



AD SECURITATEM

The best essays by course participants at the Baltic Defence College academic year 2018/19



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Foreword

It is a pleasure to introduce the fifth edition of *Ad Securitatem* featuring the best work written by the Joint Command and General Staff Course (JCGSC), Civil Servants Course (CSC) and the Higher Command Study Course (HCSC) participants at the Baltic Defence College during the 2018/19 academic year. In their remarkable papers, the course participants explore a range of different topics that hopefully inform and inspire all readers. We want to thank all student authors who contributed to this publication and wish them success in their future careers.

**BEST ESSAYS OF THE JOINT COMMAND AND GENERAL
STAFF COURSE
(in alphabetical order)**



Strategic communication in the Arctic: Deconstructing and understanding Russian and Chinese narratives.

CDR Kjersti Kalstad Brenden

Introduction

As climate change erodes the ice cap in the Arctic, new and as yet unexplored and unexploited natural resources are unveiled. The chase to gain influence, wealth and prosperity has begun and with it a wealth of strategic communication.

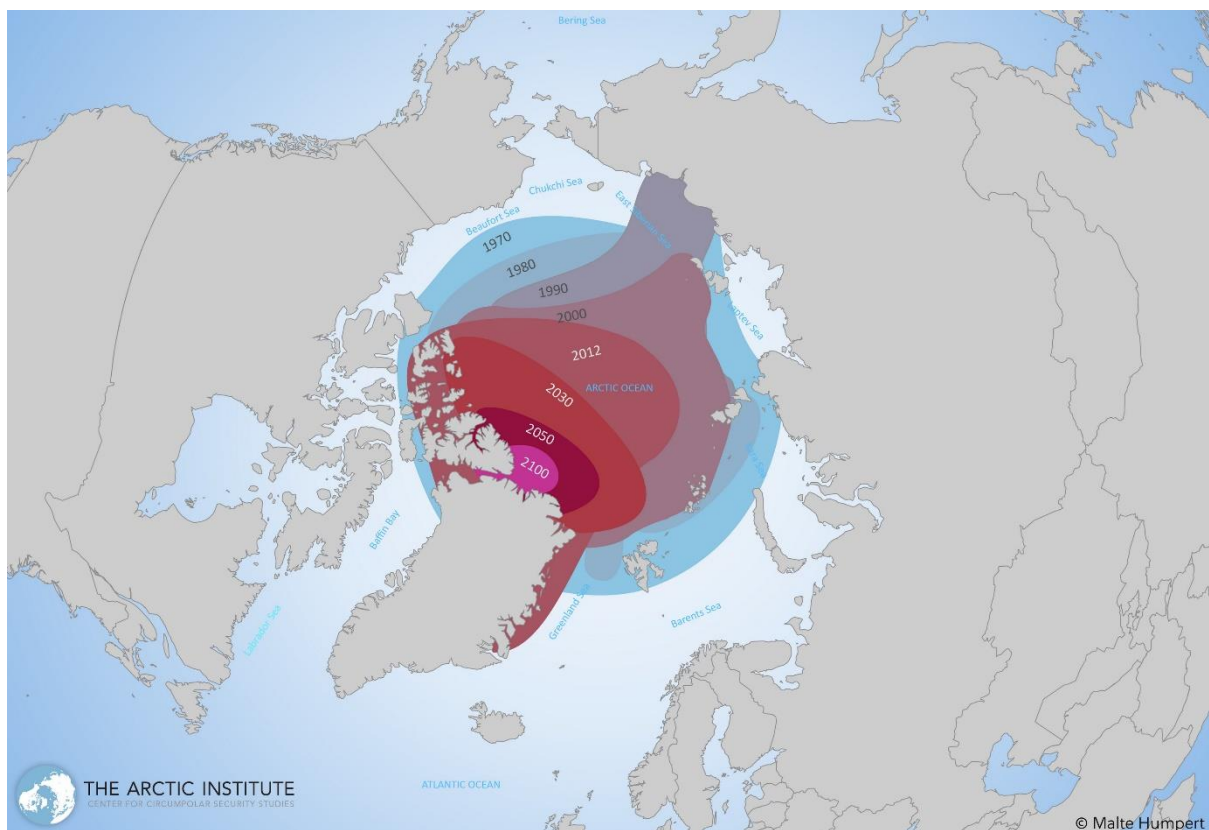


Figure 1: Extent of Polar ice in the Arctic during summer months, based on historical satellite records and climate modelling through 2100. Source: The Arctic Institute (Humpert, 2012).

Several state actors have interests in the region, challenging the old agreements and status quo, while others are trying to preserve their standing with existing agreements and treaties. The recognised Arctic states, as members of the Arctic Council, are Canada, Denmark, Finland, Iceland, Norway, Sweden, Russia and the United States of America, but many more are vying for influence and clearly stating their interest in

the region (Arctic Council, 2018a). Their reasons for doing so are principally linked to potential financial gain.

As the ice cap around the North Pole melts, a new trade route is opening up between Asia and Europe: a much shorter route than those used today and with the potential for great savings in trade transportation costs. (See figure 2.)

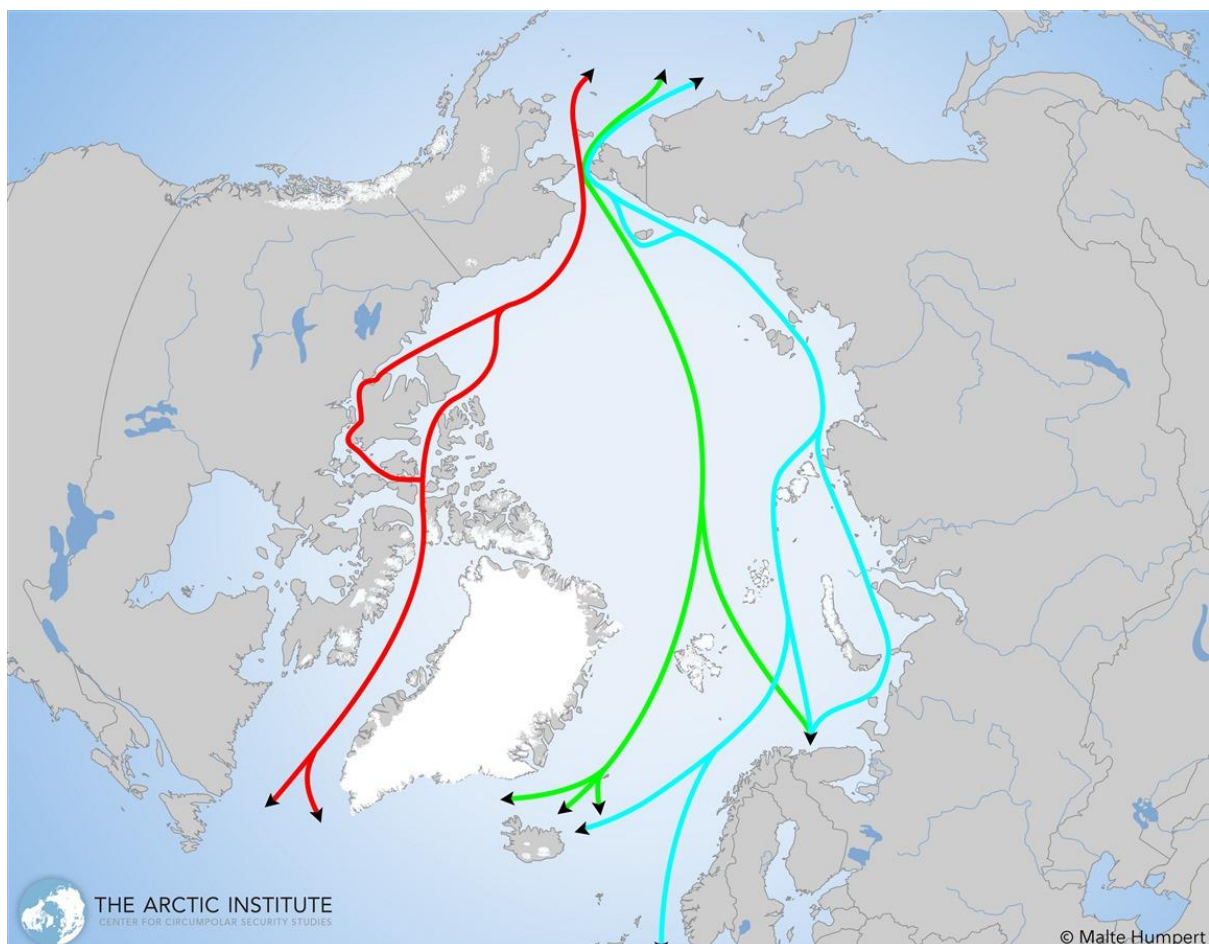


Figure 2: Various shipping routes are opening up to cargo ships as warming global temperatures reduce Polar ice in the Arctic during summer. Red line: North-West Passage. Green line: Transpolar Sea Route. Blue line: Northern Sea Route. Source: The Arctic Institute (Humpert, 2014).

Beneath the Northern Polar ice, a vast supply of natural gas and oil still awaits exploitation, and combined with the melting of the ice cap (see figure 1), exploration of this area is becoming possible (Flake, 2017 pp. 3-5). As the world is in never-ending demand for oil and natural gas, the race for positioning to be able to exploit this area has begun. The Arctic region is vulnerable to environmental changes and incidents, and issues related to protecting the environment may lose out to the more short-term view of gaining political and economic advantages (Norwegian Polar Institute, 2009 p.

30). In order to understand how nations work to gain these advantages, their strategic communication has to be analysed. Next, the paper's thesis statement and research questions will be outlined, as well as a brief description of the methodology used and the structure of the paper.

Thesis Statement

Despite different geographical locations and approaches to the narratives shaping their strategic communication, both Russia and China attempt to establish themselves as the dominant actor in the Arctic region. Understanding the end objectives, narratives and instruments of power employed by these nations is fundamental for other Arctic nations to create counter-narratives and achieve their own objectives.

Research Question

The main research question for this paper is, which narratives do these countries attempt to create and for what purpose? Implied or underlying questions concern the policies and interests of Russia and China regarding the Arctic, their strategic communication and selected narratives' support of these. Another aspect for investigation is if, and how, Russia and China's strategic communication aligns and supports their policies and interests.

Throughout this paper, arguments and assessments are derived from both primary and secondary sources, but as far as feasible primary sources such as press releases, official statements or speeches in addition to policy documents have been used. Secondary sources, such as news articles and research by scholars and experts supplement primary sources by lending contextual interpretation.

The paper will first examine the role of strategic communication and established narratives in achieving national interests, supporting politics and resolving security issues. Second, it will examine Russia's strategic communication and narratives in relation to its stated policies. Third, the paper will do the same with regard to China. Through a comparison between the strategic communication from China and Russia, it is of particular interest to see if their strategic communication and policies are

conforming or dissenting. Finally, the paper will summarise the main arguments from each section with answers to the research questions. Conclusions are framed through the evaluation of research and arguments, and recommendations are based on conclusions.

Strategic Communication and Narratives – What and How

Hallahan defines strategic communication as ‘...the purposeful use of communication by an organisation to fulfil its mission’ (Hallahan, et al., 2007 p. 3). Strategic communication in the context of research conducted for this paper are all communication activities by either of the countries or their authorised organisations to support their national interests or policies. These activities may be official statements, policies, treaties or press conferences, but they may also be any kinetic element of operations conducted. Actions or non-actions have powerful impacts on perceptions and may be considerably more useful in delivering an intended message than words or imagery. All of these communication activities create a narrative that facilitates the attainment of objectives.

Merely having a policy concerning different areas of politics, such as security or economic development, is not enough. Implementation of policies and enactment of interests have to follow, at which point words and actions are then applied - hence communication. Strategic communication has the power to shape global politics and is necessary to achieve objectives for state and non-state actors alike. Strategic communication delivers carefully tailored messages to construct the desired narratives that support the overall aim of an actor. Different audiences might require different messages and narratives because the main purpose of strategic communication is to influence audiences to support the policy, interests and actions of an actor (Stavridis, 2007 p. 4).

A strategic narrative is defined by Miskimmon, O’Loughlin and Roselle as ‘...a means for political actors to construct a shared meaning of the past, present and future of international politics to shape the behaviour of domestic and international actors.’ (Miskimmon, et al., 2015 p. 57). With this definition in mind, creating and projecting a narrative is crucial in strategic communication. Miskimmon, O’Loughlin and Roselle

describes how effective strategic communication is able to create a narrative that combines a multitude of elements into a politically legitimate storyline targeting an appropriate type. They separate types into three: system, identity and issue. By system, they refer to states and other actors in the international order and its functioning. With regards to identity, they mean states, organisations or other actors and the image these entities have of themselves. By issue, they mean a topic, concept or problem such as for instance a war, climate change or national security (Miskimmon, et al., 2015 p. 59).

Based on the above and Joseph Nye's definitions of soft power, hard power and smart power (Nye, 2009), strategic communication may utilise a variety of methods and techniques to promulgate narratives, shape perceptions and change preferences. Strategic communication can be coercions, threats, use of military force or establishment of military presence or economic sanctions (hard power), or it can establish attractive opportunities within different instruments of power, imitate cultural, societal or historical self-images or create demands (soft power). Smart power is when hard power is combined with soft power, and methods and techniques may differ depending on situation and actors involved (Nye, 2009).

From the discussion above, it can be stated that strategic communication may be verbal or non-verbal, kinetic or non-kinetic. It is the promulgation of strategy documents, creation of alliances, press conferences and statements from recognised figures of authority. The use or presence of military forces or installations is in itself strategic communication. A state's involvement, cooperation, recognition or collaboration with an organisation may also be strategic communication (Zerfass, et al., 2018 p. 489).

When discussing strategic communication, it is important to recognise that it consists of several parts or phases such as defining, planning and implementation (Lim, 2015 p. 4).

Russia - Policy and Communication

The Russian Federation's latest strategy document for the Arctic region, issued in February 2013, lists six priorities for development and national security. These are, in

a non-prioritised order, military security, protection and defence of the national border, science and technology, environmental safety, international cooperation, socioeconomic development and information infrastructure (Russian Federation, 2013 p. 3). When examining the six priorities in connection with recent actions and communication, two distinct themes emerge: maintaining sovereignty and developing economic interests (Pezard, et al., 2017 p. 10).

Recently, Russia has reintroduced military capabilities to the region and is seemingly aiming at regaining its military foothold that diminished after the collapse of the Soviet Union. Russia is re-establishing previous, as well as introducing new, infrastructure for military, communication and scientific research applications. Russia is also developing sites and facilities for oil and gas exploration and production (Devyatkin, 2018b). It is actively attempting to develop the Northern Sea Route as a trade route between east and west by investing in icebreakers, icebreaking and surveillance technology and developing infrastructure and societal facilities along the route (Davyatkin, 2018a). This all indicates that Russia has and will continue to have a marked interest in most, if not all, aspects concerning the Arctic region.

The Russian narratives are tailored to historical, societal, military and political dimensions of power (Allan, 2018c p. 5). Russia is using the traditional national power dimensions to stake its claim by building self-image, shape perceptions and framing relationships with other Arctic states (Allan, 2018c p. 4). Russia frequently stages announcements, press conferences or speeches regarding the Arctic at historically significant or symbolic places (Russian Federation, 2017a), (Russian Federation, 2014b). With this narrative, Russia attempts to accentuate its history of polar exploration and history, thus justifying the country's expansion in the region (Allan, 2018a p. 10).

Russia sees itself as the natural leader in the Arctic region. One third of Russian territory lays above the Arctic Circle, and it has by far the longest coastline bordering the Arctic sea of any of the Arctic states (Pezard, et al., 2017). Russia frequently refers to itself as the largest Arctic state, with the implied consequence of Russia being the only substantial regional power (Russian Federation, 2014b). This places responsibility for the region firmly in Russian hands which for external audiences is

often expressed in terms relating to environmental issues (Allan, 2018c p. 13), (Russian Federation, 2014b), (Russian Ministry of Foreign Affairs, 2017).

The Arctic region is historically exceptionally peaceful, but it is economically competitive and subjected to repeated disputes over resources (Hønneland, 2016). Through its narratives, Russia projects the image that the governance of this region is characterised by dialogue and peace, cooperation and mutual respect (Allan, 2018c pp. 8-9), (Russian Federation, 2013). As stated in Russia's Arctic strategy document, governance and decision-making belongs to the Arctic states alone, but they are amenable to others cooperating with the Arctic states and especially on matters such as natural science and engineering (Pezard, et al., 2017 pp. 20-27), (Russian Federation, 2013). The Arctic Council is Russia's premier tool for cooperative governance of the region and is therefore important to limit access and influence of non-Arctic states to the council and consequently to the region (Russian Federation, 2017b). Interestingly, recent expansion of the approved observers to the Arctic Council includes China, India, Korea and Japan, while the EU and Turkey's pending applications for observer status have been suspended for years (Arctic Council, 2018b). The use of the Arctic Council aligns neatly with several of Russia's narratives regarding the Arctic. Organisations for the indigenous populations of the Arctic are permanent participants to the council, which underpins the narrative of social obligation. The fact that the Arctic Council has existed since 1996, makes decisions based on consensus and is heavily involved in environmental issues (Arctic Council, 2013) underpins the Russian political values of peace, stability and cooperation as well as giving credence to the Russian image of the country being environmentally conscious and the obvious regional leader.

For narratives aimed at the internal public, sovereignty and defence of the country's borders are emphasised along with Russia's historical traditions in the region, while narratives aimed at the external public tend to focus on environmental issues and the safeguarding of shipping (Russian Federation, 2014b), (Russian Federation, 2014a). The military build-up in the region rationalises Russia's need, and duty, to maintain the ability to defend its interests and critical infrastructure in the region (Russian Ministry of Foreign Affairs, 2017). Russia has always had a special interest in the Arctic and many aspects of its national security are concentrated here, as exemplified by the presence of the Northern Fleet, Russia's largest fleet, and a substantial part of its

arsenal of nuclear and strategic weapons (Norwegian Intelligence Service, 2019, p. 25). The substantial military presence in the Arctic and the continuing expansion of military capabilities in this region is in itself strategic communication and stands in stark contrast to the Russian narrative of the Arctic being peaceful and characterised by cooperation.

Russia attempts to create a narrative of unexplored frontiers when it talks about the Arctic region. The economic opportunities and vast potential for growth are stressed (Allan, 2018c pp. 2-6). At the Ministerial Meeting of the Arctic Council in Fairbanks in 2017, Foreign Minister Sergey Lavrov said, 'Although the Arctic is no longer a terra incognita, the region is still one of the least studied on the planet.' (Russian Ministry of Foreign Affairs, 2017). This portrayal of the Arctic region being under-studied and with many secrets and unknowns is a necessary narrative to allow Russia to explore and exploit the deposits of natural resources in the area. At a press conference in St. Petersburg in June 2014 President Vladimir Putin stated, '...humanity has to work in the Arctic; it is forced to develop these territories.' (Russian Federation, 2014b). This is a reoccurring sentiment and legitimises Russian development and infrastructure projects in the region.

Russia does not deny the fragility of the Arctic environment and the expedited climate change happening at present, but its importance takes second place to developmental concerns. For instance, Russia has used this region, in particular the Kara Sea, for dumping and disposal of nuclear waste for decades. Even though sporadic efforts to catalogue and safely dispose of the waste has been initiated, it has not gained much momentum, as it is expensive and resource intensive. These same areas are now becoming available for exploitation, but only a minimum effort is expended to resolve environmental issues (Nilsen, 2018). When developing new sites for exploitation and returning old ones to former use, environmental concerns are neither high on the list of priorities nor given sufficient resources (Bourne, 2019). As mentioned above, Russia needs to legitimise exploration and exploitation of natural resources since financial gain is its objective. Russia attempts to project a narrative of co-existence of economic and environmental interest being natural, possible and not mutually exclusive (Allan, 2018c p. 9), (Bourne, 2019), (Russian Ministry of Foreign Affairs, 2016). An example of this is the massive Liquefied Natural Gas (LNG) plan in Sabetta

in Siberia, which could give Russia a substantial and steady financial income. At the opening of the plant in December 2017 President Vladimir Putin stated,

‘This is an extremely important sector for Russia. This is not just an important event in our country’s energy sector, or gas production and liquefaction. This is a more ambitious project. What I mean is that we are faced with the enormous task of developing the Arctic and the Northern Sea Route.’ (Bennