2011) and naturalistic decision-making, also known as the 'recognition-primed decision model', as a resource in certain settings (Klein, 1998). Both ways of making decisions are described in NATO doctrine under the headlines 'structured approach' and 'naturalistic decision-making' (NATO, 2016 p. 2-2).

This philosophical thesis can be located in the larger body of War Studies, which can be understood as the broad and pragmatic study of war (Barkawi & Brighton, 2011; Howard, 1991; Rynning, 2017). It uses methods from Science and Technology Studies (STS) and the sociology of standards to understand how military practitioners understand doctrine and its role in understanding the operating environment and operational decision-making during war planning and conduct. The research questions of this thesis concern both the justification for this knowledge as well as the application of it. Because the project addresses organisational decision-making, in which the military organisation can be understood as a particular case, it also contributes to the field of organisational studies and the subfields of professions, bureaucratisation, and studies of organisational and executive decision-making.

1.2 The Problem of Secure Military Knowledge

Let us now return to Howard and the two initial problems mentioned in the introduction. First, wars are rare, and, second, running a military organisation is challenging. Subsequently, this study asks, What qualifies as knowledge about an uncertain future within the military profession? One of the most fundamental discussions regarding military knowledge concerns the possibility of secure knowledge about war. Within the field of military theory, this discussion spans from Leninist ideas about objective knowledge based on scientific laws to prominent commanders such as Wellington or Grant's complete rejection of any lawfulness in war and combat (For an overview see: Høiback, 2013; Sjøgren, 2019). Within the military profession, the range is a bit narrower and often pitted as a discussion between two nineteenth-century thinkers: Prussian Carl von Clausewitz and Swiss Baron von Jomini. Both developed theories reflecting on the Napoleonic wars (1803-1815). The former denied the possibility of positive knowledge about war, while the latter argued that war could be studied like any other science to uncover the lawlike mechanism that determines military outcomes (Clausewitz, 1989; Jomini, 1996). Today, Clausewitz is still read by scholars and military practitioners and is often referenced in contemporary military doctrine. Jomini is only read as a historical reference or forgotten.

One could conclude that Clausewitz won the argument. However, as Norwegian philosopher and military officer Harald Høiback points out, Jomini's ideas and basic premises

are deeply incorporated into Western military thinking (Høiback, 2003). Jomini's thoughts are alive and well since they are continuously picked up, incorporated into, and reified in the profession. This aligns with the claim that most Western military knowledge rests on positivist and thus Joministic terms (Jackson, 2013; McInnes, 2007; Paparone, 2017b). Positivism is the belief that knowledge must be based on empirical evidence, and that we can discover the laws and regularities governing the natural and social world through careful observation and experimentation.

In the related field of military intelligence, there is a similar debate on what counts as knowledge and how it should be treated. What kind of knowledge are intelligence estimates? How should intelligence affect strategic or operational decision-making? Are intelligence analyses an art or science? (Davies, 2007; Davis, 1992; Marrin, 2012; Rønn, 2022; Rønn & Høffding, 2013). Thus, knowledge and its limits haunt every aspect of the military profession. It has great difficulties with experimentation since the future does not exist. In a real war, it will face an adversary that actively tries to hide its intentions and capabilities, deceive, and resist. The profession, therefore, has 'to train on dry land'.

Modern Western militaries codify their organisational knowledge in the form of doctrine. According to Høiback, doctrine is 'institutionalized beliefs about what works in war and military operations' (Høiback, 2011, p. 897). This definition's use of the word 'beliefs' places the question of doctrine within the realm of epistemology, which revolves around questions concerning whether these beliefs are justified or qualify as knowledge. Second, Høiback's definition also hints at the unique character of military knowledge as a particular form of knowledge produced not according to conventional standards of scientific inquiry or philosophical scrutiny but by and for the military organisation. Doctrine becomes doctrine when the appropriate authority approves it or, more simply, when a general signs it. This also means that doctrine is shielded from public scrutiny and critique and that its development is bureaucratic insofar as the relevant voices are heard (i.e. the voices of military actors) and incorporated into the process and not discussed openly by a scientific or professional community. Leonhard underlines that doctrine, therefore, distinctly differs from theory in one particular way: it is authoritative (Leonhard, 2017). Several scholars have also pointed out how problems arise when analytical categories or academic approaches are incorporated into doctrine or when doctrinal concepts are used uncritically as academic analytical concepts (Ansorge, 2010; Libiseller, 2023). Whereas the purpose of science is not

purely instrumental, the purpose of doctrine is indeed instrumental in guiding military action.

NATO and most NATO member states define doctrine as, 'Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgement in application' (NATO, n.d.). This dual definition has its roots in British military theorist JFC Fuller's works, which, following Jomini, argued that one could distil the laws of warfare from studying history. However, Fuller also famously warned that 'doctrine is apt to turn into dogma' (Fuller, 1926, p. 254). Balancing standardisation and responsiveness in the face of an adversary is a central dualism in this project.

Others have dubbed this problem 'the basic doctrinal dilemma': A doctrine that is too prescriptive restricts the practitioners; a doctrine that is too descriptive has little value in the field (E. A. Cohen & Gooch, 1990; Høiback, 2013; Palazzo, 2008). This problem also represents two schools of tactical thinking that emerged within the Royal Navy between the second (1665-1667) and third (1672-1674) Anglo-Dutch Wars. One school leaned towards formality and rule-following, and another inclined anarchically to hard fighting and tactical risks (Gordon, 1996). These schools are alive and well to this day. The Jomini vs Clausewitz debate and navigating the basic doctrinal dilemma can be understood as a direct continuation of these two schools. The problem is that the underlying beliefs of these two schools of thought are often not explicitly stated, considered, or discussed. Instead, they are merged into a pragmatic whole and tested in simulations built on these unarticulated underlying beliefs. In the absence of war and thus an external feedback mechanism, pragmatism can disguise the dogma that Fuller warned against. However, it is not written doctrine that turns into dogma on its own; it is the complex interactions around the application of doctrine, which is taught in staff colleges and during field exercises, all of which happen in an environment without an external feedback mechanism.

Within the profession, doctrine is often referred to in the singular: the doctrine or our doctrine. Scholars argue that beneath written doctrine is a set of imaginaries about war and warfare that stays the same, even if the formal or written doctrine changes (Johnston, 2000; Long, 2016). At the point of application, doctrine connects with culture. Some scholars and most military practitioners believe that a comprehensive set of ideas, tacit knowledge, or cultural approach within the profession also count as doctrine. Some, therefore, differentiate between written doctrine and the related concepts of 'doctrine-in-

practice', 'doctrine-in-action', or the 'predominant theory-in-use' (Ben-Ari, 1998; Johnston, 2000; Lindgaard, 2023; Long, 2016; Shamir, 2011).

Similarly, there is no agreement on whether doctrine represents an existing belief system or if its role could be reconfiguring or even constructing these beliefs (Høiback, 2013; Jackson, 2013). This has led Høiback to state that the study of doctrine is not an established field but in a pre-paradigmatic period of speculation; scholars and practitioners not only discuss the answers but are still trying to understand what the questions are (Høiback, 2013). This phrase also suggests that the study of doctrine and, thus, institutionalised knowledge about war could become a form of normal science where theories can explain or predict behaviour using abstract context-independent elements (Flyvbjerg, 2001). However, in every war, the context of strategic, operational, and tactical challenges is unique (E. A. Cohen & Gooch, 1990; Friedman, 2017). The military practitioner is always emersed or thrown into a particular situation. Therefore, at the point of application, context is everything.

Regarding Howard's first remark, we cannot know if our ideas about imaginary future wars will also hold in the actual future war. And even if we did, the adversary would not be interested in fighting the type of war we are best prepared for. It is a sound tactical principle to seek out and exploit the adversary's weaknesses, i.e. the kind of war we have not prepared for or the kind we have the most problems countering.

In Denmark, the Royal Danish Defence College (RDDC) and the Royal Danish Military Academy (RDMA) are the two institutions tasked with dissimilating and writing doctrine for the Danish Army and providing inputs to NATO. Oddly, it is a new topic to discuss what doctrine is. Traditionally, doctrine is stated in the field manuals and taught in military academies, staff colleges, and military academies by military officers with experience practising doctrine. What is attractive to practitioners is the application, use, or translation of doctrine into operational plans.

The closest we have come to an articulated theory of doctrine in Denmark was a widespread model called the 'capability circle', which was taught extensively at the RDDC and RDMA beginning in the late 1990s. This model defined military capability as the rational balancing of doctrine, technology, and organisation (Sjøgren & Nørby, 2020). Thus, if you had an army equipped and organised in a certain way, you could analyse the most optimal way of fighting as an equation with one unknown. This hinges on the idea that there is a

rational answer to the question of doctrine, and that this question can be assessed objectively. Depending on the use of the model, it could be applied to a particular adversary or task or even in cases where there is no context. In this line of thinking, doctrine is a matter of balancing the organisation and the technology available with optimal methods for its use (Bergstein, 1985; M. S. Jensen, 2004; Sjøgren, 2018).

Critical discussions on doctrine and critiques of the 'capability circle' model have emerged since changes were made to professional military education in Denmark (Jakobsen, 2020; Jansen et al., 2019; Sjøgren, 2020). Today's cadets come to the military academies either with a bachelor's degree or through the ranks supplemented with an academy profession programme in leadership. The 'staff course', which mid-career officers attend to advance in the staff hierarchy, has been reverted into a master's programme. Consequently, there is a new breed of cadets and students who ask different questions, and lecturers are better versed in scientific theory. Tension typically arises when students and researchers try to engage with doctrine from an academic viewpoint and ask, for instance, how the organisational knowledge presented in the manuals is constructed, how it is grounded, and how it should be applied. While doctrine has elements of theory, heuristics, tacit knowledge, and methodology, it is clearly neither of these. Doctrine is not written to present an argument or to persuade. It is written to instruct and to be helpful (Ansorge, 2010; Leonhard, 2017). Doctrine it is not self-explanatory either. It draws on commonly accepted but often implicit ideas and beliefs and it rarely uses explicit references. Similarly, doctrine is not one thing, and there are differences between the services, nations, and national and NATO doctrine, although countries are supposed to align their doctrine with NATO's.

1.3 The Problem of Running a War Machine

The second problem in Howard's opening quote concerns the management of the military organisation and how demands that stem from running the organisation might take up all the military professional's time and energy. Recent sociological studies have shown that staff officers are engaged in what could best be understood as a form of managerial practice in which war as violence disappears and is replaced with the rational alignment of means by the military-bureaucratic machine that works to remove targets presented on a

checklist (Malm, 2019; Nordin & Öberg, 2015). What follows is a form of dehumanisation where the enemy other is not a human but an object that gets 'degraded' or 'taken out'. As noted by Ben-Ari (1998), this process of dehumanisation is not to be confused with demonisation. Instead, it stems from the prevalent machine analogy within military units where the individual is always part of a greater whole. It might therefore be understood as an important by-product of being a professional and acting professionally in a bureaucratic setting.

In his anthropological studies of an Israeli infantry battalion, Ben-Ari found three prevalent metaphors within the military organisation: (1) the machine in the form of compliance, (2) bureaucracy in the form of efficiency and rationality, and (3) the brain, which is creative and innovate and valued as long as it contributes to greater efficiency (Ben-Ari, 1998). Similarly, Ben-Ari showed how answers to the questions 'who are we' and 'what do we do' form the basis for understanding the operating environment. The world is understood from inside the organisation. At the level of the staff organisation, this line of thinking – the machine analogy and the question of who we are – is reified in exercises that aim to strengthen the staff's adherence to procedure and structured decision-making processes, where the need for those same procedures and for staff compliancy is underlined in the name of efficiency and rationality (Öberg, 2020; Storr, 2009). Dehumanising the enemy other, though, might cause the bureaucrats in the war machine to lose their own humanity in the process. According to Paparone (2017b), staff officers and their commanders become cogs in the military machine in the name of efficiency, processing killing and administering violence without questioning the wider purpose.

Standards are needed to get many humans and their equipment to function correctly. In this sense, the military organisation is not different from other forms of organisation. According to Weber, bureaucratisation was the most optimal way to do this, knowing all too well that a form of dehumanisation would be an inevitable by-product. To work appropriately and efficiently, a bureaucracy needs standards (Timmermans & Epstein, 2010, p. 72). Well-functioning bureaucracies are the most effective way to organise people around large or complex goals (Weber, 1946; Wilson, 1989). Howard points out the problem of drifting: the problem of running the organisation becomes the only goal of the military profession, as it forgets what the organisation is run *for* in the process.

Doctrine also functions as an organising or standardising force. In this sense, doctrine is not only connected to the unknowable future implicit in Howard's first problem. The 'complex problem of running an army' will not disappear in the advent of war. Efficiency is also paramount in war, and a central tool is, as we have discussed, standardisation, tools, and guidelines. Indeed, the purpose of doctrine as defined by NATO is 'to provide Alliance forces conducting operations with a framework of guidance to achieve a common objective. Operations are underpinned by principles describing how they should be planned, prepared, commanded, conducted, sustained, terminated, and assessed' (NATO, 2017 p. 1-1). In this sense, doctrine increases interoperability between nations and units by standardising instruction on the conduct of operations from planning to post-operational assessment.

A singular organisational or managerial focus on the military organisation could be criticised for falling directly into Howard's second problem of treating the military as any other form of business, forgetting what it is run *for*. Though the military shares many characteristics with other business forms, violence is its core business (Huntington, 2002; Janowitz, 2017; Soeters, 2020b; Vego, 2010).

1.4 Structure

This thesis is comprised of five articles, which have been summarised in a coherent narrative, or 'kappa' – 'cloak' literarily translated. The kappa explains how these articles can be brought together to form a cohesive whole. It is structured as follows: In Chapter 2, I introduce the military organisation and basic principles of military organisation. In Chapter 3, I present and discuss the analytical lens that has guided the project. In Chapter 4, I discuss research methods, which includes a more detailed presentation of the empirical material as well as discussions on insider and outsider perspectives, issues concerning military security, and research ethics. The latter impacted what could be described and reported from the fieldwork in non-classified outlets.

The articles are presented in Table 2 below. In the first article, or Chapter 5, Andes Bollmann and I discuss whether process philosophy, which this entire thesis builds on, is compatible with Clausewitz's ontology of war. The typical reading of Clausewitz is that while the essence or nature of war is unchanging, its character indeed changes. However, Clausewitz wrote in the aftermath of the German Enlightenment around the time of Hegel,

and we argue that the original German text does not warrant such strict claims about the unchanging nature of war. Instead, paradoxes and differences seem more of interest to Clausewitz. Unlike the other articles in this thesis, this one is not based on fieldwork or interviews.

Chapter 6 is an analysis of the commander's perspective. Using interview material, I attempt to understand the commander's function and the role of the executive decision-maker in the context of doctrine, as well as in the context of the staff organisation working according to standardised processes.

Chapter 7 evaluates the interview and fieldwork responses concerning questions of doctrine in order to surmise their epistemological positions. I develop a two-by-two matrix that shows the disagreements among practitioners regarding doctrine. This is more than idle academic speculation – as one reviewer hinted at in a previous draft version. These unarticulated disagreements guide how operational problems are understood and how military action is justified.

Chapters 8 and 9 go hand in hand. Chapter 8, 'War, Power Point, and Hypnotised Chickens' was a preliminary analysis primarily aimed at showing what STS methods and concepts could do in an entirely different organisational setting. It was presented at the Danish Association for Science and Technology Studies Conference in 2022 and subsequently published in a forthcoming special issue of *STS Encounters*. Chapter 9, 'Entering the War Machine' is the completed version of the article and discusses how staffs work; it elaborates and expands on the work I set out to do in the original presentation.

Working with these journals has provided valuable insights into how the 'academic knowledge machine' works. What is taken for granted among one journal's audience (and editors!) is controversial to another, and what is cutting edge to some is banal to others. The review process, therefore, turned the chapters into stand-alone articles. The coherent argument presented in the article therefore overlaps with some of the information found in the introduction and in the method's sections of this thesis.

Chapters 5, 6, 7, and 8 are post-print versions of articles published elsewhere. There might be slight editorial differences between the chapters and the published versions.

Table 2: Overview of articles and their status

Title	Outlet	Status	Co-authors
Rethinking Clausewitz's Chameleon: Is It Time for Western Militaries to Abandon the Idea of War's Immutable Nature?	New Perspectives on Military Politics Tom Crossbie (ed) Berghahn Books	Published 14 July 2023	Anders Theis Bollmann
What Military Commanders Do and How They Do It: Executive Decision-Making in the Context of Standardised Planning Processes and Doctrine	Scandinavian Journal of Military Studies	Published 15 November 2022	
What We Disagree About When We Disagree About Doctrine	Journal of Strategic Studies	Accepted for publication	
War, Power Point, and Hypnotised Chickens: Standards and Templates At Work in a Military Staff	STS Encounters	Forthcoming August 2023	
Entering the War Machine: How Military Planning Works	None	Finished draft	

Table 2: Overview of articles and their status

Chapter 10 contains a discussion of the combined insights from these articles as a coherent whole, and Chapter 11 concludes on the entirety of the project and suggests implications for future research based on this study as well as practical recommendations aimed at the military profession.

2. Military Organising 101: What Is a Division, and What Is a Staff?

The organisational setting of the research is the headquarters of a multinational NATO division. A division is a military force that commands up to 20.000 troops in a crisis or war. The division is which are subdivided into brigades or regiments. It is the smallest land military unit capable of independent action according to doctrine since it has all the combined arms in its procession, i.e. logistics, recognisance, artillery, air defence, engineers, and combat arms. A division is commanded by a major general, a so-called 'two-star', which refers to the two-star insignia symbolising the major general's rank. The commander is supported by a small command team, which, depending on the organisation, might be up to a handful of persons. They serve as deputies, personal advisors, or assistants. At the commander's disposal is also a wider staff organisation of up to 400 staff officers whose job is to manage the organisation and plan future operations based on the commander's guidance. Thus, when military practitioners refer to staff work, they are most often referring to the military planning process. In most settings, the staff organisation is commanded by a designated chief of staff or the operations section chief. The staff organisation is organised into functional areas: intelligence, operations, logistics, etc. However, planning teams are often created *ad hoc* across functional areas to ensure that every functional area is represented when a plan is conceived. The same goes for the tactical operations centre, which monitors ongoing events. Each branch is led by a senior branch chief, planning teams by a plan lead, etc. In the military organisation, there is always some form of hierarchy in place.

The commander is generally the most senior or at least one of the most senior officers in a division in terms of experience. A typical military career involves an oscillation between command positions and staff duty. Thus, commanders have often commanded at lower levels and served as staff officers in an adjacent or higher staff. The typical staff officer has at least 12-15 years of experience, holds the rank of major, and has been through the equivalent of a master's programme offered by a national military staff college.

This basic setup – a commander supported by a staff organisation of varying size – is found at every level in the military chain of command, from the battalion consisting of 500 troops to the highest military command positions, the Joint Force Commands in NATO, or equivalent national joint commands. The brigades or regiments that the division commands

will have a similar setup but a numerically smaller staff. The empirical material for this thesis was gathered by conducting fieldwork at a NATO multinational divisional headquarters; the other part consists of interviews with commanders and senior staff officers who have all served somewhere in the abovementioned commander / staff configuration.

To give an idea of the size of a division and the military command hierarchy: In NATO's operation in Afghanistan the country was divided into six regional commands each led by a two-star headquarters. These, in turn, referred to the four-star general commanding the International Security and Assistance Force in Kabul, who, at its height, commanded over 130,000 troops (NATO, 2022). The Danish battle group in Helmand, consisting of 700 troops, was under the command of a British brigade, a one-star headquarters in Lashkargah, Afghanistan. Regional Command South in Kandahar, Afghanistan, commanded this brigade headquarters. This was a divisional or two-star headquarters. The last operation in which Western divisions were engaged in direct combat as divisions was during the invasion of Iraq in 2003. Three divisions led the invasion: a British division that secured the southern city of Basra and two US divisions that spearheaded the advance towards Bagdad.

During the Cold War, most smaller NATO states had divisions, Denmark included. After the Cold War, when nearly all Western militaries downsized, most of these divisional headquarters became training and administrative units that were to oversee preparations for international deployments. Today, only large and medium-size military powers such as the US, UK, Germany, France, and Poland can afford purely national divisions. Smaller nations take part in binational or multinational divisions, often to maintain some form of competence in combined arms battles and to understand command level thinking beyond what the nation has at its disposal. Many large and medium-size military powers also play a role in these divisions, either offering staff officers positions in the staff organisation or in the units to be commanded by these headquarters, or both. For all NATO nations, the underlying question is one of interoperability, which is an important element when creating combat power that is to deter any aggressor. According to NATO, doctrine and standards are essential to achieving interoperability.

Only the most high-readiness staff organisations in NATO are fully staffed on a daily basis. Most headquarters draw on designated personnel or reservists when conducting exercises. Thus, staffs often consist of a smaller permanent staff and a larger crisis staff.

Furthermore, most officers habitually change positions every 2-4 years. Therefore, as a rule of thumb, one-third of the staff is always relatively new, which explains why these organisations put effort into developing and updating their standard operating procedures (SOP) and standard operations instructions (SOI). Due to the high staff turnover, these tools of organisational knowledge ensure that new officers can perform at an acceptable level very quickly.

In terms of military exercise, the divisional headquarters resembles other staff organisations. It is often located outside the fighting zone in tents or fixed locations. The primary weapons of the staff officer are the desk, the computer, and the communications systems. The staff's link to operational reality is in the form of field unit reports, which might be communicated orally, in written form, or by way of tactical graphics in the battle management system. Another source is the commander, who goes back and forth between the field – where he or she coordinates subordinates and adjacent and higher commanders – and the headquarters. Staff officers are often given directives by the commander and their superiors in the staff organisation, which they must interpret in light of a particular situation. The staff organisation acts on behalf of the commander and is authorised by the commander. Formally, only the commander, in person, is authorised to make decisions on behalf of the units under command. The staff has no formal authority on its own. Command, therefore, has a personal aspect. According to the NATO definition, command is 'the authority vested in a member of the armed forces for the direction, coordination, and control of military forces' (NATO, n.d.).

I gathered fieldwork data at this type of organisation, and questions concerning organisation in and of itself are the point of departure of my interviews with commanders, senior staff officers, and doctrine writers across NATO. This hierarchical organising and commander-staff interaction is typical of contemporary Western military organisations.

3. The Theoretical Lens: Studying Ideas At Work

Throughout this study, the objective has not been to define doctrine but to determine what it *does* or how it *works* in the military staff organisation. Thus, I have been interested in how commanders and their staff use doctrine to order the chaos of war into a coherent plan that allows for coordination among own troops. The so-called process philosophy in the works of Deleuze and Guattari underpins this thesis (Deleuze & Guattari, 1987, 2013, 2015).

Before proceeding, we should return to Howard's two problems: Future war does not exist, and the military professional is forced to train on dry land. However, how we conceptualise coming war affects how those preparations play out. Whether war's nature indeed changes or not, the belief that it does not is reflected in doctrine and reified in professional military education, which influences the actual planning and conduct of military operations. What is attractive to this study is how these ideas travel and how doctrine, in turn, becomes an operational plan.

This chapter will outline the analytical approaches used throughout the entire project. In 3.1, I will briefly sketch the philosophical discussion of being vs becoming, since this underpins much of the debate within the military profession. In 3.2, I will introduce the laboratory studies and the movements in the fields of Science and Technology Studies that have inspired the design of this study. In 3.3, I will introduce Deleuze and Guattari's conception of the assemblage, the 'war machine', and their mechanic analysis of society, which has also inspired this thesis. In 3.3, I discuss the problem of where to start an analysis if there is a state of flux. I have used breakdowns of order as constructive entry points to notice who works in the assemblage and describe what these actors do in constructing order in chaos, thus allowing one operational reality to come into being while others are either discarded or cannot even be thought. This section on breakdowns constructs bridges between process philosophy, the concept of the assemblage, the attitude of uncertainty, the principle of symmetry, and methodology. I have used differences, contradictions, and breakdowns of the temporal order as constructive events to understand how order is (re)constructed. All five articles are based on contradictions, disruption, or challenges to the status quo.

3.1 Being or Becoming?

In philosophy, being and becoming are two related but distinct concepts. Being refers to the state of existing or simply being. Being can be considered the unchanging essence or nature of something, which remains constant over time. On the other hand, becoming refers to the process of change or transformation. Becoming can be considered the dynamic aspect of reality, where everything is constantly in flux, evolving, and changing. This distinction between being and becoming has been a topic of philosophical debate for centuries. Essentialist philosophy is a school of thought that emphasises the fixed and unchanging nature of things. It holds that specific inherent and necessary characteristics or properties define the essence of an object, concept, or phenomenon. One example is the ancient Greek philosopher Plato, who believed in the existence of eternal forms or ideas, which provided the blueprint for all things in the physical world (Plato, 1999). Before Plato, Parmenides argued that being is the only true reality while becoming is an illusion (Palmer, 2020).

According to this view of metaphysical monism, only one fundamental substance or principle underlies all of reality, and all phenomena can be explained in terms of this single substance or principle. This substance differs in the three branches of monism: Substance monism holds that the fundamental substance is physical in nature, such as energy or matter. Idealistic monism holds that the fundamental substance is idealistic in nature, and all that exists can be explained through the activity of a mental or spiritual substance such as God. Neutral monism holds that the underlying substance is neither physical nor idealistic but neutral, which can explain both. Examples are space-time or neutral matter. Reality is caused by or is a function of this fundamental and enduring substance. Metaphysical dualism is often thought of as the opposite of monism. Here, two substances – mind and body – make up reality. Descartes' matter-mind duality is an example of the latter (Descartes, 2017).

In contrast, process philosophy emphasises reality's dynamic and changing nature and sees everything as a process of becoming rather than static entities. In other words, it's a way of thinking that focuses on the ongoing flow of change in the world around us. Heraclitus argued that becoming is the only true reality and that being is an illusion. Heraclitus famously claimed that one could not wade into the same river twice since neither the river nor the human is the same. Reality is the result of a process. The ‘I’ that steps into

the river and the river itself become what they are as a function of our interaction and connections at that moment. One of the critical ideas of process philosophy is that all things are interconnected and interdependent, and everything is constantly in motion. This means that change is not just something that happens to things but is a central part of their nature. Another important aspect is that the past, present, and future are all connected and interrelated. This means that the future is not predetermined or fixed but is constantly shaped by the choices and actions we make in the present.

I use the notion of becoming to accomplish three things. First, I have been inspired by the constructive outputs generated by STS and the sociology of standards (Bowker & Star, 1999; Jasanoff, 2015b; Timmermans & Epstein, 2010). These also build on aspects of process philosophy and show how things and ideas travel, and their meaning becomes reinterpreted as they travel from where they are conceived and into the field. They are neither ignored nor are they followed to the letter. Things and standards are tinkered with when they meet practice. Indeed, that is how professional standards work. Second, I have emphasised the entanglement of the social and the material in organisational life. Organisational realities result from complex social processes involving both human and non-human actors. Third, the assemblage emerges as a result of these processes. The resulting operational plan is not only a linear assessment of mission variables against a common doctrine but a conglomerate of different actors in the staff. The military's tradition of approaching war as a duality between nature and character combined with NATO's claim that 'although each operation is unique, their planning and conduct can be approached in the same manner' (NATO, 2017) is a specific way of conceptualising military problems. While this might be needed for the staff organisation to work, it also has consequences for which operational realities can come into being while others cannot be considered.

The idea of understanding staff work as a process is hardly controversial. Indeed, as defined by NATO, planning is the process of aligning ways and means to achieve military ends (NATO, 2017, p. IX). However, the idea that decision-making is not merely a rational human endeavour and that things can act is quite controversial. And the idea of understanding the very thought about knowledge in and of war as the result of a process runs against the prevalent positivist or Jominstic conception of knowledge in the military profession. The standard image of knowledge in the military professions and among most classic-oriented military scholars draws on Clausewitz's analogy of war as a chameleon that

might change its appearance but always remains the same. This is also known as the enduring nature of war and its changing character. Thus, in the standard approach, war has a specific being or an essence that holds constant over time but an appearance that changes. Conceptualising war as a duality – with an enduring nature yet a changeable character – is heavily institutionalised and reified in contemporary doctrine as well as academic scholarship (Army [UK], 2011; Department of the Army [US], 2019a; Heuser, 2022; NATO, 2017).

Some scholars of war or security studies argue that Clausewitz's notion that war is 'more than a true chameleon' should be read more radically (Barkawi & Brighton, 2011; Cormier, 2016). War, they argue, is not a puzzle that can be solved by one method, and it is a mystery of constant becoming that is inherently insolvable (Bousquet et al., 2020). In this line of thinking, war does not have an essence; it is not one thing. Instead, it is constantly (re-)created. This process of creation, how it unfolds, whose voices are heard and silenced, and, consequently, which realities are allowed to come into being and which are never conceived, is the central analytical lens of this study.

3.2 The Staff Organisation as a Laboratory

As an emergent field in the 1970s, STS initially explored science and technology and the S*ocial Construction of Scientific Knowledge* (SSK) (Callon, 1984; Knorr-Cetina, 1981; Latour & Woolgar, 1986). The SSK programme follows scientists into the laboratory to describe and empirically understand the craft of science production. In the mid-eighties, this interest expanded to technology and showed that it was not a neutral artefact merely used by humans; technology acts, too, and we often only notice it when it fails to work. Scholars tried to describe empirically how nuclear missile accuracy was invented, how the design of bicycles we know today came into being, how door-closers reconfigure human settings, and what that means for our understanding of the world we inhabit (Bijker, 1995; Johnson, 1988; MacKenzie, 1990). Since the early 1990s, STS scholars have used similar approaches to understand categorisation and organisational standards where the term technology is used in a broader sense (Akrich, 1992; Bowker & Star, 1999; Bruun Jensen, 2010; Leigh Star, 2010; Timmermans & Epstein, 2010). Contemporary scholars working in the STS tradition use the framework to raise questions concerning how technologies reproduce power structures, the

conditions for critique, and how they might be biased (Feenberg, 1992; Jasanoff, 2015a; Verbeek, 2011). Closer to the military realm, STS scholars described the development of nuclear missile guidance and the calculation of blast and fire damage in the wake of a nuclear strike (Eden, 2004; MacKenzie, 1990).

Scholars from different disciplines who use these approaches have followed scientists into the laboratory, engineers to where technology is designed, and practitioners into organisations; the focus being the intertwining cognitive, material, social, and normative factors (Jasanoff, 2004). Thus, no a priori division exists between natural facts, objectivity, ideas vs culture, values, or materiality. Instead, these elements are studied *symmetrically* (Gad & Bruun Jensen, 2010; Latour, 2007). This does not mean that everything is equally important. Practitioners in the field will have their demarcations and priorities, and it is interesting to describe them using the practitioner's voice and experience of the world. Thus, the exciting descriptions in the opening of these black boxes are not *that* these factors are intertwined. Indeed, this is precisely what process philosophy takes for granted. Instead, what is interesting is *what* these factors are and *how* they work.

What the early laboratories succeeded in doing was to draw attention to the details and mundane routines of scientists, showing how important they are for doing science. Such descriptions destabilise hard facts and show how that which is taken for granted or even 'natural' was once disputed. Instead of discovering or uncovering truths about nature or the organisation, facts are constructed and hardened over time. This hardening of facts is better understood as a social process. This approach bridges the abstract discussion of process philosophy and the empirical description of how this process of becoming works. This framework allows us to deal with unstable social objects. It sheds light on the practices in which doctrine meets the organisation and its pre-established frames and knowledge-laden routines, and abstract ideas are translated into concrete military action (Eden, 2004; Latour, 2007).

The military staff organisation is one form of laboratory that STS scholarship has not yet explored. For simple reasons of inaccessibility and military security, this remains a black box; a site where military planning is done and operational plans result.

Doctrine is a central tool in the military profession. However, the staff organisation does not 'do doctrine'. The staff plans future operations and manages the entire organisation, utilising doctrine to guide its conduct. There is the risk that doctrine will

disappear as one actor among many, which follows from a symmetrical description of practice. And if doctrine does indeed disappear in the staff organisation, this might help us understand why doctrinal change is so difficult and why new approaches to planning are difficult to implement.

3.3 The Assemblage, the 'War Machine', and What It Produces

In *A Thousand Plateaus,* Deleuze and Guattari describe a 'machinic' conception of society. Their central theoretical apparatus is the assemblage. The assemblage refers to a complex system of interconnected elements, including social, cultural, political, and technological. An assemblage is a dynamic and constantly evolving network of relations between heterogeneous elements or 'abstract machines' producing tangible outputs. These outputs, however, can never be understood outside of the assemblage. The assemblage is the general analytical framework in this project.

The concept of the assemblage has spurred a growing literature in international relations and critical security studies, most often as a reply to realism and historicism and the idea that causal technological or historical factors somehow predetermine the future. In the case of realism, the only relevant actors on the security scene are states, and their actions can be explained through rational choice motivated by self-preservation. This leads to a situation where states have no cooperation or trust, and everyone is constantly in competition. In response to this Hobbesian worldview, the assemblage has been used to understand the complex web of actors who make up the security environment and asks instead how security is constructed and by whom. The approach has been one of mapping out and tracing what the actors in the field point out as threats and opportunities, which allows us to grasp how the actors in the field understand their role in society, how they perceive security threats, and how they interpret contemporary science and technology (Angstrom & Widen, 2014; Lawson, 2011; Pretorius, 2008). Imaginaries are defined as ways people imagine their social existence, how they fit together with others, and how things go on between them and their fellows. Social imaginaries are the shared beliefs, values, and symbols that make up the collective identity of society (Jasanoff, 2004; Taylor, 2004). Thus, possible futures are constructed through shared narratives, metaphors, and images that help people understand complex and uncertain situations. According to Jasanoff, these

'imagined worlds' can profoundly impact policy-making as they shape how people think about and respond to new scientific and technological developments (Jasanoff, 2015a). Imaginaries also work in the assemblage.

In response to historicism, the assemblage has been fruitful in analyses of the use of technology in war. Again, the assemblage is a critical reply to the idea that technology has causative powers or an essence that makes certain developments inevitable. Assemblages and process philosophy have been used to uncover the profound entanglement of social and material factors, shedding light on diverse questions ranging from the conception of warfare or the development of nuclear missile guidance to the development and apparently irrational conduct of creating enough nuclear weapons to set the whole world on fire (Bousquet, 2009; Eden, 2004; MacKenzie, 1990). The commonality among these approaches is the attempt to understand how certain developments, actions, and decisions came into being by analysing them empirically and by breaking down classic divisions between the material and the social, emphasising instead the entanglement and co-construction of the processes that make up the social construction of these decisions and developments.

Deleuze and Guattari's analyses are 'schizophrenic'. They use this word metaphorically to underline how traditional approaches to knowledge and understanding are based on fixed categories and hierarchies that create rigid boundaries between different concepts and ideas. Instead, the 'schizophrenic' rejects fixed identities and categories in favour of a more fluid and dynamic understanding of reality (Deleuze & Guattari, 2013). In their analysis of the state, they use opposite pairs to tease out paradoxes and priorities within the assemblage. For example, they argue that the state has two heads: the magician-king and the jurist-priest or the despot and legislator. Their opposition, however, is only relative because they function in pairs and are the same poles at the same time, hence schizophrenic (Deleuze & Guattari, 1987, pp. 409–410). An analysis of assemblages is also an analysis of power. The elements in a given assemblage always serve someone or something outside the assemblage (Buchanan, 2015). Deleuze and Guattari's use of inside and outside or exterior and interior might be confusing. Any given assemblage is connected to other assemblages, and, to some extent, drawing a line between inside and outside or interior and exterior, at least if not done by actors in the field, is arbitrary. Thus, I suggest that these notions should be understood to indicate distance on a continuum: Inside or interior means close, while outside or exterior means further away.

One central assemblage in Deleuze and Guattari's analysis of the emergence of the modern Western state is the 'war machine'. This machine is exterior to the state since states have no war machine of their own. Instead, the state can appropriate one in the form of a military institution, which will cause the state problems since it will work in the state assemblage with its own logics (Deleuze & Guattari, 1987, p. 413). Two brief examples might help to illustrate how the assemblage or the 'war machine' has its own logic that will cause problems for its political masters.

Lieutenant General Michael C. Short commanded NATO's joint force air component in the campaign against Serbia in Kosovo in 1999. During and after the war, he was frustrated with his political masters. Airpower was not used as it should have been according to doctrine. Political requirements influenced target selection, which meant that the air campaign focused on tactical objectives, i.e. Serbian forces fielded in Kosovo and not strategic targets in Serbia, such as the power grid, the river bridges, and traffic into and out of Belgrade as doctrine suggested (PBS, n.d.). Another example is the naval blockade of Cuba during the missile crisis in 1962. US President John F. Kennedy had declared a quarantine zone off Cuba. However, the US Navy hunted Soviet submarines outside this zone since submerged subs near US vessels but outside the quarantine zone still posed a threat that, according to doctrine, meant they should be hunted (Paparone, 2017b).

These short stories show that the military's logic might be aligned with but not the same as the state. The idea of real war within Western militaries is a form of 'la grande Guerre', or wars in which soldiers fight against soldiers and political interference are left out (Høiback, 2003, p. 7). Once the political objectives are set, the military will align ways and means to achieve the military ends that the politicians asked for. However, this line of thinking does not comply with the idea of the political master as a despot or a legislator, as Deleuze and Guattari's idea of two heads of state suggests. This military logic exists outside the state but severely affects the state's actions and options. How these civil-military relations work is a separate but related field (Freedman, 2022; Pion-Berlin & Dudley, 2020; Ricks, 2013).

I have used the assemblage to understand how several competing and theoretically incompatible approaches can exist simultaneously within the military staff organisation. It, too, is schizophrenic. However, when I mention the war machine, it is not a theoretical conception that works in the organisation of the state, as Deleuze and Guattari analyse, but

a metaphor used by the practitioners in the field themselves. Similarly, I have been inspired by Orlikowski's call to understand organisational life as a socio-material practice (Orlikowski, 2007). The assemblage framework allows for the inclusion of material and social aspects in the same analyses and symmetrical descriptions. Indeed, as Deleuze and Guattari point out, technology only has meaning in relation to an assemblage. The machinic assemblage determines what a technical element at a given moment is (Deleuze & Guattari, 1987, p. 463). Things are given meaning only in relation to assemblages, and meaning is constructed and results from this process of assembling.

The term assemblage is often used in conjunction with or as a synonym of Latour's actor-network (Gad & Bruun Jensen, 2010; Orlikowski, 2007). Indeed, Latour was inspired by Deleuze and Guattari as he developed his actor-network theory. Still, I understand the assemblage as something that produces tangible outputs that, in themselves, can be understood as assemblages. In the analysis of staff work, the tangible output is the operational order or an organisational decision. Recall from the introduction that rational choice cannot explain organisational decision-making in practice. Instead, the question becomes one of describing what makes up the assemblage of human and non-human actors that produce a certain kind of order or organisational decision. This approach has methodological consequences since nothing about the assemblage's connections or cause and effect is to be presumed. This means suspending the typical analytical delineations. Therefore, the assemblage framework is also an *attitude* and a way of starting an inquiry based on the uncertainty of expecting that we will encounter hybrid actors in the analysis (Gad & Bruun Jensen, 2010, p. 75).

For this project, the point is that doctrine works in the assemblage of military staff organisational life by shaping our understanding of military operations and plays an active role in the staff's understanding of the battlefield. That doctrine is supposed to do this is hardly a novel observation. The aim, however, is to develop knowledge on how this works in practice, the intended and unintended consequences of working with doctrine, and what and who the other actors might be.

3.4 Breakdowns As a Means to Study Process

Viewing the notion of breakdown as a constructive event helps us to notice how order is produced. The problem is that if there is a state of flux, there might not be any rational place to initiate an analysis. Bousquet and colleagues call this the lack of a rational base camp from which to set off in the study of a process (Bousquet et al., 2020, p. 105). The first problem is perhaps getting everyone to accept that operational realities result from processes and that there is a state of flux. I find that there are similarities to the classic approaches from the SSK programme: venturing into the laboratory to describe how the actors in the field produced order. In this field, similar challenges emerged. First, researchers need to soften the hard facts of science by describing how the facts resulted from controversies that have been settled and perhaps forgotten. Such black boxes are opened when they fail to perform as expected; this is when controversies (re)emerge and breakdowns happen. Second, to make this comprehensible, researchers need to describe processes of ordering disorder in an analysis that does not merely repeat the scientist's own words. For example, Latour & Woolgar discuss how a purely ethnographic description of science production in the practitioners' language would probably be incomprehensible and, thus, the empiricist to needs to construct some order in disorder to present an understandable narrative (Latour & Woolgar, 1986, p. 39). Breakdowns offer an entry point to 'the logic of practice' (Bourdieu, 1990; Sandberg & Haridimos, 2011). It is a way to describe what actors do and how they act in the process of getting the social or abstract machine to function again. The participants' own vocabulary is used to diagnose the problem and how it should be fixed. Similarly, these events are constructive paradoxes where ideas and priorities clash. They reveal what is deemed essential and what can and should be ignored.

When processes merely happen and things work, describing what acts and what does not is hard. Heidegger famously distinguished between 'present-at-hand' and 'ready-at-hand'. Consider the process of hammering. Assuming that we can hit the nail, we will only pay a little attention to the workings of the wood into which the nail goes, to the nail itself, or the hammer. They are readiness-to-hand when they work. Consider a scenario where the hammer breaks. The blow strikes at a crooked angle, and the nail is bent. The hammer is suddenly present-at-hand, and we wonder how to proceed (Heidegger, 1962, p. 98). When order breaks down, we can observe or understand how and what works in the assemblage.

In Heidegger's example, it is the process of hammering, and in this study, the process of military decision-making or construction of order. Disputes can be settled, for instance, by verbal utterances from human actors who state how one should or must proceed, but also by non-human actors that shape what can or cannot be thought, can or cannot be seen, and, subsequently, which realities are allowed to come into being.

Breakdowns, therefore, perform an important function, as they subsequently disclose how order is (re-)produced. From the sociology of standards, we learn that breakdown comes in two forms: first- and second-order. First-order breakdowns are when standards are merely tinkered with to get the process going again. This happens expectedly as part of any exercise from either enemy action or merely from 'friction' arising from getting their units to coordinate (MacKenzie, 1990; Sandberg & Haridimos, 2011). Using the Heidegger analogy of the hammer, we might notice that our current hammering approach seems to bend the nail in one direction, so we adjust the trajectory and strike the nail at a different angle. Second-order breakdowns are when the standards fail altogether, and the practitioners stop to question the validity or grounding of the standards. This is when the hammer becomes present-at-hand.

This seldom happens as part of an exercise, where the goal is to re-establish order as quickly as possible with the means immediately available. It might happen as part of the after-action review process, during the revision of the SOPs, or in the phases of PME when students are asked to engage critically with doctrine. In this study, it also occurs in interviews where the research participants are separated from their decisions and are asked to reflect on their experiences.

What follows from Orlikowski's call to understand organisational life as a socio-material assemblage – or Bousquet and colleagues' call to describe the becoming of war – is that there should be no hunt for universal causes or effects that might reveal themselves during these breakdowns. There are causes and effects, but these are local, contingent, and situation-bound. This does not mean that things cannot be recurring, that trends do not exist, but rather that we base the analysis on the attitude of uncertainty (Gad & Bruun Jensen, 2010), expecting nothing but local solutions to local problems and analysing them as coherently as possible. The STS tradition is hence distinctly different from anthropology; it pays attention to local practices but also retains the possibility of generalisations (Jasanoff, 2004).

4. Methods

In this chapter, I describe the research methods. My original focus centred on understanding how the staff implemented doctrine in practice. To accomplish this, I entered the headquarters of a multinational NATO division and conducted observations and interviews. Most of my observations centred on the mundane organisational routines that structured the workdays of staff officers. Simultaneously, I did a series of interviews with former and current NATO commanders, senior staff officers, and doctrine writers.

In the following, I present two primary sources of empirical data and how it was collected. In 4.1, I describe the fieldwork I conducted at the multinational NATO division, as well as the elite interviews. In 4.2, I discuss the forms of secondary empirical material I used, including doctrine, standards, and autobiographies. In 4.3, I discuss positionality using Merton's classic insider/outsider distinction as the departure point. In section 4.4. and 4.5, I consider military security and research ethics, respectively. Both topics had a profound influence on my project concerning the level of detail and context I could provide in the analyses of empirical material. The Russian invasion of Ukraine in 2021 changed how the military organisation understood security, and elements that would have been unproblematic before the war were now cast in a new light.

4.1 Primary Empirical Material

4.1.1 Fieldwork in the Staff

I conducted fieldwork at a Multinational NATO division from September 2020 to June 2021. My status as a Danish Army officer helped me gain access to the NATO division. I initially emailed the divisional chief of staff and discussed my project with them before approaching the commanding general via official channels in the military chain of command. The response was positive on both occasions. The only caveat was that I would be working in a restricted environment, that I should be able to uphold my security clearance throughout the project, and that I could handle classified information. I shall address military security and research ethics and their implications for the study in sections 4.4 and 4.5, respectively.

I am an active-duty military officer who previously worked as a staff officer in a divisional headquarters. However, neither this fact, nor the permission granted by the

general or chief of staff allowed me to easily enter the divisional exercises. In two of three training events, I had to escalate and reconfirm my participation by going through the chain of command. The problem was my status as 'outsider', because I was not listed officially on the roster as an exercise participant. Thus, I was not on the 'transport manifest of the military C-130 Hercules transport plane' that should fly us out; nor was I on the list to have access to the restricted area, and not on the list for those needing accommodation. I got there on all three occasions, but only by constantly reminding the administrative personnel; the divisional chief of staff had to intervene personally at one point in time to confirm my place at the headquarters. To some extent, this became part of the field notes. As an outsider not listed on the manifests, I became a logistical problem or an 'odd gear' that did not fit into the other gears inside the machine. Once I arrived physically at the headquarters, there were never any problems. I might not have had access to the internal computer system, but that could have been arranged in a few days' time.

I participated in two exercises. The first was a planning exercise where I was collocated with G5. The letter G means that the cell is part of a general staff in the land domain. Had I been at a Joint Headquarters, a similar cell would have been designated with a J. The number five refers to the planning cell. During the next exercise, I was placed with the training cell, G7 in military terms. During this exercise, the movement was restricted due to covid-19. Thus, the different sections worked in so-called 'covid bubbles', minimising physical contact at the headquarters. Most meetings which would have taken place in person were done via Skype instead. My location with G7, which was located next to the commanding general's office, along with a username that implied that I was part of the training branch, allowed me to drop in and out of the online meetings and visit some of the bubbles during the exercise. According to the other exercise participants, it also provided me with the best coffee since the kitchen on the general's floor contained a machine that made coffee from freshly ground beans, while the rest of the building only offered instant coffee. I promised staff officers fresh coffee and air outside the building in exchange for short interviews. I never encountered hostility, nor was I asked to run the general's or the system's errands.

Most of the participants within the division were mid-career officers in their mid-30s to mid-40s who had either finished or were studying for a master's degree in military studies or similar; thus, they were the same age and military rank as myself. As a

multinational division, there were staff officers from various NATO countries on the staff. I attended the daily meetings, worked with the staff, and thus worked, slept, and ate in the same places as the other staff officers. During my work, I was particularly interested in breakdowns. Often, this was simply a matter of sitting next to the practitioners, watching their actions, and listening to them explain how they go about their business. These events were more than enough to spark a conversation about the priorities and demands of the situation.

Similarly, the informants could maintain their positions as staff officers without being compelled to engage in critical self-reflection. Occasionally, I would start informal conversations over a cup of the general's coffee outside the building in which I would pose follow-up questions to clarify my observations or prompt individuals to reflect on their decisions. Some participants would respond to my questions with a look of disbelief, as if I, given my rank and status, should already know the answer. However, I also noticed that the staff officers were willing to discuss their daily tasks when someone showed interest, and they consistently respected my research at the headquarters. Occasionally, my hypothetical inquiries would be seen as a lighthearted invitation to challenge established norms or an opportunity to vent. During dinner, I sometimes overheard staff officers discussing variations of the 'what-if' scenarios I had proposed earlier.

As I worked in a restricted environment, I had to take notes using pen and paper. I did this immediately after conversations to capture as many details as possible. I also took notes when I read the divisional standard operational procedures or attended meetings. The notes consist of what was said during these short semi-structured interviews about breakdowns, along with a set of initial ideas, codes, or labels marked with a '#' in my notebook that could later be used to analyse the material or at least trace my thinking in the situation. I also wrote down more mundane observations about the weather, the atmosphere, the mood in the headquarters, or whatever else I noticed. After the exercise, I transformed these handwritten notes into notes on the computer.

Interestingly, the rather mundane observations, jokes, or sudden outbursts by the research participants best captured the atmosphere in the headquarters in the subsequent analysis and provided some of the most notable quotes for the different analyses. I consulted the first set of field notes when I developed my interview guide and found examples of breakdowns I could use to get the interviewees to reflect on how the military

organisation worked. In turn, I used examples from the first interviews to sharpen what I was looking for during subsequent visits to the field.

4.1.2 Elite Interviews

From March 2021 to November 2021, I interviewed 33 former and contemporary commanders and senior staff officers across the NATO alliance. All interviewees are either army or US Marine Corps officers. My initial interviews comprised three persons in my own professional network; I used the snowballing method to find other relevant persons to interview. They were said to have strong opinions on the use of doctrine, either agreeing or disagreeing with the participant in question. At the time, many of the most prominent commanders had served either in the NATO headquarters in Brussels, in the NATO-led international security and assistance force (ISAF) headquarters in Afghanistan, or they had been part of the NATO senior mentor system in which a retired general becomes a mentor to a newly appointed general. Thus, the generals often knew each other, many held similar views, but sometimes had different opinions on doctrine-related questions. The senior staff officers I interviewed had served in the generals' staffs, again often during operations in Afghanistan. The generals' age ranged from the mid-50s to the late 80s. The staff officers I interviewed were typically a little younger. I followed the leads until they dried up, namely when the respondents started referring to respondents I had already talked to, or until respondents with similar backgrounds started answering the interview questions in a like manner.

I have arranged the interviewees on the table below. I assigned the NATO codes to show the officer's rank: OF-6 to OF-9 are general officers; OF-3 to OF-5 are senior officers. The table is organised, first, in descending order rank and, second, alphabetically by name. The numbers in the left column are consecutive and do not have any other meaning. The names of the retired officers who have given their consent are listed. NNs are either on active duty and therefore anonymised per default to comply with military security issues or retired officers who wish to remain anonymous.

Table 3: List of interview participants

Number	Rank	Nationality	Name
1	OF-9	US	David Petraeus
2	OF-9	GER	Hans Lothar Domröse
3	OF-9	US	James Mattis
4	OF-9	US	John Nicholson
5	OF-9	DNK	Knud Bartels
6	OF-9	UK	NN
7	OF-9	GER	NN
8	OF-9	UK	Sir David Richards
9	OF-8	POL	Andrzej Fałkowski
10	OF-8	GER	Bruno Kasdorf
11	OF-8	DNK	Kjeld Hillingsøe
12	OF-8	NL	Mart de Kruif
13	OF-8	US	NN
14	OF-8	US	NN
15	OF-8	DNK	NN
16	OF-8	FR	NN
17	OF-7	BEL	Hubert de Voss
18	OF-7	UK	James Cowan
19	OF-7	DNK	NN
20	OF-7	DNK	NN
21	OF-7	US	NN
22	OF-7	DNK	NN
23	OF-6	DNK	Henrik Sommer
24	OF-5	US	NN
26	OF-5	US	NN
25	OF-5	US	Richard Creed, Director, Combined Arms Doctrine Directorate
27	OF-4	DNK	NN, Staff officer
28	OF-4	UK	NN, Development, Concepts, and Doctrine centre
29	OF-4	UK	NN, Development, Concepts, and Doctrine centre
30	OF-4	DNK	NN
31	OF-4	US	NN, Combined Arms Coctrine Directorate
32	OF-4	FR	NN, Ecole du Guerre
33	OF-3	US	John Schmitt, Pen lead, US Marine Corps' 'Warfighting'

Table 3: List of interview participants

My interviews are best described as elite interviews (Kvale & Brinkmann, 2018, p. 201). I thus spent quite some time preparing for these interviews. This included reading what the research participants had published themselves, often in autobiographies, occasional papers, and public interviews. I studied the operations they had taken part in, including the Troubles in Northern Ireland (late 1960s - 1998), the British intervention in Sierra Leone in 2000, the invasion of Iraq in 2003, and the different phases of and major

events in the counter-insurgency operations in Iraq and Afghanistan, some of which I had participated in myself. Finally, I read military history in general, particularly the historical cases that the interviewees had commented on. A handful of recent military operations, such as the Fall of France in 1940, the Gulf War in 1991, and the Iraq invasion in 2003, are common reference points in the military profession. The Battle of Denain on 24 July 1712, which a French general used as a central point of reference, was new to me. Another source is the memoirs of prominent commanders. I felt that I needed to stay on top of them. This background allowed me to engage more directly in the interviews and portray myself as an informed conversational partner (Examples include Balck, 2015; Doughty, 2014; Gordon, 1996; Guderian, 1998; Manstein, 2018; Richards, 2014; Rommel, 2009; Slim, 2000; Smith, 2006).

Accessing top-level management is a known problem in organisational studies (Finkelstein et al., 2009; Thomas, 1995). I think several factors led to the possibility of getting access: First, the topic of the interviews was related to Fuller's warning that doctrine is apt to ossify into dogma. In 2019, former US Secretary of Defence and retired US Marine Corps General Mattis published his memoirs, in which he called doctrine 'the last refuge of the unimaginative' (Mattis & West, 2019). Thus, there was a generally recognised tension among senior commanders – aptly articulated by General Mattis – concerning standardised approaches to military operations, on the one side, and creative and innovative approaches to military operations on the other. Second, many claimed that the questions I posed during the interviews were the same ones they had struggled with during their careers. Thus, the conversation itself was of interest to them. I actively used my professional background to formulate the interview questions, and spent a good deal of time preparing for the interviews. Third, in most cases using the snowballing method, I was given the interviewee's private email. If the person giving me the recommendation did not write an introductory email explaining who I was, I would write one. Once, I used the Danish defence attaches at the embassies in Berlin, Paris, and Warsaw to reach out to named individuals, and twice I used LinkedIn to establish contact with a named individual. The few times I experienced rejection were when I approached interviewees via the official channels and got denied by gatekeepers in the form of aides-de-camp or secretaries. On a few occasions, interview prospects politely declined, stating that they did not have the experience at the level I was looking for. Finally, I did most of the interviews via Zoom during the covid lockdowns. This

might have helped normalise interviews via Zoom in the first place. When society opened again in late 2021, it became increasingly more difficult for the busy interviewees to set aside time to talk.

I used a version of Fuller's famous warning that doctrine is apt to ossify into dogma in the initial email inquiry. Here I also listed the three themes of the interview: (1) The role of doctrine in training and operations, (2) the commander's role in the planning of operations, and (3) risk management and creativity. In my interview guide, which I did not share, each theme was broken down into three to four research questions, which again was translated into an interview question. At the end of the email, I listed what they consented to and issues on military security that the interview was supposed to be unclassified. These interview themes related to Howard's two problems; the organisational response in the form of doctrine; and how the listed dualities of rationality and creativity, standardisation and uniqueness, authority and reflexivity, theory and practice, and order and chaos are balanced within the military profession.

Given similar status and experience, I knew from the literature that there was a danger of reproducing commonalities and the exact organisational givens I set out to explore. Thus, I encouraged the interviewees to construct personal narratives about why they made an operational decision, how they experienced the burden of command, or examples of how they pushed the staff beyond the textbook solutions. Interviewing proved to be a steep learning curve, and as I read the first transcripts, I could easily notice that the interesting thing to analyse was the personal narrative. The reproduction of organisational givens in the forms of normative statements or pre-scripted, one-on-one lectures about how things are or how they should be were neither interesting nor did they provide much qualitative data for the subsequent analysis (Kvale & Brinkmann, 2018, p. 202).

The concept of breakdowns helped me to get interesting answers. Over time I found that the most interesting responses came from follow-up questions, or when I asked interviewees to reflect on second-order breakdowns. By focusing on personal narrative and personal experiences, I was able to overcome some of the bias that might emerge when two people from the same profession engage.

In the process, I also learned to use my interview guide as a handrail. Sometimes it was simply a matter of allowing interruptions and going with the flow of the conversation while still maintaining focus on the overarching purpose of the conversation.

I recorded all the interviews via Zoom and transcribed them afterwards. Most of the participants gave their permission to publish the interviews in their entirety, while others preferred to remain anonymous.

4.2 Secondary Empirical Material: Doctrine and Other Forms of Grey Literature

The secondary empirical material comprises formal written doctrine, reports, SOPs, autobiographies, and military history. Much of this literature falls under the grey literature heading, which is the literature produced outside the traditional publishing and distribution channels. In the case of doctrine and SOPs, there might be an additional layer of classification issues. US Joint and Army, US Marine Corps, and UK Joint and Army doctrine are all publicly available. Staff handbooks and SOPs within the profession are not, and some might be classified as restricted. Danish Army doctrine at the highest level is unclassified, but lower-level doctrine is restricted. German doctrine is restricted and thus not publicly available. NATO doctrine is a strange middle ground. It is unclassified but not publicly available. Some NATO doctrine is available via the UK Ministry of Defence, which uses NATO doctrine with national amendments and comments.

I have used doctrine, staff handbooks, and SOP as secondary empirical material on par with military history and autobiographies. Generally, I have read it and used it to instigate breakdowns or to help establish categories in the analysis. I have referenced the US and UK doctrine primers which can be understood as a form of doctrine on the concepts of doctrine, and I have referenced NATO doctrine on operations and planning. All NATO terminology has been made publicly available via the NATOterm homepage.

I have noticed differences in how the nations and services understand and write doctrine during my reading, interviews, and fieldwork. This became a factor in one of the articles. However, what separates secondary material from primary is that I have not coded or analysed it as I have done with interviews and fieldwork. There is a potential to do this both at the level of doctrine and at the micro-level within the staff and describe how documents and documentation are produced to create order in the assemblage. In my field notes, I have explained how these standards work, and a minor analysis of them is described, particularly how they narrow down the border approaches described in doctrine. I used such observations to instigate breakdowns, and, pragmatically, it was a way to bypass

classification issues by shifting focus from them and their classified content to their consequences, which can be described in broader and thus unclassified terms.

Autobiographies and military history also serve as secondary material but in a slightly different manner. It was primarily a matter of preparation for the elite interviews. The research participants continuously mentioned one autobiography, General Mattis' book *Call Sign Chaos* (Mattis & West, 2019). This was not only because General Mattis is a recognised and respected commander within the profession, but the work had been published just before I initiated my streak of interviews and was the talk of the town. General Mattis has a talent for memorable one-liners that strike a chord with the military profession, such as 'doctrine is the last refuge of the unimaginative'.

4.3 Positionality: Insider and Outsider Perspectives

In 1972 Merton identified two incommensurable approaches to the discussion of researcher positionality. The insider doctrine claims that particular groups have monopolistic access to some kinds of knowledge, while the outsider doctrine claims that only outsiders can free themselves from collective myths (Merton, 1972). Merton argued that individuals do not have single states but shift states as one moves from one setting to the next. As a military officer in uniform within an army staff, I considered myself a bit of both depending on the situation I found myself in. I used my own positionality to gain access to the NATO division and the divisional staff and to place myself in cases where I expected order to break down.

Similarly, I could distinguish between order and disorder and understand the working language of the staff officers within the staff. Because I hold the same rank as most of my informants, my empirical material was gathered as an insider in the uniform (Merton, 1972; Wegener, 2012), which differs from the classic ethnographic ideal of studying practitioners as an alien tribe (Latour & Woolgar, 1986). However, the mere fact that I was not busy getting the machine to function but looking at it through the lens of assemblage and breakdowns allowed me to capture rich data in the headquarters. I do not claim that I have monopolistic access to understand the workings of the divisional staff, but I had a good idea of what I was looking for and where the exciting events would be. Perhaps the research

I was able to conduct at the divisional headquarters only differs in kind but not in epistemic quality from what other researchers might have done.

At times, I was also cast as an outsider within the division. This happened continuously in administrative matters, and during one of the exercises, my location with G7 on the general's floor had a similar effect. The mere fact that my coffee smelled differently cast me, on some occasions, as 'someone from the top floor'. Thus, one can still be considered an outsider while in a uniform, holding the same rank, and participating in the same exercise.

With more than twenty years of experience in the military, I am no *tabula rasa,* and I am travelling through fields that I am already somewhat acquainted with. The entire thesis stems from my observations of how the profession struggles with doctrine and dogma. I am, therefore, not a disinterested observer trying to understand how the natural world works. I am an interested participant who has experienced the consequences of the military's struggle with the dual problems of knowledge and organising. However, the crucial difference between me and the staff officers in this project is *time* and attention to detail. Because I was not busy getting the military machine to run, I could linger and dwell on details that I would normally gloss over. This notion of not being busy in a busy headquarters is an essential aspect of the entire project.

Thus, more than a miner uncovering or revealing something untouched and hidden in the data, I have considered myself a traveller on foot paying attention to minor details and allowing the vocabulary of the field to influence the subsequent travel report (Gad & Bruun Jensen, 2010; Kvale & Brinkmann, 2018; Latour, 2007). However, I travelled and experienced the headquarters and talked to the generals. Other travellers might have noticed slightly different details but presumably the same tendencies. This way of giving voice to the research participants, who describe the process of planning in their own words, is simultaneously a methodological attitude and a way of overcoming or at least monitoring one's own bias and allowing for surprise in the process. I was personally surprised by some of my findings about the staff, particularly how doctrine disappeared and how SOPs and templates governed what could be presented. In interviewing the commanders, I was also surprised by the amount of importance they gave intuition.

I suspect that my position as an insider, or at least an interesting conversational partner, proved invaluable in the interview setting. I served on the ground in Iraq and

Afghanistan in some of the operations that the research participants commanded. In the case of the US-led invasion of Iraq in 2003, I knew the ground through which 1 US Marine Corps Division attacked. The smell of the open oil pools in the Rumaila oil field in Southern Iraq was familiar. This familiarity with the operations, as well as a sense of being brothers in arms, helped me get access to both the interviewees and the division in which I conducted fieldwork. Thus, in this case, the insider doctrine did not concern monopolistic access to knowledge but more pragmatically physical access to the division and access to the interview participants.

Being more of an insider than an outsider, I made myself aware of the challenges of insider research, which could result in thinner descriptions or cause me to take my perceptions for granted (Mercer, 2007). Therefore, I have collected data not to initiate the analysis but merely to mark what I thought at each moment. Most importantly, data was collected and normative claims or judgements were postponed. I found it easier to adopt the outsider perspective during interviews, since I have never commanded a division. Thus, the informants knew more about that position than I did. I reminded myself to not complete others' sentences and tried to ask follow-up questions, for instance, by constructing breakdowns that forced the interviewees to reflect on their situation. The ability to use the professional military vocabulary was essential to building and maintaining credibility (Wegener, 2012). Thus, in the interviews, I did not ask how one decides as a commander, but, much more narrowly and related to the military decision-making process, 'what made you choose one COA (course of action) over another at the decision brief, or how did you develop the initial planning guidance?' These are events in the planning process where the commander, according to doctrine, plays a special role, but that role has not yet been described in concrete terms.

4.4 Military Security

In the following two sections, I will discuss how I have balanced the principles of research integrity, the demands of gathering empirical material in the military operational environment, and service as an active-duty military officer. Many of the military principles required to protect military personnel align well with the protection of informants. Challenges arise mainly concerning transparency. Much of the raw empirical data is

classified, and some findings could not be reported in unclassified academic papers. By necessity, observing military security gains precedence over research principles. However, military security is not dogmatic but requires judgement in application, which means researchers and informants have to find a practical balance. The project's scope is not the classified materials I collected but the process of doctrine becoming a plan, which happens in a classified context. However, in the case of written materials, classification is rather dogmatic. The classification level will be printed on the header and footer of the document; thus, the document cannot be used in its totality. However, one might reference how practitioners use these classified documents, the divisional SOPs for instance, more abstractly.

Military security might be unfamiliar to the academic reader. Therefore, I will initially sketch the general principles and responsibilities underpinning military security and outline the demands stemming from the environment I worked in. Second, I will relate the difficulties of observing military security, as well as the principles of research integrity. I will discuss where problems arise and how I mediated these problems.

In Denmark, military security is governed by the Defence Command. Its use of definitions is closely aligned with NATOs. Military security aims to protect 'against threats directed against personnel, materiel, information, information- and communications systems, operations and establishments' (Forsvarskommandoen 2021:1–1, my translation). The most relevant sub-sections of military security are the protection of personnel, documents, and operational security. The most basic principle in military security is the 'need-to-know' principle. This implies that one is only allowed insight into the amount of classified information needed to fulfil one's task. The second principle relevant to this project is that the issuer of information classifies information, and only the issuer can declassify it. There is no strict guide as to what classified information is. This will often depend on the situation. Typically, information on future operations or plans is classified until they are conducted. Afterwards, when plans of what is supposed to happen have happened, classification naturally becomes redundant. Military personnel are trained to use their professional judgement in applying classifications. This research is no exception. Observing military security was then an act of judgement, primarily on my part, except, as mentioned, when there was formally classified written material. Recall that my security clearance allowed me to access the division, and that I should be able to observe demands

from military security. This places all the demands of observing military security on the researcher.

Since the organisation believes I am capable of observing military security, no one has doubted my presence. Some interesting descriptions and details that would have helped me advance my arguments are left out due to classification issues. I can use them, however, when I present my work in restricted settings. The biggest problem has been from the journal reviewers who asked me to describe the micro-actions of the staff, following STS case study tradition (Law, 2017; Van Tiem et al., 2021). These details are classified, and thus limit the presentation of this type of study.

However, there were broader conceptual problems with secrecy and knowledge production. In this project, the paradox is that I ventured into the staff to open the black box of staff work and constructed new, although smaller, black boxes labelled 'restricted'. Pragmatically, it is a basic premise for conducting research as an insider in a military setting, but there is a set of wider methodological questions that arise when the demands of military security clash with academic ideals. In the wider methodological literature on military sociology, military security is often considered a problem among other problems related to accessing the field (Ben-Ari & Levy, 2012; Resteigne, 2022; Soeters et al., 2014a). Given the increase of researchers holding formal security clearances, it might not be satisfying for the organisation to leave the military security issues with the researcher, especially in light of the new security situation created after the Russian invasion of Ukraine in 2021.

On the other hand, this would have been an entirely different study if I had to comply with a number of formal security procedures. Similarly, it is a new tendency to have researchers in these classified settings. Thus, concerning research in this new security landscape, there is a whole set of pressing methodological and practical unanswered questions related to military security. In this study, what I have described above was the limit of what was possible. The alternative would have been studying the black box from the outside.

4.5 Research Ethics

Doctrine and its application are sensitive topics in the army. Understanding military doctrine and the ability to apply it soundly are linked to status. A good army officer knows their doctrine. Additionally, the Danish Army does not have a tradition of public and written discussions on doctrine. Instead, there exists a narrative that one ought to mean something that does not deviate too much from what the commanding general thinks. The very few discussions on doctrine that arise tend to be reactive and are closed quickly. In this status question, I draw inspiration from Latour and Woolgar's reflection on the reception of their seminal *Laboratory Life* (Latour & Woolgar, 1986). When Latour and Woolgar showed that scientific facts could be socially deconstructed, parts of their research were used as a critique against their informants. Some claimed that their informants were slacking and not following scientific standards; this was why Latour and Woolgar concluded that scientific facts could be deconstructed socially. Although Latour and Woolgar only used anecdotes and events unlikely to cause social or political repressions, this happened. However, insiders could identify at least some informants in a small and competitive field. From my knowledge of the military profession, I suspected similar issues could arise in this project.

My primary informants were staff officers affiliated with the division. These are typically mid-career officers with the rank of majors. Although I do not conduct research on these staff officers, I suspect I could still inflict serious harm on their careers. I drew on principles developed for medical research on human subjects to guide this thinking (Boleyn-Fitzgerald, 2003). These principles align well with the demands in military security to protect personnel. The principle of respect for persons was observed by letting informants know what the project was about and how their information would be used. Both the crisis staff and the permanent staff mingle during exercises. Branch chiefs who lead elements of 5-20 staff officers will usually allow each participant to introduce themselves. I delivered a concise introduction to my project, and described how the empirical material would be used. Typically, staff officers are heavily engaged in solving practical tasks required to fulfil their function during exercises. Here, my dual role as officer and researcher could have become problematic. When approaching staff officers working at their desks to observe a tactical discussion, they might address me as a colleague rather than a researcher, so forcing a conversation on informed consent would likely ruin the opportunistic conversation. This is neither a problem of disclosure on my part nor of understanding on the staff officers' part

but a practical problem of them being busy and me being respectful of their time. As I look and speak the part of any other staff officer, I disappear in my role as a researcher from the conscious minds of the research participants in the staff organisation.

I mitigated this issue by carefully anonymising the informants when the material is used, which places the burden of not disclosing classified or sensitive information on me. The principle of beneficence in this thesis boils down to 'do no harm', which is secured by protecting the informants. As military officers tend to move on to new positions every 2-4 years, they will probably not benefit directly from the study. Knowledge developed here will be available to their successors and the profession. In this study, the principle of justice is translated as treating the informants fairly, analysing the empirical material they provide coherently, and presenting this information with enough context to make readers understand why and how doctrine is applied in specific contexts. Where I have assessed that it would be beneficial to the understanding, I have released the staff officers' rank and branch. More often that I originally envisioned the term 'staff officer' proved sufficient.

My other informants are former or current commanders in NATO and senior staff officers. They are either senior career officers or retired and could be understood as informants giving expert or elite testimonials (Kvale & Brinkmann, 2018, pp. 201–202). My initial idea was to extend protection to them when feasible and meaningful. First, the fact that one is in a privileged position does not disqualify one from protection. Second, to conclude the study, citing these informants by their full names and rank might not be unnecessary. It would probably install an asymmetry in subsequent analysis where the generals' inputs could be read as the golden standard. The point is that these ethical concerns align well with my methodological design, where actors translating doctrine to operational plans are to be studied symmetrically. However, I departed from this principle in the command article. The quotes I used in that article were so specific that decontextualisation would ruin the meaning. Thus, in that article, every expert interviewee who has given their consent is quoted by name. I questioned the entire approach since many interviewed generals wanted to be quoted and were fine with talking on the record. Therefore, after the first two handfuls of interviews, I changed my initial email, so that recording was the default option with the possibility of opting out. Thus, anonymisation is not a one size fits all approach; it is better to respect the participants' preferences. Next, when writing the articles, there might still be the problem of creating an asymmetry that

does not blend well with the symmetrical lens. Therefore, in Chapter 7 on doctrinal typologies, the respondents are anonymous but in Chapter 6 commanders who have given their consent are quoted by name and rank since the distinction between the commander's view and the staff officers is important for the argument.

I conclude that military security must, by necessity, take precedence over research principles (Forsvarskommandoen, 2023; Ministry of Higher Education and Science, 2014). But neither military security nor research principles are binary categories, nor are they settled once and for all. Observing military security and research principles was a continuous process that related to the project's analysis, the reporting phases, and the data management of classified information.

This discussion of balancing military security and research ethics has sparked an internal debate at the RDDC on balancing these conflicting demands in military research. There is a lot more work to be done in this field, and military security and research ethics must be thought and developed together.

5. Rethinking Clausewitz's Chameleon

In 'Rethinking Clausewitz's Chameleon', Anders Bollman and I present a reading of Clausewitz that contradicts typical military or doctrinal readings. It is often stated that Clausewitz distinguished between the enduring and immutable nature of war and its changing character. The idea that war has an essence fits in the philosophical tradition of being. In this article, we suggest understanding war's nature as an assemblage, the result of a process, or as in the state of becoming. We argue that this understanding reflects Clausewitz's notion of war as more than a true chameleon and, thus, as in a constant state of becoming. Since Clausewitz was working in Berlin in the early 1800s, he was influenced by his contemporary Georg Wilhem Friedrich Hegel. Given his rich use of historical examples, it is apparent that he was familiar with contemporary German historical scholarship, which used history to challenge, and not confirm, universal and immutable viewpoints (Eskildsen, 2022).

Clausewitz used opposites, but we argue that he used them as a form of dialectics to tease out the paradoxes that make up war. War should be thought of as existing on a continuum between stability and change. Given this new information, we need to ask whether the notions of enduring and immutable principles are still valid or useful? Instead of asking what war *is,* the notion of the assemblage asks how war *becomes*. In other words, what parts or prior disagreements led to this event being labelled 'war' while other events are not. The article is published as a chapter in the anthology *Military Politics: New Perspectives* on 14 July 2023 (Bollmann & Sjøgren, 2023; Crosbie, 2023). Unlike the rest of the thesis, this chapter is based on neither fieldwork nor interviews.

Introduction

When dealing with a 'thing' ontologically, one questions what it is or how it is. 'What is war?' is, thus, an ontological question. Our assumptions about things provide the foundation for how phenomena relate to each other, their causality, and their mechanisms. How military practitioners imagine things fitting together actively shapes how they see the world, affecting action and judgement (Angstrom & Widen, 2014; Ansorge, 2010; Eden, 2004; Jasanoff, 2015b; Lawson, 2011; Nordin & Öberg, 2015; Öberg, 2020). Theory also rests on ontological assumptions, and military professionals draw on theory to better understand

their profession, act quicker, and make better decisions (Vego, 2011, pp. 60–61). Similarly, theory informs doctrine. Moreover, doctrine rests on ontological assumptions (Høiback, 2013; Jackson, 2013; Sjøgren, 2019; Vego, 2011). Viewing war as having a distinct duality between an immutable nature and a changeable character is a specific approach to conceptualising the ontology of war. From here on called 'the dual ontology of war', this distinction is widely attributed to Clausewitz.

The dual ontology of war permeates much of contemporary military theory as well as most Western military doctrine and thinking close to the military practice (Army [UK], 2011; Department of the Army [US], 2019a; Friedman, 2017; Jackson, 2013; Joint Chief of Staff, 2013; McInnes, 2007; Mewett, 2014; NATO, 2017).

The problem with a fixed nature is two-fold: (1) it holds the promise of arriving at a correct understanding of this enduring nature, and (2) academic arguments or operational experiences that question the nature of war can be dismissed concerning the unchanging nature. A focus in theory and doctrine on rationalism and logical coherence over empiricism might follow. Historian Andrew Gordon provides an illuminating example of the Royal Navy dismissing lessons learned in the Falklands War in 1982. They did not fit into how the service imagined war against the Warsaw pact (Gordon, 1996). Today, similar problems emerge in debates on future wars, civil-military relations, insurgency, emerging technology, and how militaries should integrate or unlearn the lessons of the global war on terror, including the counterinsurgency campaigns in Iraq and Afghanistan. Here, the sharp distinction between nature and character threatens to derail the debate.

We also note that the sharp distinction between nature and character is a recent invention. Michael Howard discussed how technology changed the nature of war (Howard, 1961). A US Army commanders' conference after the Tet offensive in Vietnam discussed the changing nature of that conflict (Sorley, 1999). As late as 1994, the director of the US army combined arms doctrine directorate wrote in a foreword to another book that it discussed the changing nature of war (Leonhard, 2017).

Although Clausewitz is often attributed to the formulation of war's dual ontology, he is not to blame for this invention. This 'paradox of things' is described very concisely by philosopher Brent Adkins, who has pointed out that all things, like the contents of his office desk, the Himalayas, or himself, are imbued with the same paradox: They consist of both elements of stability and elements of change at the same time (Adkins, 2015b, p. 110).

Adkins argues that most philosophers have approached this paradox by emphasising a discontinuity or separation between *the intelligible* and *the sensible*. The stability of things is attributed to their intelligible nature or essence. Things' ability to change is attributed to their sensible nature (Adkins, 2015b, p. 110). This way of solving the paradox entails a dual ontology between the intelligible and stable nature on the one hand and the sensible and changeable character on the other. The framework of war's dual ontology can arguably be understood as rooted in this idea.

Adkins was, of course, merely paraphrasing one of the main tenets of Western philosophical thought. In ancient Greece, Plato operated with a similar dualism between the world of forms and the world of appearances. The former belongs in the realm of the non-physical, non-extended and perfect. Plato calls this realm reality, and it is only accessible through reason. These appearances are physical, extended, imperfect, and mutable (Plato, 1999). This same duality underpins any Abrahamic religion in which God resides in the former realm while humans inhabit the latter. Plato also struggled with precise definitions. According to third century biographer Diogenes Laërtius, Plato defined humans as two-legged animals without feathers. Diogenes the cynic then plucked a cock, brought it into the Academy, and said, 'This is Plato's man' (Diogenes, 2006).

Two questions emerge from this short story: First, precise definitions and demarcations are complex, as in Plato's case. Would a human without legs not constitute a human? Second, does one need a precise definition of the ideal human to talk about humans? The default approach is not the only way to approach the paradox of things or the general question of what things are. German philosopher Ludwig Wittgenstein argued that there is no reason to believe that our words correspond to a particular essence of things. Instead, humans participate in language games in which the connection between an object and its name is the act of naming. Philosophical problems arise when language is insufficient or, in Wittgenstein's words, when 'language goes on holiday' (Wittgenstein, 2009 §38).

An alternative is thinking in assemblages. An assemblage is a set of heterogeneous elements arranged to form some sort of order. Assemblage theory allows one to think in terms of processes: becoming, stabilisation, and order. A specific assemblage results from a process rather than revealing an underlying order of nature. Assemblages are open to change, and while they are very concretely arranged in one way at a specific time, they could have been set or ordered differently had the process been slightly different. Instead of

revealing something about the immutable nature of things, assemblages are manifestations of processes, ways of ordering the messy social reality and are often linked to questions of power (Buchanan, 2015; Deleuze & Guattari, 1987; Nørgaard & Sjøgren, 2019).

This does not mean that stable categories or thresholds between war and not war are redundant. Binary oppositions might be paramount for military forces to operate, to provide clarity for strategic thinking, or to delineate between forms of legislation (Stoker & Whiteside, 2020). However, this does not mean that these categories are revelations of an underlying enduring nature. Instead, they might be products of particular conditions and circumstances and change when conditions and circumstances do (Heuser, 2022).
This chapter proceeds in four sections. First, it will account for the two schools of thinking about war's nature. Second, it will lay out Clausewitz's position concerning change and stability in war. Third, it will point to the conceptual and practical challenges this way of ontologically conceptualising war creates for theorising about war. Finally, the article will outline the contours of an alternative ontological framework rooted in assemblage thinking.

War's Nature: Two Schools of Thinking

The debate on war's nature can be separated into two schools: Those who think war's nature changes and those who do not. Interestingly, both sides cite Clausewitz for support. An example of the immutable school of thought, heavily institutionalised in Western militaries, is the US army ADP 1-01 Doctrine Primer, the US Army doctrine on doctrine. It states that 'doctrine is based on an accurate understanding of the nature of war' and that 'while the nature of war is constant, warfare changes constantly' (Department of the Army [US], 2019a, 3-7). This nature is defined as a violent clash between two or more forces (Department of the Army [US], 2019a, p. 3-1). The dual ontology is echoed in the UK army's doctrine primer. The following is presented as a quote directly from *On War*: 'War has 2 (*sic*) components that endure: its nature (the objective) remains constant under all circumstances; while its character (the subjective) alters according to context' (Army [UK], 2011 p. 4-3). In the NATO capstone publication *AJP-01 Allied Joint Doctrine* a section is simply headlined 'Enduring nature of conflict', which again states that the nature of conflict remains constant (NATO, 2017, p. 1.36). This premise is also found in academia where, for instance, Mansoor, in the introduction to his co-authored book on hybrid warfare, argues

that it is a 'buzz word [that] has become fashionable among both political leaders in the pentagon and elsewhere'. However, he continues and cites Clausewitz for support, while 'war changes its characteristics in various circumstances, in whatever way it manifests itself, war is still war' (Mansoor, 2012, p. 1). In a 2014 article on Clausewitz, Christopher Mewett takes the same position:

> *[W]ar's nature does not change—only its character […] The nature of war describes its unchanging essence: that is, those things that differentiate war (as a type of phenomenon) from other things. War's nature is violent, interactive, and fundamentally political. Absent any of these elements, what you're talking about is not war but something else .*

Mewett thus argues that war has an 'unchangeable essence' that is violent, interactive, and fundamentally political. According to Mewett, this will never change. He points out that the character of war is all those things that are contingent and changes through time and place, just like 'technology, law, ethics, culture, methods of social, political, and military organisation' (Mewett, 2014). Mewett's article critiqued a concept paper for the then-forthcoming project about 'The Future of War'. In defence, Rosa Brooks argued that:

> *I'm not quite ready to accept the claim that the nature of war is 'universal and eternal' — or, at any rate, I'm not sure that this is a particularly useful construct for understanding what is at stake in many current debates about what constitutes war (Brooks, 2014).*

According to Brooks, new phenomena like cyberwarfare pose a severe challenge to understanding war's nature since they are not violent, at least in a 'Clausewitzian' sense. Former US Secretary of Defence and US Marine Corps General James Mattis was also known as a staunch defender of the view that war's nature is immutable but that AI might challenge this view. When asked by a journalist about AI's impact on war, he answered that:

> *I'm certainly questioning my original premise that the fundamental nature of war will not change. You've got to question that now. I just don't have the answers yet (Kostopoulos, 2018).*

Furthermore, former Vice Secretary of Defence in the US Robert O. Work noted at a conference on AI in 2017 that:

> *There's widespread agreement in the military that artificial intelligence, robotics, and human-machine teaming will change the way*

> *that war is waged […] but I am starting to believe very, very deeply that it is also going to change the nature of war. There's no greater sin in the profession than to suggest that new technology could change the 'immutable' nature of human conflict, rather than just change the tools with which it's waged (Freedberg Jr., 2017).*

Thus, Brooks, Mattis, and Work are all questioning whether the nature of war is immutable after all. In all three cases, the driver for this debate seems to be the technological development that might enable states to achieve the political aims of the struggle with non-violent means. Contemporary Clausewitz scholars (Barkawi & Brighton, 2011; Beyerchen, 1992; Cormier, 2016; Echevarria II, 2017), new war theorists (Kaldor, 2012; Münkler et al., 2005; Shaw, 2005; Singer & Brooking, 2018), and empirically oriented military scholars (Bousquet, 2018; Bousquet et al., 2020; Nordin & Öberg, 2015; Zweibelson, 2015) also sit on this side of the fence, denying the immutable nature of war or simply sidestepping the question altogether.

For the purposes of this article, the point is twofold: First, if the nature of something can indeed change, then this nature is neither immutable nor fixed. What follows is that the distinction between nature and character as something ontologically or radically different becomes meaningless. Second, while scholars argue about the validity and applicability of the immutable nature of war, military practitioners seem to hold onto the dual ontology of war; Western militaries reify it in doctrine and learn about it through socialisation. Indeed, the very idea of entanglement leads to confusion. In debates on future war(fare) and civil-military relations, the dual ontology constitutes a gap that needs to be closed or addressed.

Clausewitz and the Dual Ontology of War

Clausewitz did not distinguish between the immutable nature and changeable character of war. He actually used the concept of nature and character somewhat interchangeably. Furthermore, his concept of nature differed from the immutable essence of contemporary debate (Cormier, 2016; Echevarria II, 2007, 2017; Simpson, 2018). This section will sketch a short outline of Clausewitz's theoretical and methodological approach to war. Furthermore, it will point out the misunderstandings that contributed to the conception of a dual ontology of war.

Clausewitz's Use of Dialectics

Clausewitz's theoretical and methodological approach was inspired by philosophers such as G.W.F Hegel and Johann G. Fichte, who provided him what was in effect a form of dialectics or a 'dialectical theory of war' (Cormier, 2016, p. 5). His point of departure is the notion of an 'absolute' or 'abstract war'. He proceeds to describe war as 'an act of force, and there is no logical limit to the application of that force. Each side, therefore, compels its opponent to follow suit; a reciprocal action is started which must lead, in theory, to extremes' (Clausewitz, 1989, p. 77). In this sense, war is escalatory and will escalate to its utmost extreme. However, wars in the real world are neither governed by logical necessities nor are they fought in a vacuum; they are governed by probabilities and are inherently political. Clausewitz found it is not inconsistent with war to range from a 'war of extermination down to simple armed observation' (Clausewitz, 1989, p. 81). Instead, this apparent opposition between the absolute and the real is used to discover paradoxes by asking why these differences appear (Aron, 1983, p. 179). This is how Clausewitz arrives at war's political nature (Clausewitz, 1989, pp. 80–81; Cormier, 2016, p. 53). By the same token, Clausewitz states that war is inherently social or 'an act of social intercourse', denying that war is neither art nor science (Clausewitz, 1989, p. 149). Thus, Clausewitz uses dialectics to tease out the paradoxes that make up war in the real world, most notably the Napoleonic wars in this own time. In his own words, 'the role of theory is to clarify concepts and ideas that have become entangled' (Clausewitz, 1989, p. 132). Thus, Clausewitz also struggled with 'the paradox of things' but lacked the precise language to capture that notion.

It is important to note that abstract or absolute war is a theoretical or conceptual construct that has no materialisation in the real world. Clausewitz holds this 'pure concept of war' up against the real world or in its concrete form, as he also calls it (Clausewitz, 1989, pp. 78, 579). Real war will not follow the law of escalation since a wide array of different factors limits it. First, as Clausewitz notes, real war is not just intertwined with but subjugated to politics; it is a 'continuation of politics by other means' (Clausewitz, 1989, p. 87). This means that wars in the real world are limited by the political purpose for which they are fought. The direr the motives, the more it will resemble its pure concept. However, even the most extreme cases of war, like the world wars of the twentieth century, are still not absolute wars since absolute war is a theoretical concept without materialisation in the

real world (Aron, 1983; Beyerchen, 1992; Cormier, 2016; Sumida, 2008). Phrased differently, war as an abstract notion is simply pure contestation between actors, but war as a real thing is contestation limited to greater or lesser degrees by political purpose, since politics affects the available resources, workforce, geography, technology, social and political factors (besides the overall goal), and geography.

Real wars differ from the 'pure concept of war' in another important respect: they are plagued by what Clausewitz calls 'friction'. Friction is all the unforeseen subjective and objective factors that influence war; it is fear clouding judgement, lousy weather affecting troop movement, logistics not being there on time, and the enemy misleading you (Clausewitz, 1989, p. 119). All these known and unknown factors entail that war in the real world differs from its pure concept (Cormier, 2016; Echevarria II, 2007).

It could be seen as unfortunate that Clausewitz based his war theory on a dialectic ontology between absolute and real war, which has led to much confusion (Cormier, 2016, p. 115). However, as Cormier notes, Clausewitz viewed absolute and real war as mutually exclusive. Absolute war is not war's immutable nature; it is an abstraction or a concept that, in Clausewitz's dialectical method, is held up against real war and is therefore not in itself real war. Clausewitz's dialectics are not like the dual ontology of war described in this article. Instead, his dialectal method is used to untangle concepts and ideas and expose paradoxes that make up war. In other words, rather than defining a Platonic ideal of war and then observing its real manifestations, Clausewitz dialectically posits one conceptualization (war as pure contestation), which he then challenges with an alternative conceptualization (real war as actually manifested), and then synthesizes the two extremes to arrive at deeper insights into war as such. This entails a flat structure rather than a hierarchy in which one realm is more real or ideal than the other.

The Trinity

This paradoxical trinity is another crucial aspect of Clausewitz's thinking.[1] In a much-quoted part of *On War,* Clausewitz describes war as follows:

[1] The word paradoxical is a mistranslation in the English version by Peter Paret and Michael Howard. Clausewitz calls it a "wunderliche Dreifeltigkeit" which means something like weird or wonderous. Hence, in the remainder of this article it will simply be referred to as *the trinity* to avoid confusion.

> *War is more than a true chameleon that slightly adapts its characteristics to the given case. As a total phenomenon its dominant tendencies always make war a paradoxical trinity – composed of primordial violence, hatred, and enmity, which are to be regarded as a blind natural force; of the play of chance and probability within which the creative spirit is free to roam; and of its element of subordination, as an instrument of policy, which makes it subject to reason alone (Clausewitz, 1989, p. 89).*

Some who hold that war's nature is immutable equate it with the trinity (Hoffman, 2018; Mewett, 2014; NATO, 2017). This, however, is problematic for several reasons. First, as F. G. Hoffmann has pointed out, some readers have thought that Clausewitz, when he states that war is 'more than a true chameleon', is comparing war with a chameleon that changes its colours or outer characteristics according to the environment, but stays the same at the core (Hoffman, 2018, p. 26). This reading, of course, aligns very well with the dual ontology of war. However, Clausewitz did not describe war as a chameleon but described it as 'more than a true chameleon'. Interestingly, the original German text does not use the word 'characteristics'. Rather, it states that war '*in jedem konkreten Falle seine Natur etwas ändert'* [in each concrete case it changes its nature somewhat] (Clausewitz, 1832, p. I, 1, 28). This leads Aron to conclude that war is a chameleon in two senses: (1) it is diverse in itself because of the strange trinity, and (2) it is diverse in its expression (Aron, 1983, p. 90).

The problem of diverse expression is epistemological: some wars are small, some are large, some are highly violent, some are not very violent at all, and thus wars, like chameleons, appear differently in different times and places. The trinity problem is ontological: any given war will manifest emotional, probabilistic, and rationalistic elements, and thus like a chameleon war is not one colour but a constant play of colours, which in their combination give rise to many variations.

We can add to Aron's two insights a third insight, advanced by Barkawi and Brighton. They argued that Clausewitz's remark that war is 'more than a chameleon' should be read radically rather than superficially. War has, they claim, the potential to cast social and political orders in motion. War consumes, reworks, and produces truths (Barkawi & Brighton, 2011). This is another way of thinking of the chameleon metaphor ontologically: wars manifest within social contexts, and are shaped by social and political realities. Think of a chameleon that partly reflects its surroundings. But wars also change that context, often

radically. To continue the analogy, war is something like a chameleon that changes its landscape even as it is changed by the landscape.

Our point is that it is essential to note that these three tendencies in the trinity at the very centre of war are not fixed; on the contrary, it is their nature to vary. This, for Clausewitz, was as important as their more stable characteristics. Therefore, he writes that the three tendencies where:

> *[L]ike three different codes of law, deep-rooted in their subject and yet variable in their relationship to one another. A theory that ignores any one of them or seeks to fix an arbitrary relationship between them would conflict with reality to such an extent that for this reason alone it would be totally useless (Clausewitz, 1989, p. 89).*

The different elements or tendencies of the trinity are both tendencies to change and to maintain stability. They manifest themselves in each concrete case. However, they also change in each concrete case and their relationship changes. Thus, if one conceives the trinity as identical with war's nature and argue that war's nature is unchangeable, one seems to be arguing against Clausewitz. In fact, in the wake of his description of the trinity, he states that 'the nature of war is complex and changeable' (Clausewitz, 1989, p. 90). Clausewitz did not operate with a dual ontology of war, and it was somewhat unclear what he precisely meant about the subject. However, what is certain is that both change and continuity played a central part in how he understood war.

In this section, we have shown that the dual ontology of war is misattributed to Clausewitz. Furthermore, we have rooted out some of the worst misunderstandings on Clausewitz's thinking on war's ontology. We will proceed with an analysis of the conceptual and practical problems created by the idea of the dual ontology of war.

Problems in the Dual Ontology of War

Three problems stand out: First, upon closer inspection, we can see that there is no agreement on the immutable nature of war, rendering its analytical value redundant. Second, the problem of induction: one cannot logically deduce the immutable nature of something through observation, since there is no logical demand that the future should resemble the past. Third, the distinct ontological categories are used insistently. All three

constitute a practical problem since the idea of a fixed nature does not add much relevance for the military practitioner.

Lack of Agreement on What Constitutes War's Immutable Nature

The first problem arises because there is no agreement on precisely what constitutes war's immutable nature. Citing Clausewitz, some argue that the notion of abstract or absolute war is what makes up its nature (Simpson, 2018). Others argue, also citing Clausewitz, that violence and the escalatory dialectics of absolute war constitute war's nature (Malick, 2019). The US doctrine primer focuses on 'the three elements of the Army's vision of war: it is inherently chaotic, it is a human endeavour, and it takes place among populations'. The latter element is not Clausewitz's; instead, it echoes the central thesis of British general Sir Rupert Smith's book *The Utility of Force* (Smith, 2006) and USMC general Charles Kulak's late 1990s concept of the 'three-block war' (Dorn & Varey, 2009). NATO doctrine defines the unchanging challenges facing service personnel as fiction, uncertainty, chaos, danger, and stress (NATO, 2017 p. 1-16). Some scholars citing Clausewitz argue that the trinity elements comprise the nature of war (Hoffman, 2018). Others argue for a combination of these things (Mewett, 2014; Taber, 2018). The UK doctrine primer, for instance, offers a combination, stating that 'conflict will always be a violent contest: a mix of chance, risk and policy whose underlying nature is human and volatile' (Army [UK], 2011 p. 4-2). Finally, as argued previously, Clausewitz himself did not seem to have a definitive answer. Even though all these interpretations invoke Clausewitz, they all point towards different aspects of his thinking and exalt them as war's immutable nature.

War's immutable nature is not agreed upon by those who argue for its existence, which seems contradictory to the notion that war has an intelligible nature. This need not be a problem *per se* since one of these interpretations could be correct and the others wrong. However, using the dual ontology of war, especially the concept of war's nature, becomes analytically and conceptually problematic, since the term denotes different things for different people. Thus, this is actually a problem concerning the analytical qualities and rigour of the concept, not a problem concerning incoherence *per se*. From this, however, a more serious challenge is posed: The notion of the dual ontology creates a set of dichotomies or categorical separations that makes military professionals, scholars, and others who think and theorise about war approach it in a specific way. It forces binary

categories and installs thresholds between war and not-war that do not reflect the plurality of war.

The Problem of Induction

One approach often used to search for war's immutable nature is to deduce from history or historical experience that war's nature will never change. This is the path trodden by Williamson Murray in *America and the Future of War* (2017). In a chapter on the ontology of war, Murray puts up an eloquent defence of the dual ontology. However, he uses prior historical experience as a definitive 'proof' of what he refers to as the 'two inseparable sides of the Janus-like face of war' (Murray, 2017, p. 34). Murray writes, 'The fundamental nature of war itself has remained constant throughout history' (Murray, 2017, p. 33). Furthermore, he points out that 'there are aspects of human conflict that will not change no matter what advances in technology or computing power may occur' (Murray, 2017, p. 34). The argument is that we can deduce the nature of war through history. However, if one views the nature of war as an empirical question, one is left with a question that cannot be answered. Even if what Murray defines as war's nature has been constant until this point in history, we cannot be sure that it will be so tomorrow even though we can make qualified guesses. This is the problem of induction (Hume, 1739; Popper, 2002). The question of what comprises the nature of war is not a question that can be answered with an empirical or historical approach. The argument is not that historical knowledge or best practices codified in doctrine or established civil-military relations are useless. Instead, such knowledge is to be approached with a hint of scepticism and constantly evaluated against its usefulness. Even though there seems to be historically visual continuity or stability in war, nothing logically demands that this will be so in the future. One could, for instance, argue that the increased use of airpower, drones, or robots is removing the danger, fear, and risk from at least some belligerents. If this is the case, is it only one side of the conflict that conducts war? French philosopher Jean Baudrillard argues that if only one side carries risk, it is a 'non-war' (Baudrillard, 1995). Professor of Law and the Humanities at Yale Law school Paul Kahn argues that such an intervention where one part is rendered defenseless would constitute a policing action, and thus not war, and require a different mandate for the legitimate and ethical use of force (Kahn, 2002). However, rendering the enemy defenseless is the very purpose of the engagement, according to Clausewitz. Clearly, there's a disconnect between

those scholars and doctrine writers who are so supremely confident in war's immutability and the ambiguities currently stressing our policy and regulatory norms.

Inconsistent Use of Categories

The final problem is the inconsistent use of categories. Some who argue that the nature of war is indeed mutable still seem to hold onto the distinction between nature and character. Nevertheless, if the nature of war is not immutable, does it make sense to construe war's nature and character as distinct ontological categories? If the nature of war does change, then it cannot be immutable. Thus, the elements that make up war's nature (whatever they are) have to be more stable than the elements making up its character (whatever they are), but since they are not immutable, they are not different. In other words, it must be concluded that if war's nature does change, then ontologically speaking, it differs from its character not in kind but degree only.

One example can be mentioned here. In several books and articles, Christopher Coker has argued that the nature of man and war is intertwined and has, paraphrasing Thucydides, called war 'the human thing' (Coker, 2014, 2018). Coker, using a rich arsenal of military and other historical examples, argues that war has always been interwoven with human nature but that this may be changing due to technological advancements such as AI, neurotechnology, and biotechnology. Even though Coker's conclusion is as much about human nature as the nature of war, he is falling into the above-sketched inconsistency: if the nature of war or of humanity changes, is it then nature (essence) in a strict ontological sense at all, and does it then make sense to distinguish the two categories ontologically?

Practical Problems in the Dual Ontology of War

If one cannot define rather clearly the nature of war, it does not make any practical sense to have a rigid demarcation before it meets the realities of life. This does not mean that war ceases to exist or that anything can be war. Instead, war is a label attached to certain social phenomena, often depending on context while not connected to others (Brooks, 2016). This is visible when we move close to the threshold of whether a particular conflict is a war.

Let us explore this through a series of questions: At what point should an insurgency or a rebellion be labelled as war? At what point would a cyberattack constitute an act of war? Is a naval blockade an act of war? Is an economic embargo? Could political organisations other than the state be allowed to wage war, and when does an organisation become a legitimate state? The answer to all these questions seems to be 'it depends'. The notion of war's nature (whatever that is) against war's character (whatever that is) does not help answer questions close to the threshold. How such questions have been resolved in the past might help us understand the powers at play when assemblages are named. This would help practitioners understand that the categories they use to demarcate war and not-war or appropriate civil-military relations are both stable and needed for coordination and cooperation but also liable to chance since they are not of a natural kind but the result of a process.

The Suggestion: From the Dual Ontology of War to the War-Assemblage

The previous section outlined why the commonly held approach to the ontology of war found in much of military theory and doctrine is problematic. The purpose of this section is to provide an alternative ontological framework for understanding war and assessing stability and change. The first part of this section will formulate such a framework. The second part will outline how this new framework of the war assemblage will sidestep the problems with war's dual ontology. The last part will reflect on the consequences of military doctrine and the traditional approaches to civil-military relations.

The Assemblage: An Alternative Approach to the 'Paradox of Things'

The concept of the assemblage was first introduced by philosophers Giles Deleuze and Felix Guattari (Deleuze & Guattari, 1987). Assemblage thinking has since been used and elaborated upon by scholars in fields as diverse as history, archaeology, human geography, anthropology, and International Relations (IR). It draws upon some of the same notions as complexity theory, concepts such as nonlinearity, emergence, and open systems, which have inspired Deleuze and Guattari and other scholars subscribing to assemblage thinking (Acuto & Curtis, 2014, p. 4; Bousquet & Curtis, 2011). Assemblage thinking is not one unified

theory: it is ‘a repository of methods and ontological stances towards the social’ (Acuto & Curtis, 2014, p. 3).

How do we link assemblage thinking back to Clausewitz? Let us recall that war is, according to Clausewitz, a social phenomenon or a social device (Clausewitz, 1989, p. 149; Cormier, 2016, p. 9). Returning to philosopher Brent Adkins, the assemblage is a conceptual answer to the ‘paradox of things’ (Adkins, 2015a, p. 10). Adkins argues that the concept of assemblage addresses the paradox of things in a radically different way than the above-outlined essentialism, replacing ‘the discontinuity of the sensible and intelligible with a continuity of the sensible and intelligible’ (Adkins, 2015a, p. 11). Instead of thinking things in terms of nature and character, an assemblage is a way to understand phenomena as ‘possessing in some respect both stasis [stability] and change’ (Adkins, 2015a, p. 13). According to Adkins, the concept of assemblage solves the paradox by ‘claiming that an assemblage always possesses tendencies toward both stasis and change as the abstract poles of a single continuum’ (Adkins, 2015a, p. 13). Things can exist between the poles of stasis and change without being ‘either/or’, they can be ‘both-and’.

Adkins notes, ‘the abstract poles that orient any assemblage are not different in kind; they are only different in degree’ (Adkins, 2015b, p. 110). IR-scholar Antonie Bousquet points out that the stability and change of the assemblage stem from the possibility of ‘the addition or subtraction of elements or the reorganisation between those elements’ (Bousquet, 2018, p. 167). Not unlike the notion of open systems within complexity theory, philosopher Manuel DeLanda argues that assemblages are to be viewed as individuals and more than a sum of their parts because they are open for changes and can affect the different elements that constitute them, through the processes of addition, subtraction, and reorganisation. They can affect other assemblages as well (De Landa, 2006, p. 40). Therefore, assemblages are themselves made up of assemblages or, as DeLanda puts it, ‘assemblages always exists in populations of assemblages’ (De Landa, 2006, p. 16). Since all things in assemblage thinking, be they material objects, biological entities, chemical processes, or social phenomena, can be viewed as assemblages, it does away with essentialism and provides us with a so-called flat ontology (Acuto & Curtis, 2014; De Landa, 2006, 2016; Harman, 2014).

An objection at this point could be that we are merely stating that war is complex. Indeed, a common critique of assemblages is that they amount to no more than adjectives:

they note something that is complex (Buchanan, 2015). However, one need not invoke postmodern French philosophers to drive home that war is complex. Clausewitz argued along similar lines. It is one thing to say that all things can be viewed as assemblages. Another question is whether they should. At a very practical level, the suspension of premature closure is probably what the assemblage does best by reminding us that the complex cannot be reduced to a few variables. It insists that there are always several co-constituent forces that make up an event, and while they might not be equal in force, they should not be differentiated ontologically before an inquiry is made. Thus, by adopting the concept of the war assemblage, one insists that war is complex and should be studied as such. Bousquet, for instance, uses assemblages to critique the idea that technology has causative powers in war, and he argues that such accounts rest 'on simplistic and selective treatments of the historical record' (Bousquet, 2018, p. 166). The assemblage likewise emphasises Howard's claim that there is no Archimedean point outside events (Howard, 1991).

The War-Assemblage and Its Implications

Viewing war as an assemblage entails a break from war's dual ontology, since the inherent notion in the assemblage is that nothing is unchangeable but that some things are more stable than others. Thus, conceptualising war as an assemblage allows viewing some elements as more durable than others without treating them as ontologically different. The war assemblage comprises many different 'things', some material, other ideational, and others again social. Approaching these things with a flat ontology solves the three conceptual problems sketched above.

One problem was that scholars tried to prove empirically that war had an immutable nature. By thinking of war as an assemblage, this task becomes redundant. It becomes interesting to understand why a given assemblage is formed, how the different elements got added into it, why other factors have been subtracted, and which processes of territorialisation and deterritorialisation have come before. Instead of empirically proving something that cannot be proven empirically, military historians and other scholars can focus on understanding how different stable elements are the way that they are, and why they are the way that they are, without making dubious claims about those elements' immutability. For example, one could place the pieces that proponents view as comprising

the nature of war closer to the abstract pole of stability in the continuum of the war assemblage and identify those elements comprising the character of war as nearer to the abstract pole of change. Thus, different aspects of war can be viewed as stable without creating ontologically distinct categories, such as nature or character.

Instead, one can approach different elements of war as being more or less stable. Furthermore, turning from war's dual ontology to the war assemblage allows for a better analysis of how the tendencies of stability and change are related. Instead of indirectly viewing these as ontologically separated, one can view them as part of the same continuum. This also means that questions such as 'does war have a nature?' or 'does this nature change?' become redundant, since war has no inherent essence but is made up of more or less stable elements. Rosa Brook's claim that cyberwarfare is changing the nature of war does not need to be answered through a debate about whether the nature of war is changing or only its character. Instead, the question should be approached in terms of how the inclusion of cyber assemblages into the war assemblage affects the stability and instability of other elements. One could argue that it destabilises physical violence, since war is suddenly not only waged by physically violent means. Something similar can be said about the emergence of AI. It is possible to imagine that the human element of war will change its relationship with other assemblages making up the war assemblage.

Finally, this also entails that discussions about what exactly comprises the nature of war become redundant. In this view, all such debates on the nature of war can be brushed aside. In their place, we may question how new assemblages fit into the war assemblage and become pertinent, or conversely, how other assemblages become less relevant. One could also argue that the traditional binary opposition between war and not-war is destabilised. A more nuanced understanding emerges where the threshold between war and not-war is blurred. This does not mean that military practitioners and their political masters can or should do away with the concept of war, with its concomitant state of exception, which facilitates different regulatory, normative, and political logics. The point is that the messiness of war as a regulatory, normative, and political category derives from its messy social reality rather than from our failure to name the true and eternal nature of war correctly.

A few examples of such approaches that insist on complexity are prudent. First, Margret MacMillan's *War: How Conflict Shapes Us* (2020) outlines how the development of

war and society are co-constituent forces and describes how war and society have changed over time. Although she declares that 'war in its essence is organised violence', she still insists on war's complexity and ability to transform itself over time, and indeed takes pains to describe this process (MacMillan, 2020, p. 4). Second, Robert A. Doughty's *The Seeds of Disaster: The Development of French Army Doctrine, 1919-39* (2014) outlines the multiple actors and interests involved in French inter-war doctrine development and thus analyses processes that led to a complex phenomenon rather than reducing it to a few simple variables (Doughty, 2014). Third, Lynn Eden's *Whole World on Fire* (2004) is an enquiry into how and why the US arsenal of nuclear weapons evolved to absurd amounts of warheads during 1950, enough to set 'the whole world on fire' (Eden, 2004). By tracking down what the actors took for granted, Eden found that knowledge-laden routines such as handbooks and procedures carried predictions and understandings. In turn, these organisational frames worked to frame the problems that the organisation then solved. In Eden's case, this was the question of destroying structures by a blast from the nuclear device instead of addressing whether nuclear weapons might render that problem redundant because of fire damage.

These three examples show how understanding, naming, and labelling helped arrange these assemblages. Although none of these authors explicitly used the word assemblage, they demonstrated the ontological stance that the war-assemblage advances. Describing who acts, who is allowed to voice their opinions, and how these actors make things work are the objectives of their very different analyses. This is a different objective than a revelation of the true nature of things.

Take It Easy on the Doctrine!

Clausewitz did not claim that war had an enduring and timeless nature, while only its characteristics changed. Instead, he claimed that the very phenomenon of war constantly changed. If nothing else, the war assemblage will emphasise this point. Social phenomena exist on a continuum between stability and change; thus, nothing is unchangeable. This entails that military doctrine cannot be a tree firmly rooted in military history (Drew & Snow, 1988). Doctrine is neither fundamental nor enduring.

We do not expect military practitioners to develop a loving relationship with postmodern French philosophy by introducing the war assemblage. Instead, we merely hope to tune down the positivist underpinnings of doctrine and increase its sensitivity to empiricism, creativity, and critical thinking. We wish to shift the focus of discussions about doctrine onto their usefulness rather than their enduring and fundamental elements. Doctrine is designed to fulfil a need to standardise, command, and control battles yet leave enough space to be responsive and efficient in unpredictable operational environments. This is the so-called 'basic doctrinal dilemma' (Høiback, 2013; Posen, 2016). Thus, the doctrine itself also exists somewhere between stability and change. It must be both normative and liberating at the same time. The war assemblage reminds us to take it easy on the doctrine and not reify it as something that it is not.

Doctrine is a way to codify best practices and guide an uncertain future. It is a standard that, on the one hand, needs to be studied, followed, and implemented but at the same time treated with a hint of scepticism. It is only good as long as it serves its purpose. As NATO's core doctrine states, 'The principal purpose of doctrine is to provide Alliance forces conducting operations with a framework of guidance to achieve a common objective. Operations are underpinned by principles describing how they should be planned, prepared, commanded, conducted, sustained, terminated and assessed' (NATO, 2017). Doctrine is a choice. The civil-military relations advanced in doctrine is a choice. It is the organisation's best possible answer to the complex reality of war. Adopting the idea of the war assemblage allows researchers to ask how this standardisation works in military organisations and civil-military relations.

Conclusion

This article has shown that the idea of war's dual ontology has been wrongly attributed to Clausewitz. It suggests that Clausewitz could be read more radically regarding his views on the nature of war. War is not a chameleon that alters its appearance but essentially stays the same. Instead, each war is its own chameleon, distinct from other animals, and even other chameleons. Each is its own assemblage connected to other other assemblages from which it takes not only colour but also colours. Suppose war is treated as something that exists on a continuum between change and stability. In that case, questions concerning knowledge about war will also change the doctrine of military theory or civil-

military relations. The practical advice is to take it easy on the doctrine and recognise it for what it is: written guidelines to facilitate coordination and cooperation and to place responsibility. It is a choice. This is not to be confused with a call to discard doctrine but to understand doctrine as a tool and inquire into how it functions in the military staffs that translate it into operational plans or in staff colleges to facilitate discussions on tomorrow's wars and contemporary civil-military relations. If the war assemblage is widely adopted, the subsequent questions concerning doctrine and civil-military relations could advance our understanding of how it is codified, especially in doctrine, how it is taught, and how it is used. This would pave the way for what Tom Crosbie has called 'the strong program approach' to military politics (Crosbie, 2021). This approach will shed light on the construction of civil-military relations and show empirically how these relationships are negotiated and thus stabilised. This mapping would help future political and military leaders navigate future challenges.

6. What Military Commanders Do and How They Do It

The idea for writing this article came from my interviews with former and current NATO commanders and senior staff officers. The initial coding of the interview material showed a clear division of labour between the staff organisation and the commander, as well as the importance placed on intuition and staff diversity by commanders. This clear division runs counter to popular approaches within the field in which contemporary command is framed as a collective existing between commanders and their subordinates or, in the future, as a 'hybrid' between humans and machines. Both commanders and senior staff officers displayed a more conservative or at least doctrinal approach to their different roles and maintained that command is vested in individuals.

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Introduction

> *The first, the supreme, the most far-reaching act of judgement that the statesman and commander have to make is to establish by that test the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into, something that is alien to its nature (Clausewitz, 1989, p. 88).*

NATO defines command as 'the authority vested in a member of the armed forces for the direction, coordination, and control of military forces' (NATO, 2021, p. 29). According to this definition, command is the authority vested in an individual, and the theme of authority is central to any understanding of command. Following Clausewitz, the most far-reaching act this individual must make is mission definition. This is an act of professional judgement. Often command and control have been treated as a single concept, C2, and militaries have pursued technical or bureaucratic solutions to control or manage operations (Jeffery, 2000). However, this leaves the human aspects of command unexplored.

One source to understand command is personal memoirs by military officers who have written about their experiences as commanders. But given the unique and contextual perspective, they often treat the command function superficially and deeply embedded in a specific historical context or situation. Such memoirs, however, provide empirical material to discuss issues of command. Classic approaches in the literature tend to focus on the

failure or success of individuals, often at the highest level (E. A. Cohen, 2003; Freedman, 2022; Keegan, 1988; Ricks, 2013; Van Creveld, 1987). Very few studies consider the organisational aspects of command. The most well-known examples include contrasting Allied and German perspectives in World War II or the interwar period, or discussing mission command (Samuels, 2019; Shamir, 2011; Van Creveld, 1987).

Recent sociological studies have framed command as an emergent collective or networked effort (Holsting & Damkjer, 2020; King, 2019, 2021; Nørgaard & Linden-Vørnle, 2021). Most prominently, British sociologist Anthony King argues that the scope of command has changed, and a new paradigm of collective command has emerged (King, 2019). King builds his argument on a reconfiguration of what he calls the 'command trinity'. This trinity consists of three functions: *mission definition, mission management,* and *leadership* (King, 2019, p. 70). King's findings are drawn primarily from an empirical analysis of contemporary *mission management* and linked to broader debates about the transformation of power (King, 2019, p. 25). This means that decision-making related to *mission definition* is mainly left untouched. But as Clausewitz and the NATO definition remind us, *mission definition* comes first, and mission management and leadership follow. This study attends to the commander's executive decision-making related to mission definition.

Military doctrine describes rather lofty ideas about the commander's use of judgement, experience, or intuition but then quickly prescribes procedures for planning or managing military operations. This element of control inherent to the NATO definition of command typically lies in the realm of staff organisation. Articles close to the military profession also remain abstract when discussing command. To name one example of the genre: US Army General Montgomery C. Meigs summarises generalship into four essential characteristics*:* intellect, energy, selflessness, and humanity (Meigs, 2001). Lauer adopts a similar approach to discuss how operational art expresses the commander's imagination and rests on their experience and talent (Lauer, 2016). This echoes Clausewitz's idea of military genius. Clausewitz finds that the qualities of a great commander are " first, an intellect that, even in the darkest hour, retains some glimmerings of the inner light which leads to truth; and second, the courage to follow this faint light wherever it may lead" (Clausewitz, 1989, p. 102). While Meigs' characteristics, Lauer's operational art, and Clausewitz's glimmerings of inner light might be necessary for commanders, they do not

offer any insight into what commanders do and how they do it. They might be so abstract that they are borderline mysticism. Furthermore, they leave the organisational context in which the commanders are situated, such as the staff organisation, doctrine, and planning processes, unattended.

A NATO conference in 1998 and its subsequent proceedings considered the human and organisational aspects of contemporary command. It was noted that the organisational response to increased complexity on the battlefield is to make military organisations bigger and more bureaucratic (Jeffery, 2000), which leads to organisations that focus on perfection and zero deficits (Cherrie, 2000). Canadian Lieutenant General Raymond R. Crabbe then asked, "How does the commander exercise boldness in the context of standardised planning procedures, military doctrine, and a political setting that has focus on control?" (Crabbe, 2000).

This article asks *how contemporary commanders understand command in the context of standardised planning processes and doctrine*. Empirically, this article builds on interviews with 30 former and current NATO commanders and senior staff officers. It offers an empirical analysis of military organising, emphasising the interplay between commanders and their staff.

The article is structured in the following way. First, I commence with a brief sketch of standardisation in the military organisation and link this to a summary of the academic literature on professional judgement and decision-making. Second, I present the research context and methods used. Third, the findings are divided into three major themes: (1) understanding command, (2) developing and training command, and (3) examples of command as acts of professional judgement. Each section is summarised into a proposition. Fourth, I discuss the implications of these findings and conclude that, from the perspective of contemporary commanders, command is still vested in individuals. Without explicit guidance, missions will be managed according to the staff's internal logic of rationality, control, and optimisation. Command is a distinct and necessary function to guide the military machine and only the commander is authorised to make executive decisions.

Standardisation and the Military

> *In order to have an efficient fighting force on a larger scale, we not only need to drill our soldiers' physical movements. We also need to prime our*

> *officers' way of thinking. They have to think along the same lines in order to get the machinery to work well (Høiback, 2016, p. 187).*

The Norwegian officer and philosopher Harald Høiback writes that doctrine concerns efficiency or 'getting the machinery to work well'. Standards and standardisation are not foreign to the military. Even the most capable generals rely on standards and delegation of authority to manage their organisation (E. A. Cohen & Gooch, 1990; Hittle, 1961; Høiback, 2013; Jackson, 2013). The executive decision-making of the generals happens in a profession that primes its officer's way of thinking whilst acknowledging Fuller's classic warning about doctrine, which is 'apt to ossify into dogma' (Fuller, 1926, p. 254). A too standardised approach to operations will make one predictable (E. A. Cohen & Gooch, 1990; Høiback, 2013; McInnes, 2007; Palazzo, 2008). There is an ongoing debate on what kind of knowledge doctrine is and how it should be formulated. Contemporary scholars of military doctrine tend to focus on doctrine in its written form (Angstrom & Widen, 2016; Erdeniz, 2016; Høiback, 2013; Jackson, 2013; Paparone, 2017b). This debate connotes the classic discussion on whether positive knowledge of war can exist that is typically pitted between the two nineteenth-century military thinkers Clausewitz and Jomini (Clausewitz, 1832; Jomini, 1996). Clausewitz denied the possibility of positive knowledge of war. A theory should be an aide to judgement. In contrast, Jomini believed warfare could be reduced to rational science like physics. It is generally assumed that most contemporary Western doctrine tends towards descriptive doctrine in the Clausewitzian tradition, though scholars have argued that written doctrine and models used to discuss doctrine actually rest on positivist and thus Joministic principles (De Munnik, 2012; Jackson, 2013; McInnes, 2007; Paparone, 2017b; Sjøgren, 2020; Zweibelson, 2014). Practitioners applying a pragmatic approach will argue that doctrine might have positivist or rationalist underpinnings, but that does not mean that it is necessarily used in that way (De Munnik, 2012; Parton, 2008).

Another way of describing the context of command is to turn to German sociologist Max Weber's theory of bureaucracies. Weber argued that the 'ideal-type' bureaucracy is the most efficient and rational way to coordinate human activity. He wrote that bureaucracy had a 'rational character: rules, means, ends and matter-of-factness dominate its bearing" (Weber, 1946, p. 244). A bureaucracy needs standards (Timmermans & Epstein, 2010, p. 72). The sheer size of a modern Western division with 20.000 troops and 400 staff officers in its headquarters calls for bureaucratic devices to operate efficiently (Burket, 2019; King,

2019). Standards enhance interoperability by making soldiers and units interchangeable, improving coordinating, and making it possible to quickly predict the behaviour of others (E. A. Cohen & Gooch, 1990; Stinchcombe, 2001; Weick, 2001; Wilson, 1989). However, military problems differ from optimal synchronisation and coordination in the ideal-type bureaucracy. Clausewitz reminds us that war comprises reciprocal actions, which means that the acts of one part alter the other's options and vice versa (Clausewitz, 1832, 1989). This presents a paradox: if an optimal and efficient response to a problem does exist, then it might also be predictable. If the solution is predictable, it might not be very effective and hence not optimal since the opponent will have time to counter this response.

Military Professionalism

Prevailing military wisdom states that professional proficiency starts with a procedural, instrumental, or standardised approach that lays a foundation for the novice from which the expert can and indeed should transcend (Bondy, 2004; De Munnik, 2012; Lund, 2017; Pugsley, 2011; Tillberg, 2020). This has led military sociologists to treat bureaucracy and professionalism as opposites. The former is static problem-solving and rigidity, while the latter is professionalism that entails innovative thinking (Bondy, 2004; Freidson, 1989; Snider, 2015). However, this is a false dichotomy (Holmes, 2009). Large organisations, such as bureaucracies, cannot operate efficiently on case-by-case reasoning. Military operations rely on standards and standardised procedures. Consider the study of the accidental shootdown of two US Army UH-60 Black Hawk helicopters over Iraq in 1994 by two US Airforce F-15C fighter aircraft. US Army Officer and organisational scholar Snook argued that in that case the demand for local efficiency slowly uncoupled practice from the official written procedure. This instance of not complying with standards set the conditions for the accidental shootdown (Snook, 2002). Thus, in some settings, adherence to procedure is professionalism. As sociologists Timmermans and Epstein observe, depending on one's motives, 'the opposite of standardisation might be flexibility, discretion, interpretation, diversity, individualism, uniqueness, arbitrariness, anomie, or chaos' (Timmermans & Epstein, 2010, p. 71). Militaries also struggle between balancing an instrumental approach, which is needed to be interoperable, facilitate coordination, and enhance efficiency with the

need for flexibility, creativeness, effectiveness, and decentralised decision-making (De Munnik, 2012).

In sum, executive military decision-making happens in an organisation that utilises standardisation and bureaucratisation to get the military machine to function. Compete arbitrariness would make coordination on the battlefield impossible and decision-making random. At the other end of the spectrum, a mechanical or machine-like approach to operations would also render one's actions predictable or dogmatic. Doctrine cannot prescribe every eventuality, and the available doctrine might be ill-suited for the specific context. Thus, military professionalism entails, at times, adherence to procedure, structure, and doctrine but also, at other times, flexibility and innovation.

Structured and Naturalistic Decision-making

NATO doctrine describes two basic ways of making decisions: (1) structured and (2) naturalistic decision-making. Doctrine describes how structured decision-making ensures that 'commanders consider, analyse, and evaluate all relevant factors'. While naturalistic decision-making 'is the act of making a decision that emphasises recognition based on knowledge, judgment, experience, education, intellect, boldness, perception, and character' (NATO, 2016 p. 2-3). However, neither NATO doctrine nor the literature claim that one approach is inherently better than the other. In practice, these approaches are not mutually exclusive, and the selection of one over the other depends on the availability of 'time and information' and 'on the experience of the command and the staff' (NATO, 2016 p. 2-3).

In the decision-making literature, there is a general distinction made between the 'heuristics and bias' approach (HB) popularised by Kahneman's *Thinking, Fast and Slow* (Kahneman, 2011) and Klein's Recognition-Primed Decisions (RPD) model presented in *Sources of Power: How People Make Decisions* (Klein, 1998). Often thought of as opposites, Klein and Kahneman co-wrote an article in 2009 and concluded that their sharpest differences were 'emotional rather than intellectual' (Kahneman & Klein, 2009, p. 518). The RDP approach originates in a natural setting, initially chess players and later among firefighters, tank commanders, and air control crews acting under time pressure. The general observation is that skilled persons could recognise patterns by drawing on a repertoire of patterns they had compiled from experience (Klein, 1998). Building skill

requires that the environment is sufficiently predictable and offers ample opportunity to learn (Kahneman & Klein, 2009). Thus, one cannot acquire skill to make intuitive decisions in random environments or without training. In contrast, the HB approach grew out of inconsistencies related to clinical judgement. Simple algorithms outperformed the clinicians' ability to forecast. The HB approach, therefore, treats intuition with scepticism. Bias and unwarranted heuristics are sources of error that can and should be checked using procedural or even algorithmic approaches (Kahneman & Klein, 2009).

The military decision-making process is an organisational process in which the commanders utilise their staff to make decisions and a process in which several individuals must coordinate their actions. To some extent, staff procedure might even be characterised as a tightly coupled process which warrants adherence to procedure. The process is a structured approach but is not necessarily time-constrained like the empirical data from which Klein draws conclusions. It is also not a matter of pure forecasting as Kahneman's HB approach departs from. Military problems have elements of forecasting, but the military organisation forecasts to change the operational environment by violent means. The enemy will again respond to what the organisation does. This is Clausewitz's reciprocal action (Clausewitz, 1832, 1989). In an adversarial environment, the ability to make the right decisions and implement them quickly might be more important than decisions that are entirely right but too slow or slowly implemented (Storr, 2009, 2022).

In this section, I have pointed out the false dichotomy between processes or standards and professionalism. Military operations rely on standards to increase speed and get the machinery to work well. Thus, commanders function in the context of standardised planning processes and doctrine.

Research Context, Data Collection, and Analytical Methods

The empirical data analysed in this study were collected during a project that seeks to understand the use of doctrine at the divisional level. A division is a military combined arms formation comprising up to 20,000 troops organised in brigades or regiments. The commander is a 'two-star' Major General supported by their own staff organisation. In the analysis, I primarily draw on 30 interviews with former commanders and senior staff officers across NATO. I also rely on written NATO, US (Joint, Army, and Marine Corps), British,

German, and Danish doctrine. Finally, I draw on the field notes I compiled while following a one-year training cycle of a NATO Multinational Division. My initial interest was how doctrine was put to work within the divisional headquarters and the role of the commander in relation to the staff organisation.

A precondition for this research is that I am an insider (Mercer, 2007; Merton, 1972; Wegener, 2012). I have a military background and have previously worked in a divisional headquarters. The respondents are commanders and senior staff officers across NATO. Many had either worked together or been a part of the NATO senior officer's mentorship system. I used snowballing sampling and asked for leads after each interview. I followed leads until they ended or the officers of a particular group started saying the same or referred to each other. At one point, I used the defence attaches at the Danish embassies in Paris, Berlin, and Warsaw to establish communication with specific individuals or organisations recommended by respondents. I used LinkedIn twice to establish a contact. At the time of the interview, the youngest of the generals was in his mid-50s, the oldest in his mid-80s. All were males. The staff officers tended to be younger and had often served in the referring generals' staff as operations officers (G3) or as planners (G5). It is essential to note that military commanders are not necessarily generals and that generals are not necessarily commanders. Often, an army career involves a recurring transition between command at different levels and staff postings. Thus, the interviewed generals have also served as staff officers while the staff officers have also commanded at lower levels. The interviews were conducted from March until November 2021. Most interviews were conducted via Zoom, recorded, and transcribed by me. Other interviews were conducted via telephone, the Danish Defence's VTC system, and one in-person interview. Transcripts for such interviews were compiled from handwritten notes immediately after the interview. Retired officers who have given their consent are quoted by name; others are anonymised. Active-duty personnel are anonymised by default due to military security.

My insider status, alongside my broad knowledge of military history and firsthand experience with different doctrines and practices, enabled me to ask pertinent questions related to details of the planning process. Because I had also served as an infantry officer in some of the generals' operations on the ground in Iraq and Afghanistan, there were many common points of reference. Military professionals have their own professional

terminology, which includes many abbreviations. This is reflected in some of the excerpts. I have tried to spell them out when necessary.

My initial inquiry revolved around three issues: (1) doctrine's role in training and operations, (2) the commander's role vs the staff's, and (3) creativity and risk management in operations. Two further questions related to the commander's role vs the staff's also informed this article: How does a commander develop initial intent? And at the decision brief, what does the commander bring to the table? The article relies mainly on answers concerning the formulation of intent.

The analytical approach was inspired by *constructivist grounded theory* (Clarke, 2003; Rapley, 2010). I printed notes and transcripts and read offline. I marked the text with different colours and wrote codes in the margins. These codes originate in the text and are not theory-driven. I proceeded to order these into situational maps and, from there, into categories. These maps were made up of these chunks of codes combined with initial reflections that stemmed from both convergence and divergence in the material. Generals and staff officers used different forms of reasoning when justifying military decisions: Staff officers, as they explained to me, acted in accordance with the planning process in a way that was coherent with doctrinal principles. Although some claimed that 'doctrine is just a guide', nobody had any examples of creative application of doctrine that was not directed or at least not encouraged by the commander or the chief of staff. In contrast, commanders drew on empirical examples from military history and used words such as experience, gut feeling, and judgement when justifying actions. The following analysis stems from this difference in reasoning, and the main emphasis is on the commander.

Findings

In the following section, I present the main findings. First, I explore how commanders understand their executive function and role in balancing the needs for using instrumental approaches as well as being responsive and flexible. Second, I show how the respondents underline certain experiences as particularly formative in training for command. Lastly, I give examples of command as acts of professional judgement and sketch the main controversy concerning staff-led vs command-driven headquarters.

Understanding Command

The first concern that the respondents shared was about the demand placed upon commanders. This demand stems from the sheer size of the military organisation. The modern standard US division comprises 20,000 troops with up to 400 members in the staff organisation. This makes the staff four times bigger than its Cold War predecessors (Jeffery, 2000; King, 2019; Storr, 2022). Divisional headquarters in Afghanistan had up to 800 staff members (King, 2019). The former commander of 3 UK division, Major General James Cowan, described the procedurally driven headquarters as a necessity:

> *Well, let's face facts. The army is not exactly renowned for being a repository of intellectual activity. It is not like the Law, or the Church or the City of London, or something. It is full of reasonably normal people. Staff headquarters are quite clunky and process-driven because they have to [be]. If you allow headquarters to do what it does, which is to be very like a machine pumping out solutions, it will tend to come to answers that are textbook correct, but profoundly wrong (Major General James Cowan, personal interview).*

Major General Cowan explains how 'clunky' processes do not happen because the military organisation is particularly strange or poor but because reasonably ordinary people make up the organisation. A good deal of mundane, routine work is necessary for the machine to function. According to the respondents, if left unattended, the optimisation of these processes will guide how the organisation works. The need for guidance, which includes encouragement to divert from doctrine and standardised procedures, stems from this. Indeed, doctrine and the subsequent coordination and synchronisation of available means have a similar lure, as explained by US Marine Corps General James Mattis:

> *Doctrine is where we will start. It is not where we will end. […] When you start getting so internal that you're managing your own resources, people are not looking out the door at the enemy (General James Mattis, personal interview).*

The mere management of resources can consume the entire staff. Doctrine and processes exist to make coordination and synchronisation efficient; however, as noted by General Mattis, if not guided, blind compliance with doctrine also runs the risk of becoming an end instead of a means to an end. Polish Lieutenant General Andrzej Fałkowski explained that there was indeed a general tendency to focus on compliance in this way:

> *We are too much into keeping the doctrine, keeping these standard operating procedures, we are coming with the same solutions, which is a big mistake because […] we don't have a science of war; however, a lot of things are very quantitative. We have an art of war. Suppose we are keeping those rules and regulations too much in our mind. In that case, we start to lose the element that is called unpredictability of the operation and unpredictability of war. So, there must be a kind of margin for improvisation. There must be some margin for finding solutions that are outside the box (Lieutenant General Andrzej Fałkowski, personal interview).*

Lieutenant General Fałkowski points to the dual nature of standards. Standards work by commanding attention to some things rather than others (Bondy, 2004; Bowker & Star, 1999; Erdeniz, 2016; Paparone, 2017b). Implicit in Fałkowski's statement is that the quantifiable gets prioritised. The respondents acknowledged the need for doctrine as a known point of reference and procedures primarily related to the structured planning process as essential in getting around the problem. Furthermore, they suggested a balanced approach in which commanders were aware of both the strengths and limits of the procedural approach. According to US Army General John Nicholson:

> *I think it is important to understand the doctrine and not just make it up as you go along. I think that it can be used as an excuse by people not to hold onto standards, and it sort of excuses anarchy or complete flying by the seat of your pants, which I don't think is appropriate either (General John Nicholson, personal interview).*

General Nicholson and Lieutenant General Fałkowski show how both doctrine and the will to depart from doctrine are needed in the planning process. The commander has a central role in providing staff inputs that allow or even promote this. This is broadly known as guidance or formulation of the initial intent, which is a central element in mission definition. This guidance should not be confused with a detailed order of how to do things.

One staff officer framed the commander's responsibility this way:

> *The commander's responsibility […] is to outline the commander's intent and guidance. A commander's intent is not a recipe; here are all the ingredients to this. This is how you mix up ingredients, and this is what you get, you know? This is your cake. But very few commanders are able to really articulate succinctly, and in a minimal amount of words, their intent for the operation and any guidance that they feel is critical for everybody to share (Colonel, US Marine Corps, personal interview).*

Guiding the machine is not micro-managing nor providing every detail needed to plan operations. According to this respondent, few commanders seem to be able to outline intent and guidance clearly. The best commanders are those who can articulate their intent or guidance succinctly. Therefore, if staff develop machine-like behaviour and predictable plans, the problem might lie with the commanders, who are either not providing the needed intent and guidance or adhering to a policy with no guidance. Doctrine still forms the foundation.

One respondent formulated this very directly:

> *The commander sets the tone on the degree of innovativeness that is going to happen. Although doctrine and being too doctrinaire can be dangerous […] doctrine forms the foundation or the skeleton that people hang innovativeness on. It never starts with a clean slate (Lieutenant General, US Marine Corps, personal interview).*

Understanding command in the contexts of doctrine and standardised procedures, the respondents point to a need for a balanced approach. Left to its own devices, the military machine will tend to focus inwards on processes, procedures, and compliance. Commanders understand their task as guiding this machine but with doctrine as the foundation. This does not mean doing away doctrine or procedures but ensuring that they are a means to an end that the commanders have defined or approved.

Proposition 1: Left unattended, military staffs tend to develop machine-like behaviour guided by a process logic that focuses attention inwards on matters that are controllable and governable. Commanders balance this machine by issuing intent and guidance. Doctrine forms the foundation but being doctrinaire is not an objective.

Developing and Training Command

The respondents described free exercises as very formative, because they taught them the limits of the procedural approach. The former commander of the Royal Netherlands Army, Lieutenant General Mart de Kruif, recalls a training experience as a commander of the first Dutch rotation that went to the Combat Maneuver Training Center in Hofenfels, Germany, in 1996:

> *We applied our current doctrine, then, in the field, in operation as the basis for the way to conduct an attack or defend against the OPFOR [opposing force, ed]. We used this three-to-one mathematic approach. We did a doctrinal defence with certain lines, penetrations, counterattacks, and support, you know? And we were smashed to pieces by OPFOR. We were completely smashed to pieces by OPFOR! Why? Because we declared doctrine as the absolute principal guideline for operations. And doctrine is just a framework for thinking. If you don't add surprise, creativity, and risk to doctrine, it will get you nowhere. It will get you nowhere (Lieutenant General Mart de Kruif, personal interview).*

A similar notion on the importance of realistic exercises and the embodied experience was shared by a US Army Major General:

> *I have been in the army for 30 years, and I have commanded at every level and been to a combat training centre in the United States at every level. I can tell you; you get beaten most of the time. […] That's how you become better. You get bruised, and you get hurt. The other part of it is you go into the after-action review or post-exercise review process where you really identify what's wrong (Major General US Army, personal interview).*

According to the respondents, free exercises offer a space to test assumptions and to experience the influence of the Clausewitzian 'friction' and 'fog of war'. These are conditions that the procedural approach holds an implicit promise of overcoming or at least managing. The free exercises disclose the limits of such approaches. They remind commanders that the premises needed for the structured approach are unstable conclusions that stem from other processes, intelligence estimates, or standard planning parameters, for instance. Assumptions are required to get the process to work but also contain the possibility of being wrong. Second, applying a purely procedural approach will make one's actions predictable. 'Something' needs to be added outside or on top of the procedure to avoid destruction. This something hinges on the commander, who has the authority, responsibility, and will to define a mission and install planning parameters or values that transgress the analytical. This involves professional judgement, and it entails risk. Since only commanders are authorised to assume risk on behalf of their units, the final decision formally lies with the commander (NATO, 2016, 2019c).

The issues here are linked to the issue of positive knowledge in war. Danish Lieutenant General Kjeld Hillingsøe explained:

> *We do not fight actual wars on the divisional level. Such warfare is purely theoretical […]. I return to the idea of free exercise. We must confront the*

> *commanders with an enemy that fights to win, not a script that confirms doctrine, but an adversary that fights to win […] The solution is free exercises where commanders can be allowed to try the unexpected and see for themselves that the expected seldom works (Lieutenant General Kjeld Hillingsøe, personal interview, my translation).*

Thus, the focus on these exercises should test the validity of one's assumptions against an adversary that reacts. At levels above the brigade, free training is replaced with simulated exercises since fielding large units is resource-demanding. In simulations, there is the danger that commanders and their staff are merely learning to play the game and optimising their performance for a game rather than for a battle (Curry & Perla, 2011; Sabin, 2014). US General David Petraeus explained how this mechanism resulted in the loss of two Apache helicopters during the invasion of Iraq in 2003:

> *One occasionally serious drawback is that in the simulations, commanders and staffs tend to learn the algorithms and simulation anomalies and must remember that when they transition to actual combat, where the enemy's iron gun air defenses are not, e.g., suppressed by SEAD [suppression of enemy air defences, ed] in the same way that they are in the simulations. This mistake resulted in an entire 72-Apache attack helicopter brigade being taken out of the fight, with two shot down and many others shot up, during an initial deep attack during the invasion of Iraq. By contrast, I did not allow our attack brigade to fly over cities and avoided that threat, recognizing the difference between the simulation and the battlefield (General David Petraeus, email correspondence).*

From the simulations, commanders and staff had induced that, as a rule, enemy air defences would be suppressed. However, General Petraeus himself weighed that the probability of effectively stopping the different kinds of air defences in Iraqi cities was not worth the risk for the aviation brigade in his division. Thus, based on his professional judgement, he made an executive decision not to allow them to fly over cities. While any staff officer could have reached the same conclusion, they would not have had the authority to implement it. It shows how executive decision-making is not only reserved for mission definition but also for establishing key constraints or key encouragements in the process. The example also shows how the training regime can become an echo chamber when it runs on a script or an algorithm. Exercises reify specific ways of thinking (Öberg, 2020). Even they can become dogmatic. The generals call for exercises that bring processes, decision making, and doctrine into the foreground for evaluation instead of having them run in the background where they are shielded from critical inquiry.

Navigating such experiences in an environment that made failing safe seems to constitute experience. This, in turn, translates into the personal confidence needed to produce the initial intent and to apply a similar approach to choose one course of action over another at the decision brief. When asked what the commanding general brings to the table at the decision brief, former British Chief of Defence Staff, General Sir David Richards, formulated it this way:

> *Well, hopefully, a general has been put in there because he has the instinct, experience, and if you believe someone like Patton has something inside him. He has a relatively unique understanding of his profession and confidence that without being arrogant is obvious and justified. He brings all those different qualities together in one person […]. I think the confidence comes from experience, training, and an understanding of history. All these things. All in one person. That's what he brings. The rest are specialists on the whole. He's the generalist, the general who can combine within his heart and brain or synthesize all the different elements of this campaign and instinctively reach a coherent decision which his judgement tells him he can implement successfully (General Sir David Richards, personal interview).*

Synthesising all the different elements into a coherent whole, drawing on professional judgement and previous experience: these are the commander's duties. As General Sir Richards explains, the ability to do this is precisely what the commander brings to the decision brief. Exercising judgement in day-to-day operations is not reserved for commanders. Staff officers also need to use judgement when developing courses of action.

> *Procedure is important, but it's not at all sufficient. The procedure goes over analysis; how do you analyse the problem? How do you come to synthesis, which is already more difficult? We are masters in analysing an issue. We are quite good and make a sound synthesis of what is now the crux of the issue, all right? But then comes the big gap. Because the second phase is now what? How do you solve the issue? Now comes the creative part of developing a workable course of action, the development of a sound plan of how to tackle the issue you are confronted with (Major General Hubert De Vos, personal interview).*

Still, none of the respondents dismissed the value of the deliberate and structured planning process. Instead, the structured decision-making process is recognised as a tool that ensures that every aspect of an operation is considered and secures a coherent and shared understanding of the situation. When asked what makes the general choose one course of action (COA) over the other at the decision brief, General Petraeus responded:

> *We religiously followed the MDMP [military decision-making proces], though we did compress it on some fast-moving situations. We did not skip any step, particularly the briefing on the COAs the staff should wargame (having done that one time when I was a Div G-3 and paid the price for it during the decision brief at the end, when the CG [commanding general] asked us why we had not considered another COA). In the end, I chose the COA that most effectively would accomplish the tasks and associated purposes in the missions assigned to us (General Petraeus, email correspondence).*

As a divisional staff officer in the operations section, General Petraeus learned what happens if you skip steps of the structured process: it might lead to missed opportunities. Structured decision-making does have merits, as explained by General Petraeus. One of these merits is that the general knows what steps the process has gone through and can feel confident that alternative options have been considered, thereby choosing the course of action that they think would most effectively accomplish the mission. Procedural reasoning is a way to check the soundness of the premises on which the plan is based, but there is more functionality to planning than developing a plan. US Army General John Nicholson explained:

> *We had a very detailed planning process because the planning process, you seldom actually followed the plan that you wrote, but the process of planning enables you to have a shared understanding of the problem and a shared visualisation of how you were going to solve the problem. This was really the important thing that emerged from deliberate planning. Not the solution itself. The solution seldom resembled what you came up with, but you had a shared visualisation of what you were trying to achieve and a shared understanding of the situation (General John Nicholson, personal interview).*

The plan is not a script. Instead, the goal is a common point of reference or a common understanding that can be improvised upon when the situation inevitably changes. This common understanding allows for delegation of decision-making authority. The military machine face is fundamentally of a different kind than Weber's ideal-type bureaucracy. The optimal state of the military machine is not necessarily the efficient use of means. The goal is to subvert an adversary effectively.

Military units operate on standards that also require professional judgement in the application, paraphrasing NATO's definition of doctrine (NATO, 2021, p. 44). Structured

decision-making processes cannot infer mission definition, make critical decisions regarding constraints, or encourage staff to think beyond doctrine or process.

Proposition 2: Procedure is important but not sufficient. Commanders emphasise the importance of having learned the limits of the structured approach. This is best done through free exercises against an opponent that fights to win. The study of military history and wargaming is also meaningful. The structured decision-making process is essential to learning how to get around the problem.

Command as Acts of Professional Judgement

In the interviews, the commanders provided several examples of how they made executive decisions related to mission definition or imposing key constraints or key encouragements drawn from judgement of the situation and lessons learned from previous experience. The following section provides a range of illustrative examples.

The Initial Planning Guidance and the Controversy of Command-led or Staff-driven

The main controversy in the material was about how much the commander should be involved in the planning process and how and to what degree the commander should be assisted in the executive function. A British staff officer explained how the military profession typically understands commanders' characteristics:

> *There are two types of military commanders: You have command-led headquarters and staff-driven headquarters. In the command-led headquarters, you will have commanders who will do their own homework and make a decision based on what they think is best […]. Then you have other commanders who will set up the problem and tell the staff to go away and come back with the options for solving the problem (Colonel, British Army, personal interview).*

In command-led headquarters, the commanding general will issue firm guidance with fewer options for the staff to consider, perhaps even to the extent of issuing the general plan, which the staff will coordinate. The staff-driven headquarters will develop different courses of action for analysis based on the commander's initial assessment. Some respondents identified as one type, but often distanced themselves from the other extreme

position. However, when I asked for specific examples of commanders providing initial intent, they were very similar. Compare these two anonymised examples:

> *I gave the purpose of the operation and maybe how I saw the task handled. A rough sketch of the operation, if you will. The staff must govern details.*
>
> *It's up to the commander to have the big idea or the vision. He must write down that first paragraph of the intent and scheme of manoeuvre, which gives you the overall picture. Then it's time for the staff to go away and come up with ideas.*

The former passage comes from a general who believed in the staff-driven process, the latter in the command-led. Related to the issue of intent and guidance, the approaches seem very similar. Staff-driven headquarters still need commanders who issue guidance, and command-led headquarters still need staffs who conduct analyses. Still, many respondents brought up the difference between the command-led US and British approach and the staff-driven German approach, and found NATO doctrine to be a form of middle ground or battle ground. Lieutenant General Bruno Kasdorf, former head of the German Army, explained:

> *If you look at the American way […], the commander plays a central role in initiating a planning process. Even at a very early stage, he is required to have very far-reaching ideas. Not a rough picture, but already something very detailed. That is how I see it. In our case in Germany, it's different. And that is how we teach our future commanders and staff officers: If you are confronted with a change in the situation or a new situation, you normally gather your key personal. For commanders, this is the chief of staff. He can extend it to his G3 and his deputy if he wants. Then he discusses the situation with these in a closed circle. Then it is up to the chief of staff, which is really a key figure in our system, to develop and propose what we call Auswertung des Auftrages [analysis of the mission, my translation]. Then he comes back to the commander, and they talk again. And the commander then says, OK, I think that's the new situation or the new mission that we got. It requires this, its essence is this, and the main task is this. And from there, everything else flows through the entire staff work (Lieutenant General Bruno Kasdorf, personal interview).*

According to Lieutenant General Kasdorf, there is an organisational difference related to the number of details provided in the guidance at the early stages of the process. The role of the chief of staff is also different. In the German approach, the chief of staff is required to perform some of the functions typically reserved for the commander. As a

principle, the commander always discusses options with the chief of staff before issuing guidance. US and British commanders also shared their ideas with select staff members, but here it seemed like personal preferences rather than a doctrinal principle. General Petraeus provides an example:

> *I personally built templates well in advance of major exercises and combat operations to ensure that I provided all necessary planning guidance and then adapted them to the actual situations we encountered. I shared them with key staff members for feedback in advance, but then refined the guidance myself (General David Petraeus, email interview).*

The former commander of Allied Joint Force Command Brunssum German Hans-Lothar Domröse, provided an example of a multinational so-called 'closed circle':

> *I tried to think with my MA [military assistant, ed] and very often, but there was a personal relationship with my British deputy in Brunssum. He was a British infantry army three-star, and we had the same broad idea in thinking about this. I said, well, let's talk about this. In this private circle, if you will, in my office with many cigarettes, we produced the first initial intent (General Hans-Lothar Domröse, personal interview).*

Such informal sessions provide feedback that informs or checks the commander's application of judgement or intuition before the initial guidance is issued. It is not a random discussion over cigarettes but a way of having conversations about operations that allow for reasoning and use of judgement outside the formal planning process. However, in both systems, the commander – and only the commander – makes the final call.

Proposition 3: Commanders habitually involve others in developing guidance and initial intent. In some systems, this is a doctrinal principle; in others, it happens more ad hoc. While this executive decision has collective elements, it is in the form of feedback. It is the commander who provides guidance. This is occasionally delegated to the chief of staff, who acts on the commander's behalf.

Proposition 4: The controversy of command-led vs staff-driven seems to question the degree of detail provided as guidance. Neither approach suggests an absence of guidance nor an absence of staff analysis. To understand the nuances, it would be prudent to explore the question empirically by observing staffs and commanders at work.

The Command Climate

Military hierarchies have disciplinary effects, and commanders recognise the danger of staff officers telling them what they want to hear. Commanders rely on others to question their ideas. General Mattis explained this tendency:

> *There's nothing closer to God on earth than a general, frankly. I mean, people even laugh if you tell a stupid joke. Everybody is there to pat you on the back and say that you're a good guy. You need to keep a couple of contrarians around (General James Mattis, personal interview).*

The contrarian is not necessarily a person but a function. In a hierarchy, rank does have its privileges or, more clearly, certain staff positions are often aligned with rank and they determine what advances through the chain of command. These priorities impel staff to practice self-discipline. Several of the respondents recognised that something could be wrong with their conclusions, and that they needed staff officers to voice their different viewpoints. They described how they or others have tried to establish so-called 'command climates' where disagreement is encouraged. One respondent recalled how a commander of the Multinational Corps in Iraq tried to establish this:

> *He had this thing called 'phase one phase two'. In phase one anybody could argue, pushback, or disagree in public. When it was phase two that meant that the decision had been made. End of discussion (Lieutenant General, US Army, personal interview).*

A French Lieutenant General explained how he deliberately pushed his staff during the planning of exercises by issuing direct guidance that prioritised surprise, thus liberating the staff from the usual constraints found in the textbook approach:

> *I used to tell my guys: I want one that is for cocaine users! You will go, yeah! Let's do that one! I always said I'm not sure I'll be that crazy in real life, only in exercise. Everyone will find the standard practice course of action. I want another completely bizarre one! (Lieutenant General, French Army, personal interview).*

In other words, generals do not want staff officers to become passive, risk-averse, or to simply tell the commander what they want to hear. The key is training in a command climate in which it is fair to try to think differently and challenge assumptions. This does not mean that planning is free play. Creativity is still bounded by reason since military professionals must provide justifications for their recommendations or ideas to convince the

general, who has the ultimate authority to decide. But encouraging staff officers to play with planning parameters might rightly challenge accepted wisdom. Generally, the ability to explain one's reasoning is a two-way street. Commanders do not make arbitrary inferences; they explain why they think a specific intent is correct or why a particular course of action is preferable to another since, ultimately, somebody will have to put their lives on the line to comply with the intent.

Proposition 5: Commanders need to establish a command climate with room for disagreement. Plans need to be tested and challenged, which is best done in the company of others. Even the most capable benefit from a second opinion and an intellectual testing ground for their ideas.

Military History and Personal Experience

Respondents recognised the value of studying military history. However, it is rarely systematised or at the centre of attention. It was often mentioned as an afterthought and driven by personal interests, if at all. This is not just a question of resources but also how to approach it. History is so rich that the phrase 'studying history' almost lacks meaning. The most successful approach seems to be a version of applied history in the Clausewitzian sense, where military history is used to train one's judgement (Clemmesen, 2014; Murray & Sinnreich, 2006; Schøning, 2021). In the study of history, the human factor, friction, the influence of morale, surprise, the unclear understanding of the situation at hand, etc., are difficult to capture in doctrine and in training. Some commanders described how they used historical analogies in their initial intent; General James Mattis drew from two World War II examples leading up to the operation against Kandahar in 2001: the British raid against St Nazaire and Field Marshal Viscount Slim's operations in Burma (General James Mattis, personal interview). Military history is a filing cabinet one can turn to for inspiration, not for imitation, and it is often linked to or mixed with personal experiences. Both sources provide justifications for the establishment of the initial intent.

Proposition 6: Personal experience combined with the study of military history informs professional judgement and produces guidance. Neither history nor personal experiences are to be copied but should be viewed as a filing cabinet of things that have worked in the past.

Discussion

This article has focused on how commanders understand their function. Empirically, the article finds that command in the form of executive decision-making is an organisational need. Staffs who work according to procedures tend to develop machine-like behaviour and produce textbook solutions. The respondents recognised a tendency in the military organisation to turn its attention inwards to the logic of efficiency, standards, and procedural approaches. Thus, management and synchronisation of resources can consume the entire staff. The point is not to do away with standards or management. Standards are rational and needed to coordinate operations, but they are a means to an end. The end is not the efficient or optimal use of resources but to accomplish the mission. Commanders are authorised to transgress procedures and instil values, norms, and constraints, or offer encouragement. Often, they invite key personnel to help them think through the problem before issuing guidance. The best commanders will succinctly formulate the intent without succumbing to details or pure abstractions. This should not be confused with collective command. The responsibility for the intent and the decision rests solely on the commander.

Theoretically, we can add that setting direction involves critical judgements. This includes formulating the initial intent, and the authority to define and impose constraints on the subsequent analysis, plus encouragement to transgress some of the usual planning parameters to pursue a higher goal of tempo or surprise. It also involves the authority to assume risk on behalf of units under command. Developing and applying judgement is not a mystical act nor something that only Clausewitz's military genius can access. It is a learned ability. Klein's Recognition Primed Decisions model aligns very well with what the commanders described as having learned from free exercises or from military history (Kahneman & Klein, 2009; Klein, 1998, 2007). Respondents were able to recall the lessons and use them to support decision-making. We might ask if what the article has found is nothing more than experts in the form of generals who are able and authorised to make decisions based on professional judgement and staff officers who are not. However, as we learned from propositions one, two, and five, the commander fundamentally guides the military machine and balances the structured approach. The commander is a central figure in the military machine, and, according to the NATO definition of command, the individual vested with authority to direct, coordinate, and control. But the staff officer tasked with

developing workable courses of action or invited to discuss or challenge the commander's assumptions will also need to apply their judgement in parts of the planning process. Thus, professional judgement is not reserved for commanders, but they are the only ones authorised to act on it by default.

Second, the article finds that the respondents supported a traditional or doctrinal definition of command, thus refuting recent moves to understand command as a collective or networked effort. According to the respondents in this article, command is not a triad consisting of mission definition, mission management, and leadership but a hierarchy in which other functions follow mission definition. King does acknowledge that his thesis of a collective command paradigm is 'potentially radical – even unwelcome', and that he argues against 'military tradition and even the self-perception of officers and generals' (King, 2019, p. 21). This article has demonstrated that when left unattended, the military machine will turn inwards and focus on managing its resources according to a logic of rationality and control. Somebody is needed to provide guidance and define the mission. This might be both military tradition and an element in the self-perception of the officers, but it stems from an organisational need. This is the part of the responsibility of commanders that cannot be delegated and is probably why King's otherwise splendid empirical work receives pushback on its theoretical conclusions and normative uptake (Freedman, 2020; King, 2019, p. 21; Klitmøller & Obling, 2021; Storr, 2022). In this light, King's work has more to do with twenty-first century staff work related to mission management than with command.

This study has implications for future research, as well as for the military profession: *First,* we should examine how militaries prepare officers for command. It is said that experts 'know when they don't know', whereas non-experts do not recognise when they do not know (Kahneman & Klein, 2009, p. 524). In the absence of expertise, something else might take its place. Berejikian et al. showed that students at the general staff courses in the US uncritically tend to resort to specific international political theories (realpolitik or realism) when tasked with developing courses of action with insufficient information. They argue that this singular focus hampers creative thinking (Berejikian et al., 2022). Following the two approaches to decision-making in this article, it seems that officers fill knowledge gaps uncritically with theories to make the structured approach work. Checking assumptions or explicitly using different theories in such situations to analyse problems could be ways to think more critically (Jakobsen, 2022). This calls for more critical intervention in doctrine,

theory, and procedures instead of mere application. We might ask whether doctrine is currently written and taught in a way that allows officers to develop in-depth knowledge and professional judgement similarly.

Second, to understand the phenomenon of intuitive executive decision-making, case studies could be conducted that focused on how commanders arrived at certain critical decisions, what analogies or previous experiences they drew from, how they justified them, and what technologies they used in the process. In the related field of international politics, work has been done on how perception, personal experience, specific historical lessons, and analogies shape actions and judgement (Hironaka, 2017; Horowitz & Stam, 2014; Jervis, 1976; Khong, 1992). Personal memoirs might contain the empirical data needed for such analyses. In this article, the respondents emphasised free exercises as formative events in which they got bruised and hurt and learned from the rigorous after-action review process. During exercises, they embodied the limits of the procedural approach and the need for professional judgement. This requires a learning environment where it is safe to fail since failing or getting bruised is an act of learning. However, several respondents also mentioned that free exercises with troops are rare because they are resource-heavy. There might be other ways to learn about the effects of reciprocal actions, military history, or the rigours of wargaming, even if such approaches have pitfalls. It is an open question whether such training events can provide the same embodied experience.

Third, a related and perhaps emergent question concerns the role of technology, including how decision support and battle management systems mediate perception and decision-making (Akrich, 1992; Nørgaard & Linden-Vørnle, 2021; Orlikowski, 1992; Singer, 2010; Verbeek, 2011). This study might suggest that some machine-like behaviour could be delegated to a machine. However, the staff officers must also use their professional judgement, particularly in developing workable courses of action. Thus, some of the staff officers' work processes might be delegated to machines while others might not.

Fourth, suppose King's premise is correct, and that there is an increasingly complex command environment due to the integration of more military and non-military means at increasingly lower levels. This adds further complexity. Kahneman and Klein argued that the conditions for developing expertise were an environment with sufficient regularity and ample training to learn these rules (Kahneman & Klein, 2009). If contemporary military problems are wicked, as some argue (Greenwood & Hammes, 2009; Soeters, 2020a), then

there is still a need for someone authorised to set the parameters to make the organisation act in that environment. In wicked environments, causal relationships either do not exist or are difficult to understand. This is the point of departure for the emergent turn to design thinking in military planning (Wrigley et al., 2021; Zweibelson et al., 2021). But militaries might not need more extensive staff to analyse, understand, or design through the wicked problems. Perhaps a smaller staff who can directly interact with the environment and respond very quickly, relying on standards to increase the tempo, would be more prudent. It is often argued that increased complexity is the driver behind bigger staffs (Jeffery, 2000; King, 2019; Storr, 2022). However, if staffs tend to develop a machine-like behaviour, this might add to the tendency. It is a military truism that when staffs reach a certain size, they can generate enough work to keep themselves busy. Perhaps a smaller staff would increase both efficiency and effectiveness (Storr, 2009, 2022).

The six propositions developed in this article also offer avenues for further research, either conforming, denying, or building on them: In what circumstances does the staff tend to develop machine-like behaviour? What are the conditions for staff officers' use of professional judgement in a process that might be characterised as tightly coupled? How can doctrine be written and taught to accommodate both the need for procedure and the need to depart from it? From the staff officer's perspective, what does the command-led vs staff-driven headquarters look like? How do staff officers experience the command climate, and what are the consequences? King and others have opened the door to how staffs work (King, 2019; Malm, 2019; Öberg, 2020). Hopefully, this will serve as an invitation to more empirical work in the field.

Conclusion

I began this article by asking how contemporary military commanders understand command in the context of standardised planning processes and doctrine. First, the need for command stems from an organisational need. Staffs need guidance to add surprise, creativity, and risk; only the commander is authorised to assume risk on behalf of their units. Commanders recognise this need by referring to previous embodied experiences or military history in which the doctrinal or procedural approach proved insufficient. From the perspective of contemporary commanders, command is still vested in individuals, and

executive decision-making is a distinct and necessary function to guide the military machine. The staff's methodological reasoning informs commanders, so that they can validate their assumptions, analyse what is possible and the consequences, and sort out details. The structured planning process starts with initial guidance based on the commander's professional judgement. This intent might be discussed with peers either ad hoc or as a doctrinal principle. The responsibility for issuing the intent and the authority to do so remain with the commander. Mission definition is one of the central executive acts of command. Without explicit *mission definition* and guidance, missions will be managed according to the staff's internal logic of rationality, control, and optimisation, cranking out machine-like solutions.

In contrast to mission definition, mission management and subsequent questions of synchronisation and coordination are managerial problems whose optimal solutions can be deduced or at least heavily informed by knowledge of doctrine, planning parameters, and structured analysis of the given task. This is the realm of the staff organisation. However, from research on standardised work methods, we know that standards must also be translated according to local needs if they are to work. Neither command nor staff work is pure rule-following, and professional judgement is not reserved for commanders. Staff officers also need to apply judgement to develop workable courses of action, to test and challenge plans, and to participate in the required professional discussion as a part of military planning.

7. What We Disagree About When We Disagree About Doctrine

I do two things in 'What we disagree about when we disagree about doctrine'. First, I argue that the pragmatic ideal in the military profession is problematic. I argue that we can only be pragmatists in the simulations we build, and follow Howard's first problem of the difference between imaginary and real (future) war. Suppose these simulations are built around the notion that war is a puzzle that requires a process to solve. In that case, the military pragmatic only knows what works in that simulated reality. I argue that the strong ideal of pragmatism blurs the existence of the more profound disagreements about ontological and epistemological questions concerning the status of doctrine. Often these disagreements are shielded from critical scrutiny and referred to under the complex term 'culture'.

Analysing breakdowns in the multinational staff and the interview material, I develop a 2x2 matrix that outlines the major disagreements on two lines: whether problems of and in war are a set of enduring problems or novel ones and whether the response is or should be primarily prescriptive or descriptive. Officially, military professionalism states that doctrine should be descriptive; however, in practice, the staff organisation develop some very prescriptive standards. The result is that the descriptive doctrine turns into prescriptive standards, which might explain the tendency of staff to develop machinelike behaviour.

These different positions I develop are not static, and at times practitioners might even change positions depending on their place within the organisation or whether they are performing staff work or discussing doctrine or military history abstractly. The staff officers are not incoherent; they merely act differently in different assemblages. The underlying problem is that these disagreements are seldom addressed directly. However, they still profoundly impact the staff organisation and the operational solutions that can come into being. The article has been accepted for publication in the Journal of Strategic Studies.

Introduction

It is generally accepted that a sound doctrine is a critical component of military efficiency. Its purpose is to standardise or prime the thoughts of officers who 'have to think along the same lines to get the machinery to work well' . But when it comes to its subsequent application, the consensus stops. What is at stake is more than disagreement

about a word. It concerns the role of doctrine in the planning, justification, and, ultimately, conduct of military operations. For example, Lieutenant General Michael C. Short, who commanded NATO's air forces in the campaign against Serbia in 1999, was frustrated with how the political leadership interfered in target selection. Air power was used to hit tactical-level Serbian forces in Kosovo and not strategic targets in Serbia, as contemporary doctrine suggested (Høiback, 2016, p. 187; McInnes, 2007; PBS, n.d.). Another example is the bombing campaign against Iraq in 1991. Scholars have argued that doctrine and not strategy drove operations (Murray, 2011; Paparone, 2017b). In the spirit of this article, these could also be understood as two very different ways of conceptualising what doctrine is and how it should be applied; something to adhere to or depart from. These underlying beliefs about doctrine, its relations to operations, and its intended role in the planning and conduct of operations are what I label 'imaginaries' in this article.

The British Army's doctrine primer states that 'doctrine is not just what is taught, or what is published, but what is believed' (Army [UK], 2011). In addition to a formal doctrine, an army might also have an implicit doctrine or theory-in-use (Shamir, 2011; Spiller, 1997). This echoes the argument in Johnston's 'Doctrine Is Not Enough'. Johnston argued that to change someone's mind requires an emotional experience. Therefore, wartime experience rather than peacetime innovation changes an army corporate culture. Johnston cited the slow the slow integration of armour and infantry into the British Army before World War II as an example where written or 'formal' doctrine was available, but not actualised. Thus, written doctrine only has a minor or indirect effect on the actual behaviour of armies. Johnston therefore called for a broader study of 'corporate culture' to understand the behaviour of armies (Johnston, 2000). However, little research has been conducted in the field, and the researcher there does not take the application of doctrine as the analytical object. King, for instance, explored how contemporary divisional command worked without discussing doctrine explicitly (King, 2019). Other sociological studies have discussed how contemporary staff officers seem to be engaged in a bureaucratic practice where war becomes primarily a managerial problem (Malm, 2019; Öberg, 2019). One problem is that different militaries, and subsequently cultures, tend to have different doctrines, making it difficult to isolate one variable for analysis. Another is that military doctrines and ditto operations and exercises are often classified, restricting access. The counterinsurgency era's use of comparable and publicly available doctrines in somewhat identical situations by

somewhat similar organisations led to renewed interest in culture as an explainer for variance or even success or failure in operations (Long, 2016). In a study of operational differences in peacekeeping operations in Lebanon, Ruffa shows how some nations chose approaches that emphasised national documents and doctrine and others had a lower perception of threats and related more to the local practices to understand the operating environment (Ruffa, 2014). Ruffa suggests that these differences relate to experience, organisation, and norms. In the current literature, such differences are often referred to under the complex term 'culture' (Kier, 1995; Kilcullen, 2019; Shamir, 2011).

This paper offers a typology of imaginaries by mapping out what kind of knowledge contemporary military practitioners believe doctrine comprises and how they practice it. It shows how what is typically labelled as culture, and thus complex, can be understood as tangible disagreements on the status of knowledge about war and warfare. This, in turn, governs how operational problems are understood and their possible answers. The article builds on fieldwork in a multinational NATO division and 33 interviews with NATO commanders and senior staff officers. The typology will provide scholars with a tool for understanding some of the ambiguity about military doctrine within the military profession. The article provides a framework for understanding *what* military practitioners disagree about when they disagree about doctrine.

The article proceeds as follows. First, I briefly review the academic literature on doctrine. Second, I present the science and technology framework I have used to analyse the empirical material. Third, I present the NATO division where I conducted fieldwork, the interviews with commanders and staff officers outside the division, and the methods I used to develop the typology. Fourth, I present the typology and conclude with a discussion of its implications.

What Is Doctrine?

Little research takes the application of doctrine as its analytical object. Instead, in classical approaches, doctrine is typically considered the dependent variable of external threats or military culture (Posen, 2016). However, these classic works do not consider the application of doctrine but rather seek to explain why specific doctrines or operational

approaches turned out the way they did (Kier, 1997; Posen, 1984; Snyder, 1984). This article is interested in how doctrine is actualised in the military organisation.

Instead, this article first turns to the scholarly debate about what doctrine is, since it influences how doctrine is applied. Among contemporary scholars, doctrine is generally understood as written manuals developed and used by the armed forces. Jackson defines doctrine as representative of a belief system. He argues that such beliefs have evolved on four levels: the technical manual, the tactical manual, the operational manual, and the military strategic manual (Jackson, 2013). This aligns roughly with NATO's doctrinal hierarchy where doctrine exists on three levels.

Høiback defines doctrine as 'institutionalized beliefs about what works in war and military operations' (Høiback, 2011, p. 897, 2013, p. 1). Such doctrine floats between the three independent forces of rationality, a-rationality (or culture), and authority. Høiback argues that doctrines can take on three functions: it can be a tool of change, a tool of command, or a tool of education. To Høiback, the written doctrine on top of the doctrinal heap is leveraged by somebody in power to do something in the military. To Jackson, a doctrine represents a pre-existing belief system. This disagreement led Høiback to declare, paraphrasing Kuhn, that the study of military doctrine is in a 'pre-paradigm period of speculation' in which scholars are not discussing the answers to scientific problems, but discussing what the issues are (Høiback, 2016, p. 186).

There is some convergence on doctrine as a form of organisational knowledge or belief system, and what counts as doctrine is usually written or endorsed by an appropriate authority. NATO defines doctrine as:

> *Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative, but requires judgement in application (NATO, n.d.).*

This variation of Fuller's 1926 definition is quoted at length in both the British Army's and the US Army's doctrine primer (Army [UK], 2011; Department of the Army [US], 2019a).

> *The central idea of an army is known as its doctrine, which to be sound must be based on the principles of war, and which to be effective must be elastic enough to admit of mutation in accordance with change in circumstances. In its ultimate relationship to the human understanding this central idea or doctrine is nothing else than common sense—that is, action adapted to circumstances (Fuller, 1926, p. 254).*

From this two-fold definition, it could be argued that doctrine is nothing but codified common sense which must be applied subjectively. However, the first sentence states that doctrine should be founded on the principles of war. Fuller believed that knowledge about war could be distilled from history and that common sense in applying doctrine should be based on scientific knowledge. His description of his methods to arrive at these fundamental principles resembles the hypo-deductive method known in the natural sciences. Fuller describes this approach in the following way:

> *We first observe; next we build up a hypothesis on the facts of our observations; then we deduce the consequences of our hypothesis and test these consequences by analysis of phenomena; lastly, we verify our results, and if no exception can be found we call them a law (Fuller, 1926, p. 46).*

It is an old discussion whether positive or objective knowledge can exist in war. It is generally framed as a discussion between the two nineteenth-century military thinkers: Prussian Carl von Clausewitz and Swiss Baron von Jomini. Often in contemporary military profession, it is framed as a discussion of war as art or war as a science (Department of the Army [US], 2019a; Howard, 1991). Alternatively, it may be framed as a dilemma between descriptive or prescriptive doctrine (E. A. Cohen & Gooch, 1990; Høiback, 2013; Posen, 2016).

Within the military domain, doctrine can mean a variety of things: philosophy, software, a written manual of guidance, fundamental principles, best practice, language, vision, tools, or beliefs (Angstrom & Widen, 2014; Army [UK], 2011; Hærstaben, 2016; Johnston, 2000; Lauer, 2016; Lund, 2017; Sloan, 2012; Wesley & Bates, 2020). These metaphors might capture the military community's ambiguous attitudes towards doctrine, but they are hardly helpful for an analysis. NATO specifically defines the purpose of doctrine as follows:

> *The principal purpose of doctrine is to provide Alliance forces conducting operations with a framework of guidance to achieve a common objective. Operations are underpinned by principles describing how they should be planned, prepared, commanded, conducted, sustained, terminated, and assessed (NATO, 2017 p. 1-1).*

Thus, in the military domain, doctrine can be understood as a folk category used to coordinate action (Brubaker & Cooper, 2000; Palazzo, 2008). This standardisation process has consequences for the actual behaviour of armies. Research into the sociology of

standardisation shows that there is no causal connection between the way in which things are thought out in the design mode and their actual application in the use mode (Bowker & Star, 1999; Orlikowski, 1992; Timmermans & Epstein, 2010). Standards, such as doctrine, guidelines, or similar institutionalised beliefs, need translation to fit local needs (Gal, 2015; Røn-Larsen, 2019). This is also the typical military practitioner's response to scholars' critique of positivist doctrine. The written manual might have positivist underpinnings, but this does not mean it is applied in that way (Parton, 2008). Returning to NATO's definition of doctrine and emphasising the last part, 'requires judgement in application', it might be understood as a way to channel objective knowledge and subjective judgement into one coherent or pragmatic whole at the point of application.

In sum, there is little agreement on what doctrine is and subsequently how it should be applied since war as art would lead to one way to approach operations whereas war as science would lead to others. To military practitioners, doctrine is a form of organisational knowledge that increases the efficiency and effectiveness of military organisations. What is interesting to the practitioner is application. Therefore, to understand doctrine, the analysis turns to one point of application: the divisional headquarters in a multinational NATO division.

Analysing Imaginaries and Doctrine at the Point of Application

I have drawn inspiration from *science and technology studies* (STS) and, particularly, studies of standardisation and imaginaries (Bowker & Star, 1999; Jasanoff, 2015a; MacKenzie, 1990; Timmermans & Epstein, 2010). STS scholars aim to understand how material objects and the imaginaries they carry with them co-construct our experience of the world. The role of doctrine is to facilitate coordination and cooperation between different groups; such objects are called boundary objects (Leigh Star, 2010; Prior, 2004). Over time, boundary objects are turned into standards and lose their flexibility; what was once conflicted becomes resolved, normalised, and simply the way things are done. It has become black-boxed. Later, new conflicts may emerge, giving rise to new boundary objects.

A typical way to open the black box is to notice changes over time and compare how things have been done in the past – or how designers originally envisaged them – with the way in which they are done now, or by observing how people work with and around these

objects. Alternatively, such boxes are sometimes broken open when the existing order breaks downs or is challenged (MacKenzie, 1990; Sandberg & Haridimos, 2011; Taylor, 2004).

As an example of black-boxing within the military profession, notice the 2009 discussion on using power point in staff work. US Marine Corps colonel turned academic T.X. Hammes argued that 'PowerPoint is not a neutral tool – it is actively hostile to thoughtful decision-making' (Hammes, 2009). The problem, according to Hammes and others, is that the templates offered in the programme invite us to understand the complex world in terms of hierarchical orderings presented in a bulleted list (Bumiller, 2010). Today, most staff officers (or academic faculty) might not even question the applicability of power point. If they chose to do so, it would require enormous energy and draw attention. Conveying complexity in bulleted lists in power point has become normalised.

Another example concerns a study of how the US in the 1950s built enough nuclear weapons to set the *whole world on fire* (Eden, 2004). Eden noticed that after World War II, there were attempts to understand fire damage, but over time this faded away, and the military establishment only calculated blast damage. Two forces were at play: (1) knowledge-laden routines in the form of handbooks that retain and carry over understandings and predictions, and (2) organisational frames, which are specific approaches to solving problems. In this case, structures targeted by nuclear weapons were supposed to be destroyed with blast damage. In the absence of a feedback mechanism, the organisation was never confronted with its predictions, so concerns about fire damage disappeared over time.

STS provides a fruitful approach to study doctrine at the point of application. By noticing how decisions are justified when disorder appears and the organisation struggles to create order, we can understand how these practitioners determine what is important and why. The justifications which they consistently return are what I have used to analyse the different imaginaries.

Research Context and Data Collection and Analysis

I conducted fieldwork within a multinational NATO division and followed a one-year training cycle. A division is an army formation comprising 20,000 troops with 400 staff

officers at its headquarters and commanded by a major general. The training events were centred around an online course in divisional-level tactics, a one-week planning exercise, and a two-week command post exercise. The division was only partially staffed daily, and staff positions were filled with designated personnel for the main training events. The division had officers from several nations serving on its staff and it officially follows NATO doctrine. This makes it an illustrative case for the multinational NATO headquarters. I also conducted 30 semi-structured interviews with senior NATO commanders, staff officers, and doctrine writers outside the division, and used snowballing sampling to get a perspective from the commander's seat on the application of doctrine.

All the informants in this paper are anonymised. Active-duty personnel are anonymised per default due to military security. Some interviewees did consent to be quoted by name. Still, for the sake of this article, I have chosen to let them remain anonymous, disclosing only their rank and affiliation, which helps us to understand the context.

In the analysis, I was inspired by grounded theory (Clarke, 2003; Rapley, 2010). I printed field notes and transcripts from the interviews to analyse the data. I marked the text with different colours and wrote codes in the margins. These initial codes originated in the text or from the initial reflections on the field notes. What sparked the analysis was an immediate observation that the staff officers also articulated that multinationalism was difficult because identical written manuals were understood differently. This was hardly visible in the daily work of the staff, but became visible when the situation changed, disorder started to show, and when I asked them afterwards how they justified their actions. I proceeded to put these codes into categories grounded in the text and ordered a range of 'doctrine is ...' sentences as my initial categories. These were grouped into the five ideal types I present in the findings section (Halkier, 2011).

Findings

While scholars point to the importance of written doctrine, I have not recorded one single instance of staff officers in the headquarters who read or consulted written doctrine at any point. Instead, doctrine runs in the background, and the standard operating procedures (SOPs) govern the staff officers' daily activities. The respondents did refer to

doctrinal principles and were eager to discuss doctrine in an abstract form via principles on a whiteboard, in relation to the exercise situation, via scenarios from the general staff course or through military history. The same observation was made in the interviews. This leads me to suggest that doctrine is something that is embodied and known through experience rather than reading and studying. Subsequently, doctrine is performed or translated in military practice. The analysis starts with the observation that the exact same (written) NATO doctrine can be known, understood and, subsequently, performed in very different ways.

I suggest that the most significant disagreements can be displayed on two axes: (1) whether military problems are enduring or novel problems, and (2) whether doctrine should be primarily prescriptive or descriptive. Plotted onto a 2 x 2 matrix, four typologies emerge. Extreme positions should be understood as tendencies; several actors perform each ideal type, and, depending on the context, they might even change positions. The last typology is the pragmatist, the ideal type that the profession inspires. I have placed the ideal in the middle of the matrix. Once I have defined the pragmatic ideal, I will analyse its applicability since, I argue, it blurs the discussion of underlying imaginaries. The appeal to pragmatism resembles the grey zone, the ambivalence, and the surface-level order in the material. The agnostic, the pragmatic and the realist are words the respondents themselves used. The rationalist and the idealist are terms borrowed from the field of epistemology.

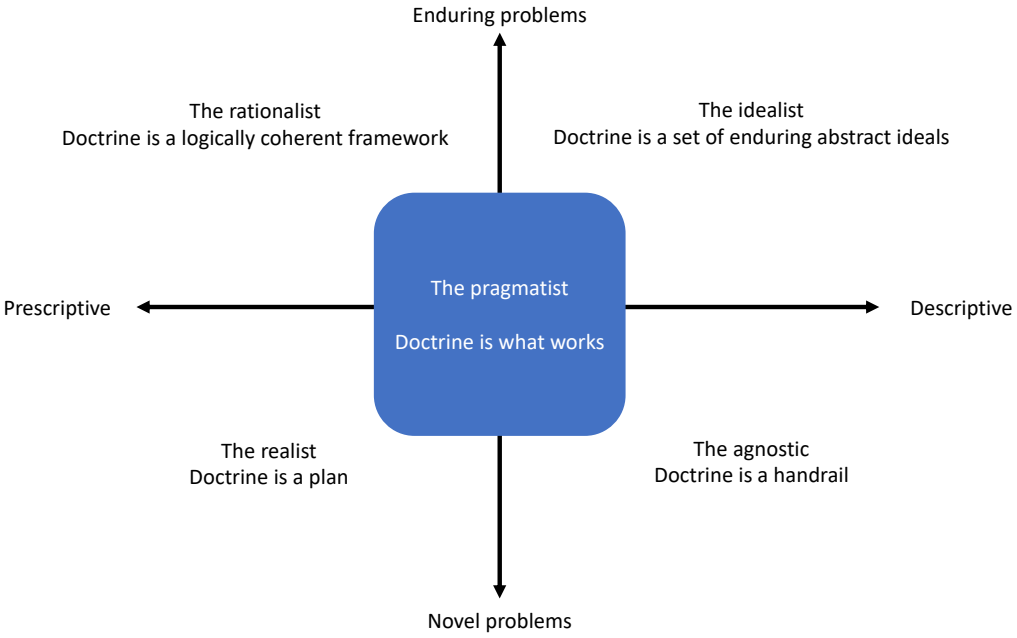

Figure 1: The Doctrinal Matrix

The Doctrinal Pragmatist – Doctrine is What Works

In lay terms, pragmatism suggests that, in war, the military professional should just do whatever works; doctrine codifies what works.

> *Doctrine is a common language; it is the shared vision of how the battle can be fought. But if the situation requires the armoured battalion commander to attack through the forest in a single file with 20 meters of spacing between the tanks, then he must do so (General, personal interview).*

This respondent describes doctrine as a shared vision from which one needs to pragmatically divert if the situation requires it. It connotes the duality found in both Fuller's and NATO's definitions. It is somewhat objective, but it needs to be applied with judgement. This approach allows the military practitioner to remain flexible and adaptive and avoid doctrinal dogmatism.

However, I suggest pragmatism is a problematic ideal in the military profession. In epistemology, pragmatism is a position that assesses the truth of a claim in direct relation to its usefulness. Knowledge is what is useful, tried, and tested (Peirce, 1934). However, unlike other professions, the military professional will by nature rarely exercise the conduct of war and thus lack a feedback mechanism (Angstrom & Widen, 2016; Howard, 1962). Wartime

conditions are challenging to simulate in peacetime, and any simulation will inevitably be based on how practitioners imagine the battlefield and the adversary in a future conflict. Imagine a pragmatist who has only seen scripted exercises (Öberg, 2020; Storr, 2009), or a professional military education that emphasises staff procedures, as some respondents argued. In such cases, scenarios and the use of military history will be constructed or curated to teach specific lessons. This is certainly a reality, but we cannot be sure it represents the reality of what future wars will look like. While the appeal to be pragmatic is seductive, its applicability hinges on exercise planners or professional military educational faculty. It runs the risk of blurring a debate on imaginaries regarding war and warfare since the exercise reality is confused with the reality of future war. Any simulation will inevitably be based on how we imagine the battlefield. Thus, militaries risk designing exercises and wargames that reify doctrine instead of challenging it (Curry & Perla, 2011; Öberg, 2020; Sabin, 2014). Examples are legion, but the French validation of its doctrine before World War II is perhaps the most illustrative case (Barno & Bensahel, 2020; Doughty, 2014; Posen, 1984).

The pragmatic ideal is thus a way of black-boxing doctrine. Researchers can surpass the pragmatic ideal and open the black box by asking which reality the respondent refers to when discussing what works. Individual experiences, military history, doctrine, exercises, or a combination? Returning to the respondent above, I asked if the general had ever seen a commander who ordered the armoured battalion to attack through the forest in a single file with 20 meters of spacing between the tanks. When the answer was no, I asked *why*? This invited the respondent to reflect on what is emphasised and encouraged in training activities and professional military education and, subsequently, how knowledge about war and warfare is justified; he underlined that there is a disagreement not about a principle but about how to operate. In this case, the general admitted that they had never seen such an order because military exercises are scripted with preestablished training objectives that do not allow for deviation.

The Doctrinal Idealist – Doctrine is a Set of Enduring Abstract Ideals

In the upper right corner of the matrix, we find the idealist. The idealist understands the nature of war as enduring. The challenges of war are essentially unchanging, and every tactical or operational manoeuvre can be understood as an imperfect version of an ideal

type of operation. To the idealist, it is possible to codify eternally valid, but abstract principles about war. One general reflected on the planning of the first Gulf War:

> *The battle in the desert war in 1991. The young majors and lieutenant-colonels who drew that plan up drew it from Allenby's attack on Beersheba in World War I against the Turks. And that was the result of them having learned it at Bloemfontein in the Boer War (General, personal interview).*

The respondent in this interview casually compared three very different battles separated by nearly 100 years, and noted that they are essentially of the same kind. The abstracted knowledge of what the British learned in South Africa in 1900 is applicable 91 years later in Kuwait and Iraq. Indeed, even Hannibal's pincer movement against the Romans at the battle of Cannae in 216 BC is a model that can be replicated today. To the idealist, military history is illustrative to first tease out and then verify these principles. Detailed examples pollute the pure knowledge that must be conveyed in the doctrine. Historical examples are important to the idealist, but they serve only as illustrations. Detailed examples and the complexity that follows have no place in written doctrine. Idealist doctrine tends to be short and focuses on conveying principles without disturbing elements such as terrain, ground, or something similar. One staff officer explained:

> *We can discuss doctrine in the abstract, for instance characteristics for penetration or envelopment. The plan answers a task in which doctrine is a part. The risk of providing tactical cases is that they become the textbook solution to doctrine. But doctrine is more than the plan. Plan and doctrine are not synonymous. Doctrine is abstract (Staff officer, field notes).*

The idealist will maintain that they use the abstract framework to understand how the problems they are dealing with are essentially problems of a recurring kind. An envelopment was essentially the same for Hannibal in 216 BC as it is for present-day commanders.

The Doctrinal Agnostic – Doctrine is a Handrail

In the lower right corner is the doctrinal agnostic.[2] The agnostic agrees with the idealist that written doctrine should be succinct, but – unlike the idealist – the agnostic does not think that warfare represents essentially similar problems. To the agnostic, warfare

[2] I owe the phrase a 'doctrine agnostic' to General, Sir David Richards (UK army, retired).

cannot be boiled down to a set of idealised manoeuvres or principles. Any similarity between campaigns is superficial. What characterises war is that all rules can be broken. History is full of examples where this has led to success. The agnostic is empirically focused on subjective judgement. One respondent paraphrased UK Field Marshall Wavell to illustrate the point:

> *There is nothing fixed in war except a few elementary rules of common sense. And a study of history should be directed not at involving any theory or formula, but at observing what strange situations arise in war, what varying problems face the commander, how all rules may sometimes be broken with successful results, and, especially, the influence of human nature and the moral factor (General, personal interview).*

Codified common sense was also what Fuller argued for. However, Fuller's interest was precisely to develop this concept into laws of cause and effect. The agnostic would deny its applicability. Instead, the agnostic would argue that practitioners must use military history to emphasise discontinuity; they must train officers to use their professional judgement in order to understand what is at stake in the specific situation. Returning to the examples of Bloemfontein, Beersheba, and Desert Storm, the agnostic would abstain from trying to understand these as three examples consisting of similar problems but maintain that these examples are inherently different and should be understood independently and in their own context. The purpose of studying them is to train judgement. Since nothing in war is fixed, trying to codify knowledge across contexts is meaningless. The agnostic might even argue that the existence of doctrine could tie commanders' hands and prevent them from doing what is right in the specific situation. The agnostic does not deny that written doctrine or standards can be useful, but only with respect to prescribing best practice for practical matters. One respondent explained:

> *The brigade headquarters of which I was Chief of Staff were turned into the regulating headquarters for a divisional river crossing. Now, I had never done a divisional river crossing. I certainly hadn't planned a divisional river crossing. I think we probably thought about it at staff college. So, what did I do? I went straight to what passed for doctrine in the British Army at that stage which was the First British Corps' SOPs. I didn't have to worry about it. It told me what to do (General, personal interview).*

This respondent emphasised that the documents prescribing how certain standard manoeuvres should be carried out are an effective means to organise action. Thus, the

doctrinal agnostic would argue that while doctrine at the highest levels cannot and should not be codified, best practices at the lower levels should because there are better ways of conducting a divisional river crossing than improvising. Thus, the agnostic considers doctrine a handrail one can turn to if needed.

The agnostic is also a relentless empiricist willing to challenge even deeply held truisms within the profession since nothing in war is fixed. This response reflected the role of the contemporary division which, in doctrinal terms, is fixed at the tactical level of warfare.

> *I think that the first thing to ask is what the value of the division is. It seems that it has changed. It is no longer simply a tactical formation. It is now a gearing mechanism between the tactical brigades and the units below and the theatre plan, whatever that might be, above. It's, therefore, operational level headquarters in most respects (Major-general, personal interview).*

This respondent is not afraid to draw consequences that override common doctrinal approaches based on recent empirical evidence from counter-insurgency operations. Because armies are getting smaller, the units, assets, and tasks that were previously placed at higher levels are now emerging at the divisional level. Also, while doctrinally, the division is a tactical headquarters, it will probably solve tasks at the operational level, based on very recent empirical data.

The Doctrinal Realist – Doctrine is a Plan

In the lower left corner, we find the doctrinal realist. The realist is concerned with specific problems. The realist is empirically focused, and while abstract doctrinal principles might exist, they are of little interest to the realist. Instead, the doctrine relates to the way in which a specific unit will solve a particular task with the specific means available.

> *We have a clear and concise threat […]. Others have abstract problems. The difference shows in training, exercising, and planning. It seems the division is trying to learn how to fight a combined arms battle as if we had all the world's resources. We should work with what we have (Staff officer, field notes).*

This respondent claims that there is too much focus on abstract problems in an ideal type of organisation and not enough focus on the actual situation, i.e. how these abstractions should unfold in the specific terrain and with the units available, not with the

units that doctrine calls for. The realist will argue that it is necessary and indeed prudent to develop elaborate plans and codify them in writing. Still, the realist does not attempt to say that the conclusions are valid in all cases, just that it is the best possible solution to a specific situation. Another staff officer put it this way.

> *To me, doctrine is a plan. How will this unit solve its tasks with the means available? How do we integrate the light infantry brigade with the heavy brigade? These are practical questions rather than abstract ones (Staff officer, field notes).*

Historical studies of doctrine might also reveal realist tendencies. During the Cold War, the Danish Army had two primary tasks: to defend the island of Zealand from a seaborne invasion and to dig in near the inner German border and as a part of NATO to stop a Soviet advance. Politically, there was not much room for giving up ground to gain time or to manoeuvre. Thus, the doctrine of 'grounded defence' (*stenbundent forsvar, ed.*) reflected the specific political conditions more than an abstract understanding of warfare in general. A similar argument might be advanced with the development of the Active Defence doctrine in the 1970s and the AirLand Battle doctrine of the 1980s (Lock-Pullan, 2005). These were concerned with how the US Army would fight in the German plains against forces from the Warsaw Pact. Prescription is important for the realist, but only when related to the specific situation. The realist does not claim that neither doctrine nor plans can traverse cases, but that each case is unique and knowledge is only valid in a specific situation.

The Doctrinal Rationalist – Doctrine is a Logically Coherent Framework

In the upper left corner is the doctrinal rationalist. Like the idealist, the rationalist will claim that there are certain enduring ideas about war. Based on this principle, the rationalist will use reason and logic to construct a coherent system or framework that is prescriptive by nature (Department of the Army [US], 2019a p. 1-3). The rationalist believes that war and warfare are unchanging phenomena, and that positive knowledge about this nature is possible. The approach resembles the method described by Fuller. However, the rationalist will take this approach further and claim that based on such understanding, it is possible to deduce a coherent and logical framework of processes and procedures and thus provide rational answers to tactical problems. Unlike the realist, prescriptive details are not only valid in the specific situation, but valid across cases. Being too doctrinaire is not

necessarily a problem since what is needed is an efficient synchronisation of means. One respondent explained:

> *Often [at the divisional level, ed.], there is not any great liberty to operate. Thus, plans are often an effective synchronisation of means rather than something ground-breaking since time and space are limited means (Lieutenant-General, personal interview).*

From the insight that there is no great liberty to operate, the doctrinal rationalist will deduce processes that can secure that means are effectively synchronised. The rationalist is not inflexible and will, unlike the idealist, continuously update their doctrine, especially at the procedural level where documents are more prescriptive. New knowledge or new proposals will be weighed or analysed against the existing doctrine and only accepted if they comply with the existing framework. The process of writing, updating, and working along standard operations procedures is an approach with rationalist underpinnings.

The rationalist will be frustrated with solutions that do not fit the analytical framework. In discussing a defensive divisional manoeuvre that included a so-called spoiling attack, one staff officer remarked:

> *It is an analytical breach to commit the heavy brigade early compared to conserving fighting power. We were dependent on that unit later in the fight. That attack should not have been ordered (Staff officer, field notes).*

The respondent in this excerpt places great emphasis on the analysis and its logical conclusions. Based on the analysis, the rationalist will draw normative conclusions. Any manoeuvre should be aligned with doctrine and the rational answers that come from following a method. At the point of application, the rationalist will be focused on procedural approaches, especially the rigour of the decision-making process. Breaches are considered irrational and wrong; at the extreme end, solutions can be criticised even if the commander has issued the order and accepted the risk calculus, as in this case.

To the rationalist, the role of military history is to test and verify the framework that the rationalist has developed. Rational analysis ought to result in the same manoeuvre as what worked in actual wars. Thus, Hannibal’s success at Cannae, the British victory at Bloemfontein and Beersheba, and the US coalition's success in the Gulf War can be explained through rational analysis that leads back to enduring principles. Similarly, any

rational analyst who would be presented with the same factors as Hannibal ought to reach the same conclusions.

According to rationalists, the same procedures can be used in various contexts, and the increased use of bureaucratic devices in the staff is understood as a sign of professionalism.

Conflicts Among Typologies

In practice, all these typologies might be present within the same unit because they are rarely articulated. Instead, practitioners who lean towards either extreme might find that their words are falling on deaf ears; they merely assume that they are all operating using the same imaginaries. The biggest problems are found diagonally in the matrix. An example from the divisional headquarters illustrates several imaginaries at work: during the exercise, a group discussed how a brigade should conduct 'follow-and-assume' during an offensive manoeuvre. As the discussion heated, the officer leading it removed the map and drew a principal sketch on a whiteboard of how follow-and-assume should look abstractly.

> *'Do we agree on the principle?' The first staff officer asked.*
>
> *One objected, 'We are not talking about principles. We are talking about how this is done in a densely wooded area when the front unit is blocking the available roads'.*
>
> *The first staff officer responded, 'Details are for the units on the ground to sort out; if we agree on the principle, I think we can move on' (Fieldnotes).*

This can be understood as an example of an idealist and a realist discussing a tactical situation. For the idealist, problems can be abstracted and debated in their ideal forms. Once this is settled, details can be sorted out by others. To the realist, the problem is not a matter of principles; it is a problem of impassable terrain and blocked roads. It is a very concrete problem that does not have an abstract solution but needs a tailored local solution. In this short excerpt, the officers' words fall on deaf ears. The idealist assumes that the problem has been solved; the realist feels that the problem has not been understood. The discussion of conducting follow-and-assume surfaced again in the after-action review after the exercise. The staff suggested writing a set of tactical standard operating procedures to explain how such manoeuvres should be carried out in the future. The underlying rationalist idea is that prescribing solutions to recurring problems is a good way

to overcome problems. However, the validity of that assumption was never discussed, maybe because the standard operating procedures instructed the staff to deal with lessons learned systematically. Each lesson was identified and plotted onto a document that contained a table; one line was allowed for each lesson, and for each lesson, there had to be at least one corrective action.

To be clear, the different imaginaries at play influenced what constituted the problem in the first place and, secondly, the possible and meaningful answers to that problem. Other conflictive topics at the headquarters include priorities in exercise planning, the commander's involvement in the planning process, the perceived importance of standard operational procedures and methodology, and even the value of written doctrine. Thus, disagreements on approaching an emergent problem 'rationally' or 'pragmatically' during the exercise can be understood as a conflict among the suggested typologies because each provides different answers to what rational or pragmatic even means. Furthermore, some of the 'neutral' tools that the staff officers use actually frame problems and their solutions in specific ways that hinder discussion of those assumptions.

A Typology; Then What?

This article has shown how very different and theoretically incompatible ideas exist in the same organisation and how they affect the problem definition and its possible solutions. Under the headline pragmatism, these imaginaries are seldomly discussed explicitly; however, they are often at the centre of disagreements during the planning process and the conduct of operations. Thus, when military practitioners assume things are a certain way, they are not understanding the world objectively. They have been socialised into a set of practices, procedures, and doctrinal approaches that emphasise one or several sets of imaginaries, and these tend to clash in multinational settings.

The typologies offer a way to understand how imaginaries frame practitioners' understanding of the situation and its practical solutions. One practical approach at a multinational headquarters might be to ensure that planners and commanders are reading the same contemporary doctrine and prioritise training activities that aim to tease out and discuss different ways of understanding and applying this doctrine. These could be wargames, tabletop exercises, or historical examples designed to disrupt order and question

deeply held beliefs about war and warfare. The aim should be to acknowledge and understand the existence of differences, since priorities in training or exercises also reflect organisational choices and emphasise some imaginaries over others.

Since doctrine also concerns socialisation, national preferences could have been added to the typologies, but the dataset is too small to support claims of this nature. However, I did find that different typologies existed among officers who should have been socialised similarly. Also, I found that officers could hold different imaginaries depending on the situation. Thus, while these typologies are probably most clearly visible in a multinational context, they also offer a way to discuss the differing approaches in nations that one might expect to be the same.

The study has a few limitations that might serve as avenues for additional research. The analysis is based on fieldwork in one NATO division and interviews using snowballing sampling. The division was training towards initial operational capacity and, therefore, some of the findings during the fieldwork might be influenced by their specific context and might not necessarily be generalisable. However, the interviews are used as an attempt to counterbalance this. The empirical material does reflect some ambivalence and shows the importance of situatedness. A form of breakdown was needed to notice and discuss imaginaries and priorities related to doctrine. The answers provided were, therefore, context-specific and situated; this is visible if one looks at the quotes I have used to describe the doctrinal agnostic. The agnostic was a minority view among staff officers in the division but more prevalent at higher levels and in interviews that were distanced from the divisional exercises. Thus, the staff officer tasked with a specific subset of the military decision-making process utilises doctrine differently than the commanding general or the lecturer or student in professional military education, even if they are referring to the same document. For this reason, I do not claim that these five typologies exist objectively, nor that they are fixed. Rather, I offer them to make sense of the ambiguity that concerns reading, writing, understanding, and applying doctrine within the military profession.

This study has theoretical and methodological implications for future research of doctrine:

First, the study shows how written doctrine runs in the background. To understand the behaviour of armies, units, or staff, it is not sufficient to study written doctrine since there is no causal link between what is written and practiced. Instead, imaginaries about

doctrine, which also entail ideas about what professionalism and rationalism mean, are important factors to be understood as co-constituents in constructing military plans and operations. These, in turn, are best explored as empirical phenomena. However, such studies need not reference a term as complex as culture. The study shows how practitioners disagree on very tangible questions about knowledge *of* war and knowledge *in* war.

Second, future studies might question how and where these imaginaries emerge and how they are reified within the military practice. Written doctrine might be analysed with the suggested typologies in mind, as well as the ideals and tales of professionalism of military practitioners. Which military historical examples are hailed as good examples, and what lessons do practitioners draw from them? A related question concerns the use of exercises and, particularly, the use of red teaming or free force-on-force exercises against more scripted or controlled exercise structures. Thus, *why* and *when* certain imaginaries are emphasised at the expense of others could be questions worth exploring.

Third, questions of conflict, status, inclusion, and demarcation of professionalism are also at stake within the military profession. Thus, a more classic sociological analysis of whose voices are heard and silenced might also add value to understanding how doctrine is used or developed.

Conclusion

I began this chapter by asking what we disagree about when we disagree about doctrine. First, I showed that doctrine is considered essential in military practice, but that scholars argue that doctrine is a weak explanation for the actual behaviour of armies. Instead, a set of imaginaries about war and warfare influence the application of doctrine. Second, I have argued that military practitioners tend to consider pragmatism as an ideal. However, in the absence of a feedback mechanism, pragmatists rely on the imagination of exercise planners, which might not resemble how wars in the future will look. Third, I have argued that military practitioners disagree along two axes: (1) whether military problems are a set of enduring or novel problems, and (2) whether doctrine should be primarily prescriptive or descriptive. This translates into a 2 x 2 matrix that depicts the doctrinal idealist, the agnostic, the realist, and the rationalist. Researchers can apply this typology when embarking on a study of different approaches to doctrine. The point is not that

researchers should judge which practice is right or wrong, but that they should endeavour to understand how military professionals make sense of their world.

8. War, Power Point, and Hypnotised Chickens

This article was presented at the Danish Association of Science and Technology Studies (DASTS) Conference of June 2022. It presents my preliminary findings concerning organisational life as a socio-material practice and emphasises the strange actors who showed up when I set out to explore how doctrine worked. It discusses the assemblage framework and how breakdowns can be viewed as constructive events that help us to understand the logic of practice and organisational decision-making as a socio-material practice. When I submitted the article for publishing, I experienced my first conflict related to military restrictions on classified subjects and the academic ideals of openness and transparency. One reviewer wanted to know, for instance, more details about the micro-processes of military staff work and the context of the research. While I understand that classic STS case studies rely heavily on detailed descriptions of micro-processes, such close depictions would be classified since they would disclose operational details. Negotiating or explaining to reviewers and editors without affiliation to a military organisation or war studies in general what can and cannot be written was an interesting and instructive process. Some of the questions that emerged from this process actually ignited another project at the RDDC on issues related to conducting research in restricted military settings.

Introduction

> *Well, let's face facts. The army is not exactly renowned for being a repository of intellectual activity. It is not like the Law, or the Church, or the City of London, or something. It is full of reasonably normal people. Staff headquarters are quite clunky and process-driven because they have to [be]. If you allow headquarters to do what it does, which is to be very like a machine pumping out solutions, it will tend to come to answers that are textbook correct, but profoundly wrong* (Sjøgren, 2022, p. 384).

According to retired Major General James Cowan (UK Army), the war machine consists of 'reasonably normal people' who rely on standardised procedures to coordinate their actions. Military decision-making, in turn, is affected by this process-driven war machine made up of normal people. A dilemma emerges: there is a need for well-informed tactical decisions prioritising surprise, speed, and disciplined initiative, yet the war machine promotes mundane organisational routines to optimise, align, and synchronise means.

Large-scale military staffs and their excessive and, at times, unfeasible orders have led to a mounting critique from the military profession itself. In an interview, US Army General Mark Milley stated:

> *I think we're overly centralized, overly bureaucratic, and overly risk averse, which is the opposite of what we're going to need in any type of warfare […] (Freedberg Jr, 2017).*

Though no theory of war exists promoting the idea that war is won through centralisation and standardisation, military effectiveness still presupposes that officers, in particular, 'have to think along the same lines in order to get the machinery to work well' (Høiback, 2016, p. 187). Large organisations require standards to work efficiently and, in practice, must balance the needed standardisation against the needed responsiveness. General Milley seems to be critiquing the military profession for focusing too much on standarisation and forgetting about quick responsiveness.

Contemporary organisational studies mainly consider the human element of the military profession, for instance, how military commanders negotiate different and competing logics (Holsting, 2017; Holsting & Damkjer, 2020) or the difference between intuitive and structured decision-making processes (J. F. Schmitt, 1995; Tillberg, 2021). From this field, it is often argued that organisations turn bureaucratic and produce textbook solutions because the staff officers or their commanders are not appropriately educated (Clemmesen, 2015; Snider, 2015; Storr, 2022).

Such studies overlook how organisational life is entangled with materiality. As Orlikowski suggests, organisational life can be understood as a socio-material practice (Orlikowski, 2007). Examples of a socio-material approach in the military include MacKenzie's study of the development of accuracy in nuclear missile guidance. MacKenzie showed that the development of missile accuracy was a complex process that involved at least three types of actors: political, military, and technological (MacKenzie, 1990). Eden's study is also worth mentioning, which considered why the US developed enough nuclear weapons to set the 'whole world on fire', as her book is aptly titled (Eden, 2004). Eden shows how the development of nuclear weapons and, thus, organisational decisions were partly driven by knowledge-laden routines and handbooks that carried over certain forms of understanding and predictions of how these weapons would be deployed in a war.

This article provides examples of how a socio-material approach can be applied to advance our understanding of contemporary military staff organisations. By decentring the human subject, attention can be turned to the roles of other forms of non-human actors in the decision-making process. Drawing inspiration from the earliest studies in the sociology of scientific knowledge, the approaches used to describe how scientific facts are produced in laboratories can also be applied to how organisations make or construct decisions. Because I am more than a neutral observer studying an alien tribe, I have been interested in the phenomenon of breakdowns and the reconstruction of order as entry points to knowledge for quite some time. Studies of standardisation have similarly considered breakdowns 'events' to understand how standards are used, negotiated, can govern, or are even disregarded to fit local needs (Bowker & Star, 1999; Timmermans & Epstein, 2010). This study aims to understand the inner workings of the war machinery and how it is influenced by standardisation technologies.

One might argue that the fieldwork presented in this study only highlights the inexperienced and undereducated staff officers clinging to their standards, whereas true professionals would operate outside the rules. However, if 400 staff officers worked outside the rules, they could never coordinate anything. Major General Cowan hinted that bureaucratisation merely ensues if you allow a headquarters to do what it does. This study questions this relatively consistent tendency across Western military headquarters. What drives the tendency to produce predictable textbook solutions? By examining these mundane organisational routines, such as standardised operating procedures and power point templates, we can better understand the solutions that can come into being within military staff organisations. These tools are overlooked carriers of certain taken-for-granted beliefs; they cause staff to approach war as a managerial problem with an optimal or rational solution—and can even make commanders and staff act like 'hypnotised chickens'.

This study is informed by the fieldwork I conducted at a multinational NATO military headquarters from September 2021 to June 2021. I observed the main training events during a one-year training cycle in a NATO division. A division is a military combined arms unit led by a major general with up to 400 officers on its staff. In the case of crisis or war, it commands up to 20,000 troops in battle (Sjøgren, 2022, pp. 383–384). As a typical NATO headquarters, it was not fully staffed on a daily basis. The vacant positions were filled with designated officers who were called in during the main training events. Most of the research

participants on the staff were mid-career officers in their late 30s or early 40s. They had 15–20 years of experience as officers and held graduate degrees in war or military studies. The freehand field notes were recorded in a restricted environment, and obligations related to military security prevented me from disclosing certain details of staff operations. The research participants have been fully anonymised, and I urge readers to empathise with them. A critique raised against *Laboratory Life: The Construction of Scientific Facts* was that Latour and Woolgar's close description of how the scientists worked merely showed that they were not following the scientific method (Latour & Woolgar, 1986, p. 274). A similar claim of irrational or unprofessional behaviour might wrongly be raised against the participants in this study.

Method

My initial interest was to examine how the staff operationalised doctrine in order to create operational plans. Doctrine is how military organisations codify their organisational knowledge. Armed with the concepts of socio-material assemblage and breakdowns, I ventured into the headquarters to observe doctrine at work; I came away with notes, observations, and interviews that primarily considered mundane organisational routines and how they structured the workdays of staff officers. As I observed and talked to the individual staff officers, it became increasingly clear that their workday was nothing like the abstract processes described in planning doctrines. Instead, the staff officers gave presentations that complied with power point templates, attended meetings according to the daily battle rhythm, and responded to emails. War and violence, it seems, had become a bureaucratic practice within the military organisation (Malm, 2019; Öberg, 2020).

Because I hold the same rank as most of my informants, my empirical material was gathered as an insider in uniform (Merton, 1972; Wegener, 2012), which differs from the classic ethnographic ideal of practitioners as an alien tribe (Latour & Woolgar, 1986). The fact that I was not busy getting the machine to function but looking at it through the lens of assemblage and breakdown allowed me to capture rich data in the headquarters. I was able to notice how mundane procedures and power point templates actively shaped which operational solutions were allowed to come into being and how ideas were immediately discarded when they did not fit the format.

The Article's Structure

The article is divided into three sections. First, I briefly introduce the military decision-making processes, the need for order, and the inevitable breakdown of order as the situation evolves. Second, I discuss the concepts of assemblage and breakdown and how they can be operationalised to understand organisational outcomes as a socio-material assemblage. Third, I provide two examples showing how standard operational procedures and power point templates actively shape which solutions to operational problems are allowed to come into being. More than an STS case study *per se,* I show what the concepts of assemblage and breakdown yield in terms of our knowledge of organisational decision-making practices.

How the Staff Makes Decisions

One of the main tasks of a military headquarters is planning. The result of planning is a plan or an operational order that articulates how 'actions (ways) and resources (means) are employed to achieve (ends)' (NATO, 2019b p. 1-1). Planning is done through the military decision-making process (MDMP), which translates military doctrine into a plan that considers the characteristics of the operation. The MDMP is considered a logical, analytical, and sequential methodology that can be applied in any context to any military problem. NATO planning doctrine states, 'Although all operations are unique, their planning and conduct can be approached in the same manner' (NATO, 2019b, p. xi).

While there are variations across levels, between nations, and in its application regarding the time available for planning, all MDMP versions share the characteristics of deductive analytical and rational processing. The main rationale for a standardised approach to planning is to 'improve alliance interoperability and operational effectiveness' (NATO, 2019c, p. XI). The three-column model is a central tool used to organise the staff officers' mode of thinking within the process (NATO, 2019c p. 2-26). A factor or question is posed in the first column, a deduction of the factor or question is stated in the next, and the third column states the implications or conclusions for the troops or the mission. Later, these conclusions deriving from all the relevant or possible factors inherent in the given mission are drawn into a synthesis.

In some cases, deliberate planning before an operation might be a weeklong process; in others, hasty decisions might be made on the spot. Some decisions require the commander's involvement, others can be delegated to the individual staff officer. The staff utilise many other standardised tools to support this decision-making process, including battle management systems, power point, and standardised operations procedures (SOP). Though these tools are central to the staff officer's daily work, they are not mentioned in NATO's overall planning doctrine (NATO, 2019b).

The military's need for order grows out of the need to coordinate its actions in battle. Military units fight as a part of a coherent whole, and the key to success is collective action. However, there is also an adversary actively resisting. Therefore, a military dictum states that 'no plan of operations extends with certainty beyond the first encounter with the enemy's main strengths' (Moltke, 1993, p. 45). Thus, the order that emerges from the MDMP is inherently unstable at the time of implementation. The military professional, therefore, expects the plan to change. When disorder emerges, order needs to be reconstructed to fight effectively. Often, minor changes to the existing operations order are made or it might even be newly interpreted. The tangible output is a fragmentary order in the case of minor adjustments or an entirely new operations order if a new mission is given.

The military staff follows a standardised structured method aimed at effectiveness. The tangible output of the process is an operations order. How this order comes into being, is maintained, and justified in terms of why it should come into being as opposed to another are concerns of this article.

Decision-making as Assemblage and Breakdowns

Military decision-making is often studied as a purely humanistic endeavour. The decision-making literature and NATO doctrine contrast structured decision-making, also known as the heuristics and bias approach, with intuitive decision-making (Kahneman & Klein, 2009; NATO, 2016). Staff work, according to a structured approach, aims to make complex decisions in a systematic, organised, and data-driven manner. However, neither of these approaches considers how organisational life and, thereby, organisational decision-making is entangled with materiality.

To notice and analyse the entanglement of the social and the material, this article draws on the concept of the assemblage developed by Deleuze and Guattari. They use the assemblage to analyse and understand complex systems and structures, such as society, culture, and the human psyche. Each assemblage comprises different elements, such as human individuals, institutions, technologies, etc., that co-exist and interact in a specific way, creating a unique whole (Deleuze & Guattari, 1987). International relations scholar Antoine Bousquet has used the assemblage to analyse the entanglement of war and technology; he defines the concept as 'any collection of heterogeneous elements that can be said to display some form of consistency and regularity while remaining open to transformative change through the addition or subtraction of elements or the reorganisation of the relations between those elements' (Bousquet, 2018, p. 3). It is, in Bousquet's words, a close cousin to Latour's actor-network-theory (ANT) and, in some instances, used in conjunction with it or synonymously (Buchanan, 2015; Gad & Bruun Jensen, 2010). The original interests of Deleuze and Guattari concerned questions of power. Thus, the assemblage always serves some interest outside of the assemblage (Buchanan, 2015, p. 385).

The assemblage procures tangible outputs. The 'operations order', which is how the military staff communicates the plan, is an example of the tangible result of a socio-material process. Thus, the assemblage differs from the Latourian network because it possesses a form of materiality; similarly, since the assemblage concerns the question of power, it is deliberately being arranged in some way by somebody. This does not mean it is static; instead, the assemblage, like the actor-network, is always in flux. The assemblage shares with ANT the *attitude* of uncertainty and is thus a constant reminder 'that research is always likely to encounter conglomerates or hybrids of action rather than pure entities' (Gad & Bruun Jensen, 2010, p. 75). This attitude of radical openness allowed me to observe how non-human actors both generated and stabilised assemblages, which proved helpful during data collection. Thus, the assemblage also consists of power point templates, standardised approaches like the three-column model, and interpretations of doctrines that have been inculcated into the officers over the years.

Breakdowns are entry points to analyse how the assemblage works. Breakdowns refer to the failure of the assemblage to provide a stable basis for coordinating actions and interactions. In a military setting, this happens regularly in lieu of Molkte's dictum, which,

briefly stated, claims that no plan survives first contact with the enemy and that the assemblage itself is always influx. Breakdowns are when disorder creeps in, threatens the stability of the assemblage, and things are tinkered with to keep the work going. Noticing the micro-processes that guide this reconstruction of order, the analyst can describe the actions of both human and non-human actors. The analyst can show the profound impact of mundane organisational routines or templates on what can or cannot be conceived as a solution to restore order.

Breakdowns do not have to be dramatic events. A minor event in which the plan is consulted or interpreted can be considered a breakdown. In the sociology of standards, breakdowns differ in form but not in kind and are thus studied symmetrically. First-order breakdowns happen when processes and standards are tinkered with to get the process going (Orlikowski, 1992; Timmermans & Epstein, 2010). This can be observed simply by sitting next to the practitioners, watching their actions, and listening to them explain how they go about their business. In the field, first-order breakdowns were more than enough to spark a conversation about the priorities and demands of the situation. Similarly, this allowed the informants to stay in their roles as staff officers instead of forcing them to reflect critically on their choices while working.

Second-order breakdowns occur when the process fails altogether. The researcher can inquire about these by asking what-if questions (Eden, 2004; Højholt & Kousholt, 2019; Sandberg & Haridimos, 2011). Respondents can be invited to reflect on their choices: What was the outcome of a decision, and was the outcome reflective of the doctrine guiding the decision? In interviews, I asked what-if questions about second-order breakdowns, which invited respondents to reflect on why things are the way they are. Alternatively, I used observations and preliminary analyses of first-order breakdowns in the field to spark conversations. Due to my role as an informed insider, I sometimes got the 'you-ought-to-know-the-answer-to-this-question' look from the participants. But I also noticed that the staff officers were eager to talk when someone showed interest in their routine work. Even my hypothetical second-order questions were, at times, amusing invitations to challenge the status quo. Over dinner, I sometimes overheard staff officers discussing variations of the what-if questions I had asked them earlier.

The concepts assemblage and breakdown provide an analytical lens and a methodological handle to examine what happens in the staff organisation when the plan

fails to perform according to script. How is order restored in the face of unexpected enemy action or even in more mundane events such as reports of logistical delays, mechanical breakdowns, or a change in the weather preventing aircraft from operating? How are conflicts and tensions within the headquarters resolved verbally? And how do human-actors use the phrases 'what is important in this case', 'the crux of the matter is', or 'we cannot do that, because'? But there are also non-verbal actors, such as standards and power point templates, that mediate what can be presented or even what can be thought by silently insisting that the solutions must fit a particular format to come into being.

Entering the Military Headquarters

In this section, we will enter the military headquarters to notice how breakdown takes form in the staff organisation and how order is re-established. In two short analyses, I show how mundane organisational routines actively shape the military's decisions. To notice these events, I have drawn on the attitude of uncertainty as a constant reminder that research is likely to find 'hybrids of action rather than pure entities' (Gad & Bruun Jensen, 2010, p. 75). This attitude might oppose the common-sense perception of how organisations work. However, the entanglement of the social and the material is exactly what the attitude of uncertainty allows the researcher to notice.

In the following two brief analyses, both events were triggered by a first-order breakdown. These breakdowns happen naturally in military operations when the adversary acts unexpectantly or when there is 'friction', such as a breakdown in communication, a misunderstanding, poor planning, logistical problems, or unpredictable human behaviour. Some of these breakdowns are enacted by exercise control to simulate combat, others occur by virtue of a large organisation trying to coordinate its efforts.

The Process-Driven War Machine

A key aspect of decision-making at the headquarters was linked to the standard operating procedures (SOP) / standard operating instructions (SOI). The standard operating procedures or instructions are recorded in a collection of documents describing staff processes and the functions, responsibilities, and work processes of individual staff members. The SOP/SOI outlines how abstract doctrinal procedures should be applied at the

specific headquarters. The purpose of the SOP is two-fold: First, the inexperienced staff officer should be able to read the SOPs related to their function and quickly provide the inputs needed to get the machine to function. Second, they allow for quicker decision-making by setting standards for what is expected at each step. The general idea was that the SOP conveyed important lessons. The analogy of the efficient war machine underlined the importance of SOPs. The command level and the staff recognised the standardisation of routines as an essential means to increase efficiency and organisational throughput.

The SOP actively organised the workday of staff officers and tended to hail them as inexperienced workers whose job was to follow procedure. Decision-making authority was thereby allocated to the SOP. This happened in two ways: First, the staff officers used the SOPs as a guide to handling breakdowns. Thus, the first event could be described as categorisation since different events require different procedures. These procedures, in turn, describe the actions that need to be taken in a bulleted list. Next, the supervisor would often control whether the process had been followed to address the problem. While staff officers were officially encouraged to break with procedure if they deemed it necessary, non-compliance came with the cost of providing a rational reason for breaking with the process. In practice, this led to a culture of compliance in which staff officers became rule-following cogs of the machine. One staff officer explained:

> *Our practices are entrenched in SOP/SOI. It might be that doctrine says something, but if that is not reflected in SOP/SOI, then it does not matter. We do what is in the SOP (Staff officer, field notes).*

In sum, looking at the SOP as an element in the assemblage allows us to see how it guides operations. SOP/SOI complex is not a neutral device; it is neither harmful nor helpful on its own either. Instead, it must be understood in its specific context. It has both intended implications and unintended consequences. It stabilises some ways of understanding the world and framing problems, in this case, the idea that warfare concerns a managerial issue that can be solved by adhering to a process, hence the process-driven war machine. However, SOP/SOI is also a form of assemblage whose meaning is not predetermined, as can be seen in the fact that officers are encouraged to transgress it when necessary.

Templates and Hypnotised Chickens

Officers at the headquarters used templates, or standardised formats, to convey information, present analyses, or offer recommendations. The most prevalent were power point templates. At times these were provided as part of the SOP/SOI complex; others were brought in by the staff as 'good' templates taken from national general staff courses; and others were issued through the chain of command. For instance, the general's aide made the template required for presenting at the daily commander's update brief. In this case, the left part of the slide was reserved for a bulleted list and the right for tactical graphics on a selection of the map chosen by the aide. Each presenter was allowed one slide. The aide found this approach to be quite rational. A briefing in which the templates constantly change would probably be very difficult to understand for the commander and the rest of the audience. These templates were considered neutral devices and, as such, not given much thought.

Viewing templates as part of the assemblage, it was clear they played an active role in the kinds of decisions that were allowed to come into being. The afforded template required staff officers to make their suggestions 'fit'. While other formats were allowed, they were not encouraged. At one point, a staff officer was asked to present an idea to the commander about a situation change in the form of unexpected adversary action. I observed how the staff officer drew the proposed solution on paper before I had to attend to something else. When I returned, the commander's solution did not look like the initial drafts in his paper notes. I asked why, and the staff officer replied that the idea could not be drawn in the required templated. Another staff officer commented similarly:

> *We are limited by what we can draw in power point. This is probably a generational gap. It will level itself in the future (Staff officer, field notes).*

However, more than an issue of technical proficiency, the notion of the assemblage allows us to notice how templates command attention. The individual staff officer is limited by the template since any deviation from it risks being called into question merely because it deviates. Thus, questions and answers must be presented in a specific format regardless of their complexity: a map with tactical graphics and a bulleted list. Questions and answers that do not fit have great difficulties coming into being.

Before power point, the staff would prepare a 2–3 page summary of key issues. Today, 'a decision-maker will sit through a 20-minute PowerPoint presentation followed by five minutes of discussion and then is expected to make a decision' (Hammes, 2009). A similar practice of using a 25-minute power point-assisted brief followed by 5 minutes of questions was used in media sessions during the war in Iraq to prevent critical questions. The approach was known as 'hypnotising chickens' (Bumiller, 2010; Crean, 2012). Considering the risk of hypnotising commanders, this way of making decisions has also led to an increase in the use of so-called pre-meetings, where the commander is briefed before the actual brief. In turn, some of the staff officers in the headquarters labelled the subsequent formal briefs as an act of 'absurd theatre' since the decisions, in their understanding, had already been made before the meeting ever took place.

In sum, the templates actively shaped what problems and solutions could be presented by the staff. This is not to say that the 2–3-page summary of critical issues is inherently better—it also shapes what kind of problems and solutions can come into being. In the process- and power point-driven headquarters, suggestions for operational solutions must fit the template. Even the most complex matters must be boiled down to a bulleted list that can be conveyed in a 20-minute briefing, which could turn decision-makers into hypnotised chickens. Insisting that organisational decision-making is a purely humanistic endeavour misses the profound impact of mundane organisational routines. Empirically, researchers can only offer descriptions of how these formats shape decisions. Whether they are good or bad is a normative discussion, since they also enhance efficiency and throughput, which might be an organisational objective.

Conclusion and Suggestions

This article started by considering Orlikowski's call to understand organisational life as a socio-material practice. The concepts of assemblages and breakdowns were used as critical conceptual tools to analyse how different actors in military staff organisations perform their jobs. The analysis provided examples of how standards and power point templates are not neutral tools but actively shape the war machine, namely, by effecting what problems and solutions can be considered in the first place. The work of such hybrid actors is ignored in the purely humanistic approach to organisational decision-making. More

empirical work needs to be done within the military staff organisation, and it needs to be presented more coherently than the two examples I have provided here. Because such work must also consider research ethics and military security, detailed descriptions will be challenging.

One may argue that the article merely found unprofessional staff officers clinging to their standards and power point templates and that true professionals operate outside the rules. However, we should try to empathise with staff officers who must revise their suggestions to fit the template for the commanding general. As academics, have we not all had to adjust our work at some point in time to fit certain templates such as journal formats or grant applications? Have we been hypnotising co-workers or students with power points without considering the alternatives? Perhaps we are also, at times, rule-followers making abstract machines work.

The concepts of assemblage and breakdown illuminate how organisations work. They highlight how organisational givens are often the result of choices. I understand this as liberating, as it allows for change. Whether things need to change is a normative choice. Perhaps rule-following leads to quicker decisions, and speed might be of such central importance that we accept textbook solutions—as long as they are fast. However, an intended move away from the 'overly centralized, overly bureaucratic, and overly risk averse' approach to warfare that General Milley addressed in the opening quote seems to involve more than human deliberation. This article indicates that the idea of war as a bureaucratic practice is embedded in the staff's tools. Thus, the calls for more reflective, creative, or intuitive practice also need to consider the entanglement of the material and social. Following the approach in this article, we must expect that any alternative would also have unintended consequences. What is 'best' is an empirical question sensitive to context. However, understanding the effects of certain forms of standardisations is an empirical question that can be elucidated if we look closely at how the war machine makes decisions.

9. Entering the War Machine

This article is the further development of, 'War, Power Point, and Hypnotised Chickens' in chapter 8. It was intended to be a direct response to the call by *Security Dialogue* for 'martial empiricism' (2020); it offered both a method to analyse and initiate the study of organising military staffs. However, the article was rejected since the editorial board did not find it to be a proper fit for the broader discussion on the construction of security, militarism, and militarisation that the journal currently pursues. The article is, therefore, currently looking for a new home. There are three options for the future of this manuscript: it could be submitted to another journal in the field of critical security studies; it could be rewritten and submitted to an STS journal; or it could be revised to be submitted to a journal like *Organizational Studies*, where Orlikowski published her call for understanding organisational practice as a socio-material practice (Orlikowski, 2007).

Introduction

'Although all operations are unique, their planning and conduct can be approached in the same manner.' This passage, which can be found in the preface to the keystone NATO planning doctrine *AJP-5(A) Allied Joint Doctrine for the Planning of Operations* (NATO, 2019b, p. xi), states that military organisations are to approach operational problems as problems of similar kinds. This way of conceptualising reality, though, only allows certain operational solutions to come into being and hinders others from being conceived in the first place. Understanding how this 'marshalling of resources towards violent ends' works is a theme in Bousquet et al.'s call for 'martial empiricism' in a special issue of *Security Dialogue* (Bousquet et al., 2020, p. 107).

One of the main tasks of a military headquarters is planning. Military staffs plan in order to construct order in a state of chaos; a plan allows for interoperability and troop coordination. Military planning is a structured, organisational decision-making process. Planning results in an operational order or plan that articulates how 'actions (ways) and resources (means) are employed to achieve objectives (ends)' (NATO, 2019b, pp. 1–1). Planning in military doctrine is a standardised sequence of events. The planning process translates the military organisation's codified knowledge about war and warfare, also known as its doctrine, into a plan that considers the characteristics of the specific operation.

Although there are variations of this process across nations, services, and levels of war, it always rests on assumptions of rationality and objectivity. Overall, the operational planning process can be described as a logical, analytical, and sequential methodology that can be applied in any context to solve any military problem. In the spirit of this article, planning is how military staff constructs order in the chaos of war and marshals resources towards violent ends.

The tangible output of the planning process is an operational order allowing for the coordination of one's own troops. However, a military dictum states that 'no plan of operations extends with certainty beyond the first encounter with the enemy's main strengths' (Moltke, 1993, p. 45). Military professionals know that orders and plans are temporary constructs; they need to be interpreted, adapted, and sometimes entirely discarded (Friedman, 2017). Still, they command attention and serve to align and guide efforts as the battle unfolds (King, 2019). Understanding this constant ordering and reordering of chaos is the main concern of this article.

There is a mounting critique of this prevailing mechanistic or linear planning paradigm by the rapidly growing academic literature on design thinking (Paparone, 2017a; Wrigley et al., 2021). However, the critique has not penetrated mainstream NATO doctrine or staff work in multinational NATO headquarters. It thus does not affect the form of knowledge or solutions produced within the military. Where elements are adopted, it becomes an inconsistent add-on. Once design thinking meets practice, the divergent approaches are funnelled into the prevalent methodology and do not change much in the fundamentally convergent planning processes (Erdeniz, 2016; Heltberg & Dahl, 2019). As Zweibelson (2015) notes, the prevailing logic is that war is a puzzle that can be solved by one method, not an inherently insolvable mystery.

In the related field of organisational studies, it has been argued that rational choice theory cannot explain how organisational planning and decision-making procedures happen in practice (M. D. Cohen et al., 1972; March & Heath, 1994). Instead, organisational decision-making could be described as organised anarchies in which solutions are looking for problems. Central tools to achieve rationality in organisational life include documents and standardisation (Harper, 1998). Documents in the military staff organisation consist of written doctrine but also of more mundane organisational tools such as standard operational procedures and templates. Neither of these tools is mentioned in NATO's

highest doctrine on planning (NATO, 2019b). However, the procedural publication addresses the mechanics of tactical planning, provides templates, and stresses the importance of standard operating procedures or SOPs (NATO, 2019c). These tools are indeed ever-present in the staff organisation (Hammes, 2009; King, 2019; Malm, 2019). This adherence to standardised procedures has led some scholars to point out that inside the staff, war has more to do with bureaucratic processing or adherence to staff procedure than violence or fighting (Malm, 2019; Nordin & Öberg, 2015). Certain exercises similarly reify warfighting as the operationalisation of doctrine and administrative processes (Öberg, 2019, 2020).

Mid-career officers populate military staff organisations and are led by senior officers. These officers are well-educated and experienced, some have seen actual combat. Despite their qualifications, this article argues, staffs tend to develop machine-like behaviour, which only allows a narrow range of operational possibilities to come into being. Against this background, this article asks two questions: Why do military staff commonly adopt such mechanical behaviour, and why do new approaches to planning within the staff tend to fail?

In this article, I also explore how military staffs work to produce and maintain order in chaos. I show how the idea of warfare as a rationalist endeavour – as a problem that can be solved by one method – is deeply embedded in imaginaries about professionalism, standardised work procedures, templates, and the interpretation of doctrine. To do this, I first consider how the call for martial empiricism is operationalised within the military profession (Bousquet et al., 2020). I suggest the 'assemblage' as the central analytical framework for empirically exploring how organisations produce plans and order (Deleuze & Guattari, 1987). The assemblage is the result of a process of ordering; it has materiality and stability. In the military domain, it produces tangible outputs in the form of the five-paragraph field order. Assemblage analysis does not seek to explain causal flows between distinct domains such as the ideological and the social (Bousquet, 2009, p. 19). Instead, it exposes the modes of assembly and entanglements between the social and the material domains (Orlikowski, 2007, p. 1440). It is from this very entanglement or assemblage that order is produced. The practical problem that Bousquet et al. address is 'that there is no rational base camp from which to set off the study of a process – all research is necessarily *in medias res*' (Bousquet et al., 2020, p. 105). However, in certain events *processing* and the workings of the war machine are more clearly visible: it is not when organisational order is

stable but when it breaks down and needs stabilisation. Temporary breakdowns of order offer a window into what is essential for the reconstruction or reproduction of order (Bowker & Star, 1999; Timmermans & Epstein, 2010).

Second, I analyse how a military staff creates plans and maintains order. The staff in question is a multinational divisional NATO staff, which I observed during a one-year training cycle from 2020 to 2021. A modern Western division is a military land formation that commands up to 20,000 troops with 400 staff officers in their headquarters (Burket, 2019; King, 2019). This headquarters is only partially staffed daily and filled with designated military personnel from several nations during exercises, which makes it a typical NATO headquarters. The main training events I participated in were an online course in tactics, a one-week planning exercise, and a two-week command post exercise. The empirical material consists of field notes from observations and semi-structured interviews with staff officers during the exercises. Most of the research participants in the staff are mid-career officers in their late thirties or early forties holding the rank of major from different NATO countries. They have all completed or are studying their national equivalent of a graduate degree in Military Studies or the general staff course. Other forms of empirical material consist of written standard operational procedures, written doctrine, and interviews with NATO commanders and senior staff officers. Because the empirical material was gathered in a restricted environment, all research participants have been anonymised, and I have eliminated some excerpts to comply with military security and research ethics.

The analysis describes how order is continuously (re)produced. It demonstrates that the idealistic rational planning process rooted in doctrine is better understood as a messy one: organisational routines, questions of power and status, instruction during professional military education, power point templates, and other strange actors who mediate how staff officers understand their own role and make decisions and, subsequently, how military organisations wage war.

Background: Doctrine and Military Planning

Military doctrine is a form of organisational knowledge central to the military profession. The need for doctrine grows out of the need to standardise the coordination and cooperation of troops. Historically, doctrine emerged in the late nineteenth century as

armies became too large for one commander to handle (Høiback, 2013). Building on late Enlightenment ideas of progress, it evolved further with the emergence of bureaucracy, public governance, and the professionalisation of other forms of professional life. The emergence of doctrine can be understood as an extension of the state's struggle for control, power, and the growing state apparatus. The German sociologist Max Weber wrote about bureaucracy and found that it was in opposition to case-by-case decision-making. For bureaucracies to function properly, there must be some form of standardisation (Weber, 1946). However, this bureaucratic function of doctrine has not been sufficiently elaborated in the academic literature (Jackson, 2013). Today, NATO defines the function of doctrine in its capstone manual AJP-01 as something that provides '[a]lliance forces conducting operations with a framework of guidance to achieve a common objective. Operations are underpinned by principles describing how they should be planned, prepared, commanded, conducted, sustained, terminated, and assessed' (NATO, 2017 p. 1-1).

Scholars interested in doctrine often study official codified documents that sit at the top of the doctrinal heap and typically concern civilian-military relations and the most abstract concepts, ideas, and beliefs about war and warfare. Military practitioners would say that doctrine at the military-strategic level is certainly one kind of doctrine, but others exist as well. Doctrine can be found at all levels of the military organisation, and it constitutes not only what is written but also what is believed, taught, and done (Long, 2016; Lund, 2017; Mattis & West, 2019; Parton, 2008). Scholars, often sociologists, anthropologists, or historians, also acknowledge that doctrine in practice is a fuzzy concept and more than the mere publication of concepts (Ben-Ari, 1998; Johnston, 2000; Mäder, 2004; Spiller, 1997). There is a debate on the status of our knowledge about doctrine. Within the profession itself, this debate is often located in a discussion between Jomini and Clausewitz: war as science or war as art. Jomini believed that war could be understood as any other form of science, whereas Clausewitz claimed that positive teachings on war were impossible (Clausewitz, 1989; Jomini, 1996). Contemporary scholars argue that Western doctrine, despite its allegiance to Clausewitz, is rooted in positivist terms. Western doctrine was literally depicted by Drew and Snow twenty-five years ago as a tree firmly rooted in military history: Fundamental doctrine, which resembles military-strategic doctrine, is the trunk; the branches are service doctrine; and the leaves are organisational doctrine understood as tactical or service-level doctrine (Drew & Snow, 1988, p. 163). However, the idea that

military history is a reservoir of bare facts from which the doctrine writer or military theorist can distil fundamental principles using common sense is highly problematic. McInnes reminds us that '[o]ne does not have to be a card-carrying post-positivist to worry about this: whose history is being narrated? Whose common sense is doing the interpreting?' (McInnes, 2007, p. 135). This echoes Michael Howard's classic critique of the use and abuse of military history, who stated, similar to Clausewitz, that 'a positive doctrine is unattainable' (Clausewitz, 1989, p. 140; Howard, 1962).

Similarly, at some point early in their career, every officer learns *the principles of war* (Alger, 1982). According to doctrine, these principles are considered both fundamental and enduring, but any historical inquiry into their origin reveals that they have been susceptible to change. Even today, these principles are not the same in the different NATO nations. The ontological underpinning of the positivist approach often references Clausewitz's comparison of war to a chameleon whose outward appearance changes but stays the same on the inside. This is the idea of war's evolving character and enduring nature or the dual ontology of war. Some have argued that this is probably not what Clausewitz meant, that it does not serve the profession well to hold on to this interpretation, and that Clausewitz's notion of the chameleon should be understood radically rather than superficially (Barkawi & Brighton, 2011; Cormier, 2016). In the related field of intelligence analysis, Treverton famously argued that intelligence issues are often divided into 'puzzles' and 'mysteries'. The former implies that there is a solution and that analytical approaches should yield to sensemaking approaches, including intuition, when problems grow in complexity. Mysteries differ from puzzles insofar as they deal with the future, are contingent, and cannot be solved. Beyond mysteries are complexities (Manjikian, 2022; Treverton, 2005). However, this distinction opens the door for positivist insights about the enduring nature of war and encourages analytical approaches to solve the problem, which is considered purely epistemological. Any form of becoming is bounded by this enduring nature and, thus, not radical. Contemporary war scholars, as well as official doctrine, hold on to this dual notion (Army [UK], 2011; Department of the Army [US], 2019a; Heuser, 2022). The standard approach is still to understand warfare as a puzzle that requires a process to solve, not as an inherently insolvable mystery.

The typical military response is that written doctrine might have positivist underpinnings, but it is not necessarily applied in that way (De Munnik, 2012; Parton, 2008).

What is essential to the profession is not theoretical underpinnings but the pragmatic application of doctrine to solve a military task. Therefore, to study doctrine in a way that makes sense to the military profession would be to study doctrine at the point of application. An ideal place to study doctrine is hence a military headquarters, where doctrine informs military planning.

Theoretical Framework

Martial Empiricism

The original call for martial empiricism framed war as a mystery advancing a set of theoretical and methodological commitments for the study of war. Rather than searching for the essence of war, the call asks to explore how war becomes (Bousquet et al., 2020, p. 100). To reorient the empiricism of war, Bousquet et al. identify three partly overlapping processes: *mobilizing war*, *designing war*, and *encountering war* (Bousquet et al., 2020, p. 101). A practical concern in the call for martial empiricism is where to start an analysis if there is a state of flux. To move forward, this article suggests researchers consider how actors in the field construct order and stability, since they are, by necessity, thrown into the flux of war. Military staff make plans concerning how to comprehend the situation and their mission, which results in plans or operational orders. Changes to these orders are similarly issued in the form of fragmentary orders or an entirely new operational order. Militaries thereby construct tangible artefacts to order the flux of war. The military staff constructs order in chaos to allow for interoperability and coordination among its own units. Empiricists can turn to these orders and ask how they are constructed, how the evolving situation destabilises order, and how the staff work to reconstruct order. To do this, this article suggests two conceptual tools to collect, understand, and analyse empirical material: assemblage and breakdown.

The Assemblage

To grasp how orders are actualised, analytical inspiration can be drawn from Deleuze and Guattari's framework of assemblages (Deleuze & Guattari, 1987). An assemblage is a set of heterogeneous elements arranged to form some order. Assemblage theory has gained traction in the social and human sciences, especially in international politics (Acuto & Curtis, 2014; Bousquet, 2018; Bousquet & Curtis, 2011; De Landa, 2016; Savage, 2020). Bousquet,

for instance, uses assemblages to critique the idea that technology has causative powers in war, and he argues that such accounts rest 'on simplistic and selective treatments of the historical record' (Bousquet, 2018, p. 166). However, as Buchanan puts it, in many cases, assemblages do not travel well from critique to functional alternative analytical analysis. Assemblage often amounts to no more than an adjective: it notes that something is complex (Buchanan, 2015). For Deleuze and Guattari, assemblages are linked to questions of power. Buchanan reminds us that '[t]he assemblage always benefits someone outside of the assemblage itself' (Buchanan, 2015). In the case of doctrine, the written 'authoritative' doctrine works in assemblage by being actualised by the practitioners. It is an element in the ordering of the situation. Researchers can follow written doctrine as an actor among other actors to its concrete assemblages in the field to understand how it is actualised, what parts are actualised, and under what circumstances. It is only in the 'machinic assemblage', in concrete relations with social or collective machines, that things are given meaning (Deleuze & Guattari, 1987, p. 463).

While the assemblage produces very concrete manifestations, it is also an *attitude* and a way of starting an inquiry based on uncertainty (Gad & Bruun Jensen, 2010, p. 75). The assemblage elements must therefore be studied symmetrically: nothing about its connections or cause and effect is to be presumed. One can see how different things come together by suspending the typical analytical delineations. The researcher brings this radical openness with them into the field, so that they can notice not just how humans act but how things act as well. The assemblage bears resemblance to Latour's concept of the network in actor-network theory (ANT); in some cases, the words are used synonymously. I understand the assemblage as something that has a concrete manifestation. For the military staff, this manifestation is the operations order. The assemblage concerns questions of power and thus always serves someone outside the assemblage (Buchanan, 2015). What the assemblage and the network have in common is the attitude of uncertainty, which includes an openness to notice and consider socio-material practices as well as the call to venture into the field to notice who acts and how order is produced.

Breakdowns as Ruptures in the Assemblage

Second, the assemblage is an analytical lens. It diverges from early laboratory studies in the sociology of scientific knowledge and from the idea of the observer merely

conducting an anthropological investigation of scientists doing science (Knorr-Cetina, 1981; Latour & Woolgar, 1986). Instead, I have noticed and analysed what is at stake when the existing order breaks down and a new order needs to be constructed. Breakdowns occur when order is destabilised and things do not work out as expected. Breakdowns are constructive paradoxes or ruptures that the researcher can use to describe how such professionals make sense of their world, who or what is given a voice, and what future states are desirable or undesirable. Breakdowns are events in which participants justify their actions to reproduce some form of order when disorder emerges (Sandberg & Haridimos, 2011; Timmermans & Almeling, 2009). Such events produce verbal instances: 'what is important in this case', 'the crux of the matter is', or 'we cannot do that, because' (there are also non-verbal actors that mediate what can be presented or even what can be thought). In turn, these justifications lead to a decision that might not stabilise the situation but does allow the organisation to move forward. For example, there has been a report of unexpected enemy action during a military exercise that threatens to disrupt one's own manoeuvre to reach the centre of the operation. As the report comes in, a form of disorder emerges. The staff officer receiving the report will initially need to stop what they are doing and consider whether the report requires immediate action. The first action could be, for instance, to try to confirm the report by asking other units for their observations. The point is that the breakdown disrupts the flow and requires some form of action or attention to re-establish it. Breakdowns come in two forms: First-order breakdowns happen daily when processes are tinkered with to get the process going (Orlikowski, 1992; Timmermans & Epstein, 2010). The participant does their job and handles the breakdown as a part of their function. In second-order breakdowns, the participant will be distant from or removed from the event and reflects on it from a distance. Alternatively, the researcher can construct second-order breakdowns by asking what-if questions or becoming highly involved in the production of assemblages themselves; they can spur the research participant to move beyond tinkering and into critical reflection (Eden, 2004; Højholt & Kousholt, 2019; Sandberg & Haridimos, 2011).

As in the example above, breakdowns do not have to be dramatic events. Indeed, a complete breakdown of order would be catastrophic in a military organisation. Historically, battles and wars are lost when one side is thrown into disorder. But breakdowns can also be minor events when something happens that makes practitioners stop, reorient themselves,

and then move on. Such disruptions of the assemblage are the breakdowns of interest in this paper. The researcher requires some knowledge of the profession to construct second-order breakdowns, but in-depth knowledge is optional. First-order breakdowns happen daily in most organisations. In a military setting, unexpected enemy action threatening to derail the plan is the norm and used as a means to get the staff to work during exercises. Breakdowns occur as the situation evolves or merely as the orders are passed down the chain of command. Breakdowns range from minor adjustments to significant failures that require a decision. This attention to how order is restored, and the uncertainty concerning who or what should act in the restoration, is the empirical material for the analysis.

Armed with the framework of the assemblage – which is both an attitude and an analytical framework – and of breakdowns as ruptures of the assemblage, i.e. events that allow us to notice the workings of the organisation, I have provided one possible answer to the problem of where to start the analysis if there is a state of flux. As exemplified in the present study, I followed practitioners who construct order to understand their operating environment and how action is synchronised through their planning. This order's materiality is in the form of an operational order. In many cases, it is a matter of capturing and describing discrepancies or cracks in the temporal order after learning to see them. Isolated, such observations might not amount to more than witty remarks that show the apparent irrationality of those observed. Indeed, in the wake of Latour and Woolgar's close description of scientific practices, their participants were accused of slacking and not following scientific standards (Latour & Woolgar, 1986). I think it is essential to empathise with participants. The assemblage and its willingness to de-centre the human and notice the socio-material practice of staff work offers a way to understand how military practitioners make sense of their world and, as such, are neither 'at fault' nor merely cogs in the military machine. They are, however, mediated by their physical and conceptual tools, which only allow certain operational solutions to come into being.

Analysis: Entering the Staff

In this section, I describe how staff officers within a NATO division headquarters deal with breakdowns and the decisions they make to get on with the operation. Parts of the analysis stem from the mere observations I made of first-order breakdowns while

interviewing staff officers who were working at their desk. This set up allowed the participants to reflect on how to reconstruct order and restabilise the assemblage while working. Others are based on second-order breakdowns that were discussed during interviews after the event.

Inside the War Machine

There is a sign inside the division's tactical operations centre, 'We control the battle.' It hangs above the large map in the middle of the room. The map itself is filled with tactical graphics. Blue rectangles symbolise friendly forces and red upright squares represent adversaries. The rest of the walls are plastered with whiteboards or plasma screens, each displaying various information related to the operation. The staff officers are seated in two rows. Each workstation has one or two computers, screens, keyboards, and a sign taped to the monitor. There are no names on these signs, only a function, which emphasises the ideal that each staff officer is replaceable by another staff officer. SO LOG is the staff officer (SO) responsible for logistics (LOG). The room has no windows and is lit with neon lights; only the clock on the wall or on the computer screen will tell you if it is day or night. There is a distinct smell of instant coffee mixed with the smell of hot electronics coming from the computers, printer, and the server at the back of the room. This is the operations centre or current operations, G3 in military terms. Further down the hallway is the intelligence section G2, and on another floor is section G5, which is responsible for planning the next operation. The staff officers work inside a restricted environment. As we pass through security one morning and lock our phones and smartwatches into a locker, one staff officer jokingly advised me:

> *Now we are entering the machine. Remember to leave your brain with your cell phone (Staff officer, field notes).*

The officer was obviously joking, but the remark still discloses something about how staff officers understand their role in the headquarters. Some days into the exercise, as I sat down at the table of another officer to follow his work, he remarked:

> *I know you want to talk about the art and science of war. There is no art here! I just need to make sure to track these engineer assets in this excel spreadsheet. That might not be science either (Staff officer, field notes).*

Both staff officers were well-educated, had had multiple deployments, and 15-20 years of experience. Outside the security gate, we discussed in general terms doctrinal principles, military history, and the NATO build-up to deter Russian aggression. Once inside, these officers transformed into rule-following cogs of the military machine; their job was to track engineer assets in spreadsheets. The staff officers generally understood themselves as working to get the so-called military machine to function. This also meant that they brushed aside reflective discussions of doctrinal principles or other understandings of doctrine. Their concerns were practical and procedural in nature and dealt with pressing problems. For instance, one respondent reflected on the task they had:

> *We are too busy to discuss 'the manoeuvrist approach' [a doctrinal principle]; we simply run the process and end up with textbook manoeuvres (Staff officer, field notes).*

After proceeding through the security gate, the staff officers began to think in terms of efficiency. It was not merely a matter of getting the machine to run; it was also a matter of upholding a certain amount of throughput or processing within the machine. Discussions about the quality of the input and ditto output were never initiated, which is illustrated in the quote above. This was further highlighted at the daily commander's update briefs, where one of the first points was the number of so-called 'requests for information' (RFIs) sent to higher headquarters, how many RFIs the staff had answered, and what the average response time was. This metric was presented before an update on the enemy situation, indicating an organisational order of importance.

Outside the security gate, one staff officer summed up how what is measured becomes the most important parameter in the planning process, often at the expense of nonquantifiable elements such as the effect of surprise, shock, and deception:

> *I would argue that a good software developer could design a program […] where the solutions that are pumped out of this machine, to a very large degree, would look like the ones we devise during our planning process simply because the critical points are measurable: Time, space, terrain, array of forces, degree of success, etc. (Staff officer, field notes).*

Standard Operating Procedures

When the staff officers explained to me what governed their work, they pointed to the divisional SOP or standard operation instructions (SOI). Unlike doctrine, which is

supposed to be descriptive, procedures are prescriptive and are meant to be followed (Army [UK], 2011; Department of the Army [US], 2019a; Heltberg, 2022). In the headquarters, this SOP/SOI complex, literarily hundreds of documents, guides staff processes by outlining how specific doctrinal principles or procedures should be understood and applied within the division. SOP determined the daily battle rhythm, responsibilities, meetings, and agendas and provided the obligatory power point templates. One respondent reflected on the role of SOP and doctrine.

> *Our practices are entrenched in SOP/SOI. It might be that doctrine says something, but if that is not reflected in SOP/SOI, then it does not matter. We do what is in the SOP (Staff officer, field notes).*

The entire SOP/SOI complex aims to enhance efficiency and record the lessons that were learned. Its structure also reflects the fact that the division was not fully staffed on a daily basis, and military officers habitually rotated positions every 2-4 years. Therefore, the SOP/SOI complex was to facilitate the integration of the continuously changing staff officers by allowing them to move quickly into the divisional headquarters and contribute to the process. Rather than referring to the SOP/SOI as a baseline with a limited scope, it actually became an objective, as witnessed by the informant above. While transgressing the SOP was sometimes encouraged as a hallmark of professionalism, not complying was also considered unprofessional, especially if it interrupted the team dynamic.

This focus on SOPs is partly driven externally by the NATO Combat Readiness Evaluation (CREVAL) tool. This tool exists to collect empirical material needed to evaluate NATO units in the land domain. Initially developed as a short checklist in the early 2000s, it has become much longer and more complex. Among other things, a unit's SOPs are evaluated, which fosters the tendency to train for the evaluation and comply with procedure rather than adversarial training for warfare (Staff officer, UK Doctrine, Concepts and Development Centre, personal interview). It is such a central component of the headquarters that it has become a verb. During my fieldwork at the division, being 'crevaled' was a major objective. However, CREVAL also puts a good deal of internal pressure on staff officers, as one major general reflected in an interview:

> *I have often asked if we could throw it [the SOP/SOI complex] all away and just think instead. But we don't get very far before people ask for it again. Yes, I think it is a limitation. Still, I must also acknowledge that it is a great*

> *help with so many nations and different cultural backgrounds together (Major general, personal interview).*

Thus, SOPs work well to align expectations and increase efficiency but might limit the staff's innovative thinking, which is constantly realigned by the SOPs. This is a well-known discussion in organisational studies, from scientific management theory to professional innovation studies (see: Christensen, 2016; Deming, 2013). It is important to note that many elements of staff work are fully standardised and thus routine work. Standardisation is indeed prudent in tightly coupled processes in which a higher level depends on the standardised output of the lower level; it is also useful in situations requiring routine responses. What is most interesting here is that the SOP complex in the war machine frames war as a managerial problem. This means that information is moulded into metrics that can be processed by the machine. Every problem is treated as a problem of a similar kind, and moral or political problems are solved with 'rational' managerial solutions. The wide range of operational possibilities that might exist outside the war machine in military history cannot come into being on the inside because they do not fit the calculus.

The Absence of Written Doctrine

Written doctrine was absent from the headquarters. This was strange, as doctrine forms the body of organisational knowledge. However, it is also a truism that nobody reads doctrine anymore (Leonard, 2017). Many respondents referred to doctrinal principles and were eager to discuss doctrine. Still, I have yet to record one instance of a staff officer at the headquarters who read or consulted formal written doctrine at any point. Instead, doctrine runs in the background and the SOPs take its place in the foreground. One doctrine writer reflected on this broad tendency within the profession:

> *Until I started writing doctrine, I didn't read doctrine either. No, we don't read routinely. Why is it there? Well, the answer to that is quite simple: It is because we have educational establishments that teach us doctrine (Staff officer, UK Development, Concepts and Doctrine Centre, personal interview).*

Thus, how doctrine is taught during professional military education (PME) is essential in the subsequent translation into military plans. Another staff officer stated bluntly that 'doctrine is a device for socialisation' (Staff officer, French École du Guerre, personal interview). If PME emphasises planning and adherence to staff procedures, it does not

matter what the formal doctrine says. Several officers told me that contemporary PME focuses strongly on the appropriate use of the military planning process, which leads to conservative, standardised solutions:

> *I have always found it paradoxical how military history is used to show creative solutions that challenge common reason, and we hail those as good examples. Or how we promote innovative doctrines. But our educational system rewards the conservative, standard approach (Staff officer, field notes).*

Respondents also recognised that the staff officers who recently graduated from the general staff course were the best versed in contemporary doctrine. Often, these staff officers' understanding of doctrine was consulted instead of written doctrine. Therefore, when referring to what doctrine says, military practitioners might in fact be referring to what they were taught while attending PME rather than what is written in contemporary doctrine. Similarly, these staff officers referred to the handbooks and notes they had compiled during PME and at times used PME scenarios when discussing tactical principles. According to one group of staff officers, 'deception' was neither a doctrinal principle nor an act of military history. Instead, it was narrowly understood through the lens of one scenario at the general staff course.

Writing or revising the SOP/SOI was also conflictive, and led to the alienation of parts of the multinational staff. One staff officer reflected on this:

> *SOP/SOI is primarily written by [one nation's] officers straight out of the general staff course. Critique is unacceptable if you have not attended the general staff course. Questioning the method and interrupting the dynamic of the staff work is not OK (Staff officer, field notes).*

This respondent emphasises how the information taught in the general staff course reifies military practice. Thus, the course instruction informs practice, not the other way around. This respondent also emphasises how officers are not encouraged to interrupt the dynamic. Efficiency is paramount.

National Standards at the multinational headquarters

Ideally, the standards in a NATO division should reflect current NATO doctrine. However, the SOPs often reflected national rather than NATO doctrine. One respondent emphasised this:

> *The doctrinal approaches are so clearly [national]. We do not write SOPs from the start. Instead, we edit the old national training division's SOPs. This means that a lot of baggage is smuggled in without us having talked through whether this is even a good idea (Staff officer, field notes).*

This respondent was a minority at the division and clearly saw how the SOP/SOI complex does not reflect NATO doctrine but, at best, national interpretations of NATO doctrine. This also becomes clear when reading the SOPs. At times, these contained English translations of national doctrine rather than NATO terminology. The division conducted an online course in divisional tactics to ensure everyone was on the same page and to discuss doctrinal concepts. However, according to several respondents, the instructors, who were all from the same nation, similarly relied on the doctrine they learned at their national general staff courses. In some instances, they also used phases that were translations of national doctrine rather than NATO terminology. Some slide decks were direct copies taken from a national general staff course. This shows the importance of aligning doctrinal understandings, SOPs, and contemporary written doctrine. However, the SOPs could not provide the intended common coordination mechanism since standardisation was not based on a common understanding. This underlines the argument of the sociology of standards that no written standard can describe every eventuality. Even cogs in the staff machine must interpret the standards to make them work.

Power Point as a Planning Tool

An adversary not complying with the plan is a central part of any exercise. One event in particular sparked an interest in how templates predetermine which solutions can come into being: a staff officer in the operations centre was asked to present a possible solution to an emergent problem to the commander. I sat down with the staff officer, who immediately drew an idea on paper. The staff officer explained to me the general idea before I had to leave for another meeting. When I returned two hours later, the solution looked different from the initial idea. When I asked the staff officer about this, the response was, 'I could not draw it using the power point template' (Staff officer, field notes).
At another point, a younger staff officer similarly remarked:

> *We are limited by what we can draw in power point. This is probably a generational gap. It will level itself in the future (Staff officer, field notes).*

This staff officer acknowledges how supposedly neutral tools mediate which solutions are allowed to come into being but also understands that this problem is linked to technical proficiency. However, the problem is more complicated than technical abilities. The flow of information and suggestions within the staff showed that they had to pass a whole range of human and non-human gatekeepers. For example, the general's aide would issue the daily template required for the commander's update briefing in the evening. The left part of the slide was reserved for a bulleted list, the right for tactical graphics on a map selected by the aide. One slide was allowed for each topic. Other formats were not explicitly disallowed, but they were not encouraged either. The template became a gatekeeper mediating which solutions could come into being; if it cannot be drawn and transmitted via power point, it cannot exist.

Before power point was introduced, the staff would prepare a two- to three-page summary of key issues and allow the commander to read through them. Today, 'a decision-maker will sit through a twenty-minute PowerPoint presentation followed by five minutes of discussion and then is expected to make a decision' (Hammes, 2009). Because commanders are often overloaded with information, this practice of decision-making also increased the use of so-called 'pre-meetings', where commanders are briefed before the actual brief. Staff officers in the division, in turn, labelled the subsequent formal briefs as an act of 'absurd theatre', since the decisions, in their opinion, had already been made at the pre-meeting. According to this analysis, it seems that staff and commanders have come to recognise some of the consequences of using twenty-minute power point briefings and have found ways to work around them, for instance, by establishing pre-meetings. The implications of this practice include an increased number of meetings and therefore less time for analysis. Moreover, the staff spends a fair amount of time coordinating the power point slides and preparing for briefings.

In sum, by observing staff officers and their mundane work routines, I was able to describe how military planning works when understood as a socio-material assemblage. I have shown that the standardised routines and templates, designed and implemented to allow smooth coordination, have a profound impact on the staff. These devices are not neutral but actively mediate which operational solutions are allowed to come into being: those which are measurable, can fit into the power point template, and be conveyed in a bulleted list in a twenty-minute briefing. Deviations might be encouraged verbally, but the

entire system aims at convergence. How this assemblage works is visible in the event of a breakdown where order needs to be re-established.

Concluding Discussion

This article started by examining the mechanical behaviour of military staffs and asking why new approaches to planning within the staff tend to fail. Understanding the construction of order or 'marshalling of resources towards violent ends' within the military staff organisation was the central concern (Bousquet et al., 2020, p. 107). I considered the empirical contribution and discussed how the staff works by analysing organisational life as socio-material assemblages. Second, I considered the theoretical contribution under the shadow of the call for martial empiricism and offered an answer to the problem of where to start an analysis if there is a state of flux. Finally, I pointed to this study's implications for future studies.

Empirical Contribution: How the Military Staff Works

Studying doctrine at the point of application through the framework of the assemblage sheds light on the variety of actors involved. These actors have specific imaginaries about, for instance, the importance of procedures, getting the machine to function, or what professionalism entails. They are not merely mental constructs but embedded in processes and procedures. They become visible when they collide and order temporarily breaks down; the foreign officer notices how baggage is smuggled in, and the staff officer notices how being busy leads to textbook solutions.

I have shown how the idea of a machine bureaucracy in which efficiency is achieved through work standardisation and specialisation is deeply embedded in the staff organisation. This, in turn, means that outcomes tend to be procedurally correct but also resemble textbook solutions. Though deviation from the process might be encouraged verbally, when the planning process is understood as a socio-material assemblage it becomes clear that there is very little incentive to deviate from the procedure. Indeed, the staff officers described themselves very narrowly as rule-following cogs that make the machine work (Althusser, 1970). However, military organisations also rely on standards and standardised procedures; most of the time, professionalism is adherence to procedure

(Sjøgren, 2022; Snook, 2002; Timmermans & Epstein, 2010). The problem is that within the staff there is also a constant pull towards compliance with standards and doctrine in the name of efficiency and rationality, even when these should supposedly support only the novice and tend to produce textbook manoeuvres. At the busy headquarters, the standard approach does not become a solid foundation to build upon; instead, it is like a glass ceiling that no one can break through, even in cases where this might be prudent.

I have described the profound importance of organisational practices and the entanglement of the social and the material. The respondents all pointed to the significance of the SOP and its prescribed procedures, meeting agendas, and power point templates as tools to coordinate the headquarters. Prescriptive methods, standards, and templates are located on the desks of staff officers, not descriptive doctrines. Therefore, in the absence of an external feedback mechanism, i.e. an adversary that, at least during exercises, fights to win or for explicit leadership focus, military organisations seem to drift towards rationalisation and bureaucratisation. Practice in the peacetime headquarters and during PME can become one of getting the machine to run efficiently according to rationalistic standards and becoming 'crevaled'. Indeed, the CREVAL might be the only external feedback mechanism fostering a practice of training for the CREVAL checklist. This drift is not due to intellectual idleness. Plenty of intellectual labour is put into producing, updating, and enacting the standard operational procedures, as well as into producing stability and efficiency. This, however, does not necessarily lead to effectiveness and certainly does not lead to thinking outside the proverbial box.

The staff's approach to military problems is adherence to procedure: operational problems are approached as problems of similar kinds. War is constructed as a managerial problem, as a puzzle, in which the ways and means must be aligned to achieve certain ends. Deviance from the procedure is met with resistance. Resistance does not come entirely from other staff officers and their ideas about professionalism; rather, staff officers themselves have also internalised ideas during their entire career, particularly during PME, about the suggested procedural steps and power point templates. Combining all these actors produces the operational order; military planning is not merely an analytical, rational, or social process. Understanding planning as a socio-material assemblage allows us to describe how the process works.

This insight might help us understand why the emergent turn to design thinking and concepts from critical security studies tend to run aground within the military staff organisation and partly in PME. They simply clash with the prevalent imaginary of war as a managerial problem. The key insight from this article is that this logic is not a deeply held conviction or theoretical stance. Instead, the imaginary of the ideal war, the framing of war as a managerial puzzle, the ability to solve it using a single method: these ideas are socialised into the officers. These engrained tools help them make sense of the operational environment. Therefore, the prevailing imaginary is difficult to question because it has become an organisational given and is shielded from critical inquiry.

At the present, concepts from critical security studies, literature on hybrid war, grey-zone conflicts, or new wars – anything questioning or challenging these organisational givens – are brushed aside since they confuse the strategic community and do not clarify strategic thinking (Stoker & Whiteside, 2020). The ideal war is defined in doctrine, outlined in procedures, and socialised into the officers throughout their careers. In this form of war, political interference in operations is untimely, and ill-defined political goals and blurred lines between the military and political realms contribute to lost wars (Shields, 2023). What follows is that Western militaries do not prepare for the last war, as the saying goes; they prepare for a war that fits the military's imaginary of how a 'real' war looks, even ignoring bursts of practical experience in the process (Burke, 2023; Gordon, 1996; Høiback, 2003). While war is considered the continuation of politics, warfare within the military headquarters is the unpolitical, rational, and linear alignment of ways and means to achieve military ends.

Researchers might describe how it operates and critically examine the assumptions. Such work strikes the core of the military professionals, who, as we have seen, also struggle with balancing the need for standardisation against the need for responsiveness. Following this study, we should not expect new approaches to planning to gain much ground without considering the other social and material actors working inside the war machine. The empiricist can shed light on, describe, and analyse how they work. The normative discussion, however, must be left to the military profession.

Theoretical Contribution: Where to Start an Analysis of a Process?

I have shown one way to operationalise the call for martial empiricism and, in particular, how to start the analysis if there is a state of flux. Rather than staying influx, the suggestion is to venture into the organisation and notice the constant ordering of chaos and the work done to keep the plan on track or adjust and adapt as the situation evolves. The assemblage framework helps the researcher notice the entanglement of the social and material in the construction of order. Breakdowns offer a handle or an entry point to notice the ordering process. Breakdowns allowed me, for instance, to notice and describe how priorities and approaches from professional military education find their way into military practice. Although 'what is taught' does not fit with most mainstream definitions of doctrine, it is essential to organisational decision-making. 'What is taught' actively shapes which operational solutions are allowed to come into being alongside SOPs, templates, and the demands to run the machine efficiently; these are not necessarily considered in the more classic rational organisational studies that rely on rational choice. An eye for differences and breakdowns in the assemblage will help the researcher understand what is deemed vital and why the institution and its members have certain priorities. These descriptions can be presented to the organisation to establish second-order breakdowns – not to critique them but to invite reflection on their prevalent logics and on what it means to understand war from inside the staff organisation. This thorough description will set the conditions of the normative discussion of whether the priorities during PME are prudent.

Implications for Future Empirical Studies of War's Becoming

The description of organisational processes as the entanglement of both social and material elements can be inquired into further. I have followed one training cycle in a NATO division headquarters. Many other black boxes call for empirical investigations, from the development of NATO's strategic concept and national defence agreements, to the development of strategy and policy and operational planning at the lowest levels. Future studies might follow the development of a strategic concept from the first discussions to the endorsement at the final summit and describe how ideas are added and abandoned in the process. Future studies might follow an operational order as it travels from one level to the next, where it will meet a new staff that will need to translate both order and doctrine into a new plan. Future studies may use the assemblage to understand the construction of

written doctrine or what is taught during PME. How do ideas get into doctrine, how are they maintained, and whose voices are heard in the development and implementation of doctrine? Finally, an emergent question concerns the role of technology, planning tools, and decision support tools. How do these mediate the commander and the staff's decision-making and the solutions that are allowed to come into being?

10. Discussion

In this discussion, we will return to the problems I described in the introduction. This chapter concerns how this thesis and the conclusions drawn from the five articles advance our understanding of doctrine and its use.

In the opening quote, renowned historian Michael Howard pointed out that the military professional has two problems. First, there is the problem of knowledge about an inherently uncertain future, which can also be understood as the difference between theory and practice. Second, there is the issue of military organisation in the sense that it becomes so complicated that one might forget what the organisation is run for in the first place. Doctrine, in turn, can be thought of as the military organisation's response to Howard's two problems. It describes how future wars might be fought and prescribes best practices for running the military organisation efficiently.

However, the very definition of doctrine is disputed. Scholars and practitioners are not discussing the same phenomenon when they talk about doctrine. Written doctrine is rather easy to identify. The written manuals create Høiback's 'doctrinal heap' (Høiback, 2013). Most practitioners also follow Høiback's idea, at least officially, that only the documents at the very top count as doctrine. The manuals below are tactics, techniques, or procedures according to NATO's doctrinal hierarchy (NATO, 2019a). In written doctrine and in more abstract discussions of doctrine, there is also a notion that doctrine is descriptive, while lower-level doctrine or TTPs are primarily prescriptive.

When referring to doctrine in practice, practitioners are referring to a much wider set of ideas than those captured in contemporary written doctrine. As the UK doctrine primer states, 'Doctrine is not just what is taught, or what is published, but what is believed' (Army [UK], 2011 p. 1-1). Scholars often delineate between written doctrine and an intangible event that occurs when practiced in the field, where it mixes with culture, such as doctrine-in-practice, doctrine-in-action, or the predominant theory-in-use (Ben-Ari, 1998; Johnston, 2000; Long, 2016; Shamir, 2011). This study suggests that to understand this wider set of doctrinal beliefs, scholars need to venture into staff organisations where doctrine is actualised, into the teams that write doctrine, and into staff colleges that teach doctrine or perhaps to some extent even indoctrinate officers to make them '(…) think along the same lines in order to get the machinery to work well' (Høiback, 2016, p. 187). In this

description of the purpose of doctrine, Høiback points to the importance of getting doctrine from the words on paper and into the heads of the officers to make the machinery work.

To add to the discussion on doctrine, I suggested drawing on approaches from the empirical philosophy of science, STS, and the subfield of the sociology of standards. Doctrine should be approached as a kind of standard understood as a 'process of constructing uniformities across time and space through the generation of agreed-upon rules' (Timmermans & Epstein, 2010). This does not imply pure rule-following; indeed, the standardisation literature suggests that professionals in the field will always need to apply some form of professional judgement to get standards or methods that are written in a context-independent environment translated into workable solutions in a concrete complex social reality (Gal, 2015; Law, 2017; Li, 2005). What is interesting about this approach is not the written standards themselves but how they work to allow certain realities to come into being while others are subdued. This study's novel approach moves the discussion from written doctrine to the application or the use of doctrine inside the staff organisation. It sidesteps the problem of defining doctrine and instead follows the military practitioners who work with doctrine to map out what they consider doctrine to be, what its validity is, and how it should be used.

10.1 Main Claims of This Thesis

The main claims in this thesis can be summarised as follows:

First, the military practitioner's conception of doctrine is much more than written doctrine. It is a military truism that nobody reads doctrine. Instead, doctrine is embodied and taught. It is reified in procedural publications, SOPs, and staff handbooks, as well as in forms of exercising and combat evaluation schemes. These forms of doctrine are decisive for military practice and more influential than written doctrine. Many practitioners even refer to organisational givens or imaginaries as 'doctrine'. The ideas underlying these imaginaries often originate from the concept of positivism and the unchanging nature of war, which explains why some practitioners feel it is unnecessary to read doctrine at a certain level beyond staff college, since everyone knows the enduring principles anyway. This makes doctrinal change extremely difficult.

Second, disagreements about doctrine are philosophical in nature. Thus, the arguments between multinational staff members in the early morning hours regarding how operational matters should be understood and what the solutions might be are actually disagreements about epistemology, ontology, and the possibility of knowledge war in and of itself. But the military profession does not have a tradition of philosophical enquiry, it simply assumes that doctrine is a form of common sense that does not need deeper theoretical study. These debates often balance dualisms, such as order and chaos, standardisation and creativity, or training and education. They are often framed within the profession as a debate between Clausewitz and Jomini. And while Clausewitz is most frequently cited and discussed, Jomini's positivist approach is most deeply embedded in the military profession.

Third, decision-making processes related to military planning are heavily influenced by mundane organisational routines and processes that only allow certain operational solutions to come into being. Decisions must comply with the processes and templates that, in turn, become important actors in the decision-making process. This thesis describes these often-overlooked actors, such as standards and power point, and what they do. It argues that military planning should be understood as a socio-material process, not as a purely human translation of doctrine into operational plans.

Fourth, the role of the commander is significant when moving beyond doctrine. The machine analogy is prevalent among staff officers and commanding generals. The staff can efficiently process information using standard templates and work descriptions, the disadvantage being that the solutions are a textbook application of a rationalistic conception of doctrine. When left to their own devices, staff tend to develop mechanical behaviour that generates synchronised and efficient but predictable solutions to operational problems. However, staff and commanders also recognise that standardised work procedures ensure efficient coordination and synchronisation of efforts among own troops. Indeed, commanders find comfort in knowing that the staff has attended to the details according to procedure. Doctrine serves a vital role in standardising and organising this work.

Fifth, some are trying to implement new planning methods to replace the standardised or mechanical ways of doing things. But new approaches to planning, oftentimes based on process philosophy or design thinking, tend to go off course in the military staff organisation because they conflict with the prevalent notions of knowledge

that have been socialised into the staff officers throughout their careers and embedded into the processes, procedures, and standardised templates. In the staff organisation, such approaches become inconsistent add-ons funnelled into the prevailing mechanical logic of rationality and objectivity. Thus, these new approaches do not support thinking outside of the proverbial box. This also concerns the question of professionalism within the military, which, at times, is adherence to procedure and the ability and willingness to depart from procedure.

10.2 The Contributions of the Thesis

10.2.1 A Socio-Material Study of Doctrine

The methodological contribution of this thesis is the study of doctrine through the lens of assemblage. This thesis expands on Orliokowski's (2007) call to understand organisational life as a socio-material assemblage. It adds materiality and ideas or imaginaries to our understanding of why marines prefer ground combat and fighter pilots prefer air power, as Soesters (2021) argues. Throughout the project, I have explored disagreements or temporal breakdowns of order – when the flow of ordering or processing was interrupted even if only for a short period – in order to grasp the particular ideas or realities that came into being inside the military staff organisation.

Productive paradoxes can emerge in the wake of disagreements or uncertainties about rather mundane operational problems. These disruptions open up a space for researchers to notice and describe who or what is acting in the assemblage. In this case, it means we can observe how doctrine acts as one actor among many others. This difference is most visible in multinational staffs, where different approaches are brought together and solutions are proposed in an assemblage with dissimilar thinking patterns. Seeking out breakdowns is a quick and frugal ethnographic approach for researchers who cannot afford to spend long periods in the laboratory or the organisation, as some of the better known STS case studies (Boll, 2011; Bruun Jensen, 2010; Latour & Woolgar, 1986).

A longer stay at the staff headquarters, and hence an extended ethnographic phase, would have yielded different results. Since the headquarters is not fully staffed on a daily basis, the permanent staff mostly adhere to administrative issues during downtime that are related to running the organisation, incorporating lessons from the last exercises, and

preparing for the next. Does doctrine play a role in administrative duties? Probably, but it was not the interest of this thesis, which explicitly concerns doctrine's role in planning and conducting operations. The ethnographic data of this thesis was collected during military exercises where the headquarters is fully staffed and war-fighting. Exercises are rare events that take place only a few times a year. Therefore, observing breakdowns not only respects the time constraints of the researcher, but is also a way to collect rich empirical material during rare events by highlighting where disagreements occur; after the event, how different actors work in the assemblage can be recorded in a detailed description. Such descriptions do not necessarily require extended time in the field. However, to notice them and to exploit them might require intimate knowledge of the field.

Gathering empirical material consisting of conflicts or tensions and a form of resolution is also a way of checking potential insider bias (Mercer, 2007; Merton, 1972; Wegener, 2012). The STS researcher is described as a traveller on foot who learns from the meetings with the field and lets those impressions colour the subsequent travel report (Gad & Bruun Jensen, 2010). As an informed insider, it is easy to complete sentences or raise opinions about how things should be done – just as any other staff officer might in a professional conversation. By studying breakdowns, discrepancies, and the actors' own resolutions, coupled with the fact that I was not busy getting the staff machine to function, I was able to bracket my own ideas and take notice of new things and perspectives in a staff landscape that I thought I was very familiar with. It inspired me to follow less travelled paths and, with the help of the locals, notice parts of the terrain that I, as a busy staff officer, would have glossed over quickly.

Gad and Bruun Jensen argue that the STS approach is also an attitude of uncertainty and an expectation that we will meet hybrid actors as we travel (Gad & Bruun Jensen, 2010). Indeed, the central claim in process philosophy and of the methods that build on this ontology is the principle of symmetry (Bijker, 1995; Callon, 1984; Deleuze & Guattari, 1987; Latour, 2007). The symmetry principle means that nothing is ontologically before something else; thus, we do not assume that something causes something else before we engage with the field. In the field, however, we might notice how some actors are more powerful than others, or that practitioners may refer to certain ideas or imaginaries about how the world works and their role in it (Jasanoff, 2004; Taylor, 2004). The key is that these actors are empirical, contingent, and concrete, not theoretical, context-independent, or abstract. They

concern the actual conceptualisations and practices of the field and its use of doctrine, not theoretical rational reconstructions. These actors are not necessarily material either, which is a critique that has been raised against Latour's Actor-Network Theory (Jasanoff, 2004). Ideas about how the world works in the form of imaginaries or ideals of professionalism are also at work in the assemblage. As I moved throughout the staff organisation, the symmetry principle served as a reminder to describe the actors I met and their work without categorising their level of influence until the subsequent analysis. In the divisional staff, various actors emerged working inside the headquarters to produce the plan. Some actors were human and others were non-human actors carrying imaginaries enacted by humans; some actors were in the form of SOPs or templates. Doctrine became one actor among many, and written doctrine slid into the background.

10.2.2 How to Study Ideas at Work

In the call for *martial empiricism,* Bousquet et al. (2020) outlined a new research programme centred on becoming. It has not taken off within the broader fields of war or military studies, perhaps because, as discussed in chapter 5, it is directly at odds with the prevalent positivist ideas within the profession and, to some extent, in academia. Even they hint at the nature vs character distinction when they write that 'martial empiricism calls for an unbounded investigation into the emergent and generative *character* of war' (Bousquet et al., 2020, p. 99, my emphasis). However, as argued in chapter 5 and sketched in the theory section of chapter 3, process philosophy is more radical than an inquiry into war's generative character, which in the military profession also implies an enduring nature. Scholars might explore this gap further by understanding how concepts evolve, become stabilised in the military profession, are maintained, and dissolve. With a different vocabulary, Lock-Pullan does this in his analysis of the doctrinal reform of active defence in the AirLand battle of the late 1970s and early 1980s. His basic argument is that doctrine is more complex than the dependent variable of foreign policy. It shapes how the strategic environment, technology, and military failures are understood (Lock-Pullan, 2005).

Through assemblage theory and the occurrence of breakdowns, we can grasp how doctrinal ideas become destabilised and new ideas become stabilised. This approach shows that doctrinal concepts are neither natural nor inevitable but the product of human minds. We created the categories, and we can change them once they no longer serve us. This does

not imply that categories are useless or that concepts are invalid or wrong in any objective sense. They are useful if they serve a purpose and should be discarded when they no longer work.

A key question in the call for martial empiricism was how to start an analysis if there is a state of flux. Taking inspiration from the early sociology of scientific knowledge programme (SSK) and later developments in the field of STS and the empirical philosophy of science, one possible answer is to go to the sites where the flux is ordered and describe it empirically. Since the assemblage does not have a definitive start or end, the objective is not to capture the entire process but to describe the process of ordering.

To some extent, the many dualisms described in the introduction (e.g., rationality and creativity, standardisation and uniqueness, authority and reflexivity, theory and practice, and order and chaos) are not necessarily problems requiring an enduring answer but they might need to be settled temporarily for the organisation work efficiently. And while they might be frustrating for the military practitioner, they can also be viewed as events through which to explore the ideas, imaginaries, and premises that shape how the military profession works with doctrine and how these actors shape thinking and action. War is neither pure art nor pure science, neither standardised nor unique. It may be both, depending on the situation, the kind of operation, the level at which one operates, or one's place in the organisation. The operational task might also call for different ways of settling and balancing this. Military operations also seem to be caught somewhere between these abstract poles without being one or the other. And a unilateral focus on one approach undermines one’s ability to operate both efficiently and effectively against an adversary that reacts and learns in the process. Military organisations need to draw lines and stabilise the oscillation between such poles, at least temporarily, in the name of efficiency and the ability to coordinate. How these boundaries are set and what they mean for the construction of operational realities are important processes to understand.

10.2.3 The Role of Doctrine

Doctrine has elements of theory, heuristics, and best practices without clearly being any of them. Western written doctrine is deeply rooted in positivism (De Munnik, 2012; Jackson, 2013; Paparone, 2017b). It incorporates, repeats, and continuously expands upon Jominian ideas while simultaneously hailing Clausewitz as ‘every doctrine writer’s personal

hero' (Taber, 2018). Indeed, the emphasis on the 'dual ontology of war' – an enduring nature and changing character – opens the door to the possibility of arriving at positive knowledge about this nature. If there is an enduring nature, the problem of producing knowledge about this nature is epistemological and can be solved through one method. If, however, war could change, a better analogy would be to understand war as an inherently insolvable mystery, which might be understood temporarily and which calls for active experimentation and adjustment. This is the conceptualisation of war that the call for martial empiricism and the emergent turn to design thinking are building on (Bousquet et al., 2020; Wrigley et al., 2021; Zweibelson et al., 2021).

What organises the work of the staff officers on a daily basis is not doctrine understood as written manuals at the top of the 'doctrinal heap' (Høiback, 2013). As I show in chapters 8 and 9, it is the ever-present standard operating procedures, email, and power point templates, as well as the daily battle rhythm within the staff. These exist to make organising run smoothly and efficiently, but they also exist to enforce or encourage a form of procedural rationality. This is a known mechanism in the literature (Harper, 1998; Prior, 2004). Thus, while doctrine might offer a wide array of options to solve a task within the staff organisation, this quickly becomes confined to one way of procedural thinking. In the organisational assemblage focused on efficiency, diversity of thought is not highly valued and crumbles under the prevalent mechanistic logic. This is visible in the case of the officer with a minority background who sees the role of doctrine differently, or for staff officers who have not attended the general staff course. In the name of efficiency, diversity is a liability, not a resource. In chapter 6, commanders even emphasise the need for contrarians to be vocal when they see things differently. In practice, diversity is deprioritised in the name of efficient processing. The staff officers recognised this tendency when I presented my observations to them. However, they also recognised that the next step of the planning process depended on the rather standardised output of the process that they were working on at that time. This has to be combined with the fact that officers have time constraints; time for actual analyses or divergent thinking is sparse, and the increased use of pre-meetings to improve efficiency reduces this time even more.

Staff officers are officially encouraged to depart from the machine logic when it is prudent. However, it comes with the price of disrupting the flow. The totality of this organisational assemblage makes officers appear like 'hidebound bureaucrats cultivating

managerial skills over leadership' with 'a tendency to treat military challenges as if they were simple engineering problems' (Shamir, 2011). Shamir's quote is polemic; however, it also describes a tendency in this project; military staffs tend to develop mechanical behaviour by following a bureaucratic rationality logic.

As Gordon (1996) points out, the debate on whether success in war was caused by anarchy or rigorous rule-following first emerged within the Royal Navy between the second and third Anglo-Dutch Wars (1665-1667 and 1672-1674, respectively). Thus, it is hardly a novel debate. A contemporary debate is about the basic doctrinal dilemma of how to write doctrine: a doctrine that is too descriptive has little value in the field, and one that is too prescriptive will restrict the practitioners (E. A. Cohen & Gooch, 1990; Høiback, 2013; Palazzo, 2008). This thesis found that the issue might not be about written doctrine and the level of guidance it provides but the undergrowth of staff handbooks, standards, and ideas socialised into the officers during PME, which will heavily influence how any doctrine will be applied and which realities are allowed to come into being. Perhaps military professionalism should also require practicing judgement when using handbooks, standards, and imaginaries – to paraphrase the NATO definition of doctrine. The problem is that these supplements have, until now, merely been considered neutral actors and hence shielded from critical scrutiny or even attention.

There is a parallel critique of PME and its focus on teaching planning processes that emphasise the standardised textbook approach (Johnson-Freese, 2012; Skipper, 2018). In the headquarters I observed, 'what is taught' in the general staff course was considered an ideal that the divisional staff should aspire to achieve. At least one category of staff officers viewed the general staff course as the height of efficient staff work, disregarding the differences between student and operational settings. This alienated many of the staff that had not yet attended the course, as well as other categories of staff officers. This idea of the efficient war machine does not necessarily originate within the staff organisation but from a complex assemblage which includes what is taught at war colleges and social trends that might not have the same appetite for risk or boldness (Crabbe, 2000; Jeffery, 2000; Nilsson, 2020). It could be argued that the institutionalisation of doctrine most clearly happens at the staff colleges teaching doctrine. In opening the black box of the staff organisation at the divisional headquarters, I discovered a new black box of PME. This might be a place for more empirical research to be directed.

10.2.4 The Role of the Commander

The literature on command tends to describe rather lofty and abstract ideas about command and commanders (Lauer, 2016; Meigs, 2001; NATO, 2016). Clausewitz writes that commanders must have 'first, an intellect that, even in the darkest hour, retains some glimmerings of the inner light which leads to truth' (Clausewitz, 1989, p. 102). Suppose we combine this appeal to a special intellect with my descriptions of the staff organisation and its focus on procedural logic. In that case, we might conclude that the commander placed on top of this machine is an individual capable of transgressing the dominant procedural thinking – a military genius of sorts (Clausewitz, 1989; Strachan, 2007). To paraphrase the NATO definition of doctrine, commanders are indeed asked to apply 'judgement in application', but so are the staff officers and the subordinate commanders. The appeal to geniality or a transcendent persona ignores the problem of organising, Howard's second problem. All military force require standards to be able to operate efficiently, and the idea of commanders as 'military geniuses' might rightly be criticised as a form of leadership romanticism (Collinson et al., 2018; Finkelstein et al., 2009).

In chapter 5, I argued that command is a distinct, necessary function needed to make key decisions that guide subsequent planning, understood as the alignment of ways and means to achieve military ends. It is also personal and vested in an individual, according to the NATO definition (NATO, n.d.). This personalised or individualistic command does not mean that command is a diverse practice in which each commander has a distinct philosophy of military operations. Command is a distinct function in an organisational context that includes a staff, doctrine, and planning processes. In this context, command is a more standardised and professionalised organisational function than previously thought.

Second, the field interviews made it possible for me test whether my observations of the staff were generalisable. The problem that emerged in many of these elite interviews was that there was a story or narrative that needed to be delivered. When coding the material, there where long passages that contained nothing of interest to this study. The most interesting parts of the interviews materialized when I prompted the interviewees to reflect on their own experiences of breakdowns. I was surprised to find similarities across the board in the descriptions of the command function. Even the professional controversy of the 'command-led' vs 'staff-driven' approach to planning seemed to be a matter of tiny

nuances upon closer examination. When I asked commanders to explain and give examples of how they guided their staff, there was an overarching agreement. This might not be surprising in light of the fact that senior officers are promoted from lower command positions inside the war machine when they have proved capable of navigating staff. The commanders are part of, not detached from, the same organisation and they underline the importance of doctrine as the baseline for operational decision-making. The commanders are also met with the expectations of their staff; if staff officers are referred to as cogs in the war machine, as I argue in chapters 8 and 9, so might commanders. Observing similar approaches of command also leads me to point to the importance of empirical data and concrete examples in discussions of (executive) leadership. Just like the discussion on doctrine, we might assume that others share similar views, since we are discussing the same abstraction, doctrine, or command. Concrete examples might help us obtain a deeper understanding.

10.2.4 Why New Approaches to Planning Tend to Fail

We have now established that organisational decision-making is not only a purely rational or humanistic endeavour. The combined assemblage of actors, human and non-human, produces order. This explains why new staff planning approaches based on constructivism, such as the emergent turn to design thinking, fail (Erdeniz, 2016; Wrigley et al., 2021; Zweibelson et al., 2021).

A persistent argument related to the military profession is that militaries face unprecedented uncertainty and complexity today and that typical linear planning models, such as the MDMP or the operational planning process (OPP), cannot cope with complexity (Zweibelson, 2015). However, this emergent turn to design thinking has yet to penetrate mainstream doctrine. These new approaches clash with the prevailing understanding of how the world works. If not outright rejected, they become funnelled into the war machine's processing logic. What starts as a process of designing divergent approaches to problems based on process philosophy's notion of becoming is funnelled into the traditional planning process. For example, the divergent and open-ended process of brainstorming becomes a matter of collecting and packing manageable pieces of information into something that the machine can process, from brainstorming to 'brickstorming', as Heltberg and Dahl (2019) argue. It is not merely a matter of theoretically incompatible theories, nor is it a matter of

the pragmatic use of these new planning approaches. Instead, the pragmatic paradigm overlooks the philosophical disagreements analysed in chapter 7. The problem is that these innovative planning approaches are built on different ontological and epistemological underpinnings than the prevalent rationalist typology. They are nonetheless brought into the profession and made to work on the assumptions of procedural rationality. And with the profession's focus on the pragmatic utilisation of tools, the entire ontological and epistemological foundation disappears in the process. Only a shadow is left of the original after it has been funnelled into the system, so that it does not deliver the 'outside-the-box thinking' it promised. To increase the likelihood of the method's success, it should probably be added as a parallel process or as something that goes before or after the formal planning process, as it is currently envisioned as the rational alignment of means and ways to achieve certain ends.

The interviews provided clues about how this could be done, which bring us back to Howard's two problems. The current planning process aims to solve the problem of organising. Contemporary exercises are often designed so they can be solved or managed by the unit on exercise (Barno & Bensahel, 2020; Öberg, 2020; Storr, 2009). Orders from higher headquarters are clear or at least understandable in a way that allows them to be processed. This first step of processing is known as 'mission analysis' in military planning; exercises often start with the arrival of an order from higher headquarters that needs to be processed. The tactical procedural publication that describes tactical planning has 'receipt of mission' as the first step and 'mission analysis' as the second. Mission analysis is 'a logical process of extracting and deducing from a superior's orders the tasks necessary to fulfil a mission' (NATO, 2019c p. 2-7). However, the NATO operational planning process used at the strategic and operational level – which is above the tactical and where the division doctrinally operates – indicates that there are two steps before the mission analysis: (1) an initial situation awareness and (2) a strategic or operational assessment (NATO, 2019b). These are not analytical processes but holistic assessments and thus draw on different forms of reasoning to make sense of the situation and the environment instead of calculating or processing. I did not observe activities in the divisional training cycle that emphasised these holistic processes, and their presence in PME is seldom. However, I found that commanders framed the problem for the staff and based their planning approach on a holistic appreciation of the operational setting. Perhaps the ability to master the planning

process is what is considered professional. Indeed, there is little reflection on how to construct the operational picture needed to start a planning process in the first place. How an operational situation is conceptualised might make certain actions more applicable than others. These new conceptualisations might create places in which newer approaches can flourish, existing either antecedently or parallel to a well-known tactical planning process.

The commanders claimed that orders from higher headquarters in real operations, particularly on the political level but also on the tactical, are seldom as clear-cut as they are during the exercises. Thus, the first task is to translate this form of guidance into something more tangible that the staff machine can process. It involves not only procedural processing but also sensemaking processes. Elements of this work belong to what is called intelligence preparation. While the rational alignment of ends, means, and ways is the *sine qua non* of planning, something could be learned by shifting from rational alignment to how the complex reality is translated into something manageable. Shifting focus from planning and operations to intelligence might reveal the complexity of the operational environment.

If commanders want the military staff machine to produce solutions that are outside the textbook or procedural approach, then they must actively intervene and provide direct guidance. Such newer approaches to planning might help commanders guide the staff and present to them alternatives to the textbook solutions. However, the large military organisation also needs standards to synchronise its actions, work efficiently, and allow interoperability. Staff procedures and doctrine ensure that cooperation is even possible. Most importantly, the integration of new approaches is a matter of striking a balance sensitive to context.

10.3 Research Limitations

In this section, I will discuss the research limitations related to methodological problems and concerns about my research design and the subsequent data analysis.

First, the divisional headquarters I observed is a typical NATO divisional headquarters. It was permanently staffed with a smaller peacetime staff, and during exercises it included designated officers and reservists. Only high-readiness headquarters have a permanent full-time staff. One might argue that I found inexperienced staff officers clinging to their standards at this headquarters, and that an experienced and well-trained

staff would rise above mechanistic behaviour. However, the commanders I interviewed – some of whom had commanded divisions in combat or divisional headquarters on international operations – confirmed that staff at all levels in the military hierarchy tended to focus on procedural logic and adhere to standards (See also Barno & Bensahel, 2020; Gordon, 1996; Malm, 2019; Öberg, 2020; Storr, 2022). Thus, I conclude that this tendency is rather consistent across Western military organisations.

What might need more exploration was the tendency of one of the smaller nation's officers in the headquarters to focus heavily on what they had been taught at the general staff course. Most other officers did refer to PME as important. Still, they often justified their actions by drawing on either doctrine, military history, or their prior experiences working in a military staff. For most officers, the post at that division was their first job after completing the general staff course. Thus, the tendency might be explained as a simple matter of not having other professionally relevant reference points. However, even the more senior officers tended to hail what was taught at the general staff course as the height of military professionalism. It would be interesting explore the role of PME in other settings as well.

Second, changes in the security landscape might warrant changing how we perceive command, e.g. command in the Global War on Terror (GOWT) differs from command against near-peer adversaries in so-called Large Scale Combat Operations (LSCOs). Interestingly, contemporary and retired commanders share the same ideas about command. Most senior GOWT commanders grew up in the military during the Cold War. They thus spent their junior careers in an organisation that explicitly prepared them for a major conflict or LSCOs. The commanders compare the two and are not afraid to draw on lessons from the past to implement in the future. But perhaps this, too, is a black box where little research is done, where the military controls feedback in the absence of war, and where certain truisms about command are reified in exercises and in the senior mentor system in NATO. However, it is also a level in the organisation that is difficult to access.

Third, there are unanswered methodological questions concerning research ethics and military security, which the methodological literature does not address directly. Here, military security is considered a problem, among others (Ben-Ari & Levy, 2012; Resteigne, 2022; Soeters et al., 2014b). I have accounted for my pragmatic choices in this study, as well as how I had to decline reviewers' requests to describe procedures and approaches in the

staff in more detail. But due to the nature of military security, I cannot account for what I left out and why in more than vague or general terms. To use a military analogy, I found a way through the minefield by carefully considering my approach. I marked my path as I made progress for others to follow; however, I cannot account for the layout of the entire field or other fields, and I have not explored other ways through it. As I conclude in chapter 7, this appeal to pragmatism might hide other problems or challenges, particularly for more inexperienced researchers attempting to bridge academic ideals of openness and transparency with the military's need for secrecy.

Finally, regarding the analytical approach and my own position, I tried to be as transparent as possible in my descriptions of the headquarters and presented my observations to the research participants to instigate breakdowns. Still, these are my observations, and I suspect that another researcher with a different background might have observed something slightly different but still noticed and described the same overall tendencies. Indeed, I did use my professional background to point out places where I expected breakdowns of the temporal order to occur. And I likewise used my background to exploit these breakdowns or even to create them myself, so as to give participants the opportunity to reflect on discrepancies between written doctrine or written standards and the actual professional practice.

11. Conclusion

I started this thesis by asking how military practitioners understand doctrine and about the role of doctrine in the planning and conduct of military operations in the staff organisation.

Elaborating on Howard's two related problems from the initial quote, we established that doctrine could be considered the military organisation's response to navigate an unknown future and manage a complex organisation. Thus, doctrine describes a vision of how future wars should be fought and prescribes tactics, techniques, and procedures to address the complex military organisation. Doctrine similarly plays an active role in balancing the many dualities that the military profession continuously oscillates between, e.g. rationality and creativity, standardisation and uniqueness, authority and reflexivity, theory and practice, order and chaos.

In this thesis, I showed how different ideas about the role of doctrine and its articulation allow for different operational solutions to come into being. However, I have also shown the profound importance of templates, processes, or handbooks that guide what can and cannot be conceived. Inside the staff, written doctrine runs in the background. I conclude that operational plans and solutions emerge from this combined assemblage of human and non-human actors that work inside the military staff machine. There are neither independent nor dependent variables; instead, actors have both dependent and independent traits, or as argued in chapter 5 on Clausewitz, they lean towards the poles of either stability or change, but always land somewhere in between.

It is a truism that nobody reads doctrine. Instead, doctrine is embodied in the military profession primarily through socialisation and PME but also reified in the exercises, the CREVAL checklist, and in the mundane organisational routines and templates that the plan must comply with either explicitly, but more often, implicitly and is rarely questioned. This explains how different officers in the same NATO headquarters can read the same publications and derive entirely different meanings from them. It also explains why doctrinal changes cannot be brought about by merely publishing new doctrine. It first needs to be cultivated into the military profession before change can happen. Thus, the best way to understand how doctrine is embodied is to study empirically how it is taught during the various stages of PME.

Fuller warned that 'doctrine is apt to turn into dogma', and General Mattis called doctrine the 'last refuge of the unimaginative' (Fuller, 1926; Mattis & West, 2019). However, it is not the written publications – the codifying of common sense as Fuller wrote – that become dogmatic. The doctrines themselves sit on the shelves or exist as pdfs on the Sharepoint server. The problem is the use of doctrine. The commanders I interviewed succinctly described the need for a solid doctrinal foundation to innovative from, compliance with the process to ensure that options are considered, and the need to learn the limits of the procedural approach. However, there is also a drive within the organisations to increase efficiency and hence to train officers to be compliant, which means doctrine's prescriptive elements must be emphasised. This is partly fuelled by NATO's process for combat evaluation, which also runs on compliance.

Returning to Michael Howard's initial remark on the military profession, knowledge in the military profession will have to be provisional. We might be able to draw all the right conclusions from studying the past, but so might the adversary. This is captured in the phrase that militaries tend to 'prepare for the last war'. Thus, the ability to react and adjust rather quickly should be a high priority for any military organisation (Barno & Bensahel, 2020; E. A. Cohen & Gooch, 1990). However, as Howard also mentioned, running a military organisation is a huge managerial task that, at least in peacetime and to a large extent even in war, can be predictable and thus calls for management, control, and synchronisation. But as Howard also reminds us, these are a means to an end, not an end in itself. And the commanders argue for exercises that precisely challenge the orderly arrangement of ends, ways, and means, and habituate staff and commanders to expect that the situation will inevitably change and that they will need to come up with creative answers to the question 'Now what?' while still being able to manage the military machine at their disposal.

11.1 Suggestions for Further Research

There are several ways to advance this study and avenues for further research.

First, if doctrine is what is taught, then one obvious place to conduct an exploration is at the staff colleges tasked with teaching doctrine. There is already a debate on the priorities of PME often framed as 'training vs education' (Johnson-Freese, 2012; Skipper, 2018). I suggest that an empirical exploration of how doctrine or military planning is taught at staff

colleges would help answer where the philosophical disagreements on doctrine stem from, so that they could be examined in further detail. While doctrine is embodied and often runs in the background in the military staff, it is, to some extent, foregrounded during PME. Following the approach adopted in this thesis, such analyses should not be aimed at studying curricula. Researchers should become active participants either on the training staff or as students and attend an entire staff course. This would allow them to describe how controversies are settled, which historical figures or battles are hailed as good examples, and the weighted importance of procedural or substantive rationalisation. The unverified expectation from this study is that staff colleges tend to lean heavily, if not solely, on procedural rationality: elements that are controllable, manageable, and teachable.

Second, to put into effect the procedural rationality, the inputs must be aligned, standardised, and translated into manageable chunks of information that the staff can process. This translation process could also be understood as a socio-material assemblage that allows only certain forms of information to travel into the staff and excludes others (Eden, 2004; Gal, 2015; Li, 2005). This is where research in military decision-making related to planning might interact with contemporary research in military intelligence and add to the debate on decision-making theory by focusing on the premises for rational or structured decision-making or planning per NATO doctrine (Chang & Tetlock, 2016; Erdeniz, 2016; Rønn & Høffding, 2013). How do the estimates of the mission variables of mission, enemy, terrain, troops available, time, and civilian considerations even come into being? In PME, these are often given in the scenario descriptions. These are all estimates of something very complex and to some extent unknowable and translated into something manageable that the staff can process. This is found in Steps 1 and 2 of the operational-level planning process and in several aspects of the construction of the intelligence picture. In the tactical level process, this is not described as coming from above. In practice, the ongoing maintenance of situational awareness lies with the commander supported by the intelligence section (G2) and operations section (G3). An entire research project could be devoted to trying to understand how such pictures and assessments come into being and how intelligence preparation functions in practice.

Third, I suggest that further organisational black boxes in the military could be opened using an approach similar to the one in this study. Granted, it is built into the theoretical premises of my method that I can find a conglomerate of hybrid actors (Gad &

Bruun Jensen, 2010). As I stated in chapters 3 and shown in chapters 8 and 9, it is the description of these actors and how they act that is interesting. They are partly responsible for why the staff tend to resort to textbook solutions. And I suspect that significant findings could be analysed using this approach in other organisational settings, such as how PME curricula is developed, how weapon systems are procured, or how defence agreements come into being.

Fourth, this thesis concerns doctrine in use. However, if one wants to engage with written doctrine, it could be analysed in terms of the imaginaries it draws on either explicitly or implicitly. The first pages of NATO doctrine contains a list of doctrines and directives from the military committee in NATO that this particular doctrine relates to. Thus, a written doctrine does not exist in a vacuum but has its place in an established network of other documents and reflects the pre-existing ideas and ideals of that profession. Mapping out and analysing the network involved in writing and maintaining specific doctrines might offer important insights into how the military organisation works (for an example of actor mapping see: Lindgaard, 2023).

Finally, there is a methodological lacuna in the literature on how researchers can bridge the gap between the academic ideal of transparency and the military's security needs. There are two paths to be pursued: researchers already in the field like me might be allowed or even invited into restricted military settings and be able to produce research for the public. Or researchers already in the field could reflect on what this privileged access to the military realm and subjection to a military penal code might mean for our research. Pragmatism in both cases might hide deeper methodological and ethical issues that need scrutiny.

11.2 Practical Recommendations for Military Professionals

These practical recommendations have been written specifically for the military profession, exercise planners, and staff colleges.

First, read and discuss the published manuals. Military practitioners should not assume that doctrine carries the same meaning for everyone, neither across the NATO alliance nor even among peers. Therefore, doctrine must be continuously read and taught in the war colleges and as an integrated part of one's professional service. A basic first step is

ensuring that everyone reads or is at least familiar with the newest and most relevant manuals. Second, commanders, or more likely the training staff (G7), should ensure that there are occasions to discuss these ideas. The online course in tactics I observed with the division might be a step in the right direction. The continuous updating of the SOP/SOI complex could also be an occasion to refer to doctrine. Finally, events in which the staff officers are encouraged to discuss doctrine or even tease out some of the debated parameters would be a way to engage with the manual and the doctrinal imaginaries of military professionals. This is particularly important at the joint and multinational level, where common sense might not be very common, but perhaps also on the national level, where disagreements can be found since doctrine in the profession is taken for granted. National Staff colleges and defence universities, the NATO Joint Training Centres, and the NATO Command and Control Centre of Excellence might have roles to play in making such tools available for the operational units since the units themselves are often extremely busy getting the staff organisation to function.

Second, doctrine writers should be explicit about the purpose of a specific doctrinal manual. NATO doctrinal publications are normally reviewed every 4-5 years and initiated by the NATO standardisation office. However, much interpretation goes into the task of reviewing or revising doctrine. Throughout this study, it was not always clear to me after reading written doctrine what its intended audience or purpose was. There is a big difference between a doctrine that has been written to serve as a teaching aid in staff colleges and one that is intended to be used in the field. There is also a difference between prescriptive and descriptive approaches; between doctrine as a handrail and doctrine as a coherent logical framework.

Third, the military establishment needs to re-focus its training efforts and embrace intuitive decision-making as an integral part of command that allows for just as good, if not better, decisions in a timely manner. This involves recognising and embracing the expected reciprocal action of war and embracing Howard's first problem concerning the difference between peace and war. Speed is always a metric in military operations because the situation changes over time. As the commanders I interviewed emphasised, the most formative experience in their careers were exercises in which they did everything correctly or by the book and still got beaten because they became predictable. This calls for a different form of training regime, one in which commanders and their staff can experiment

with imaginative solutions and perhaps fail in doing so. Ideally, this would be free exercises involving troops in the field. However, these are expensive events, which probably explains why they are so tightly controlled since they are too big to fail. There are many other places to train professional judgement development. This could include extended use of wargames, simulations, and a better and more systematic appreciation of military history in PME. There is always a question of whether resources are available to pursue such alternative approaches. The question of why PME institutions have not already embraced such approaches might be a question of a socio-material organisational practice that prefers teaching some doctrines in opposition to others. Under the guise of pragmatism, the profession risks becoming procedurally efficient yet more predictable and thus less effective in operational terms. How this happens, or whether this claim is even correct, also warrants an empirical investigation.

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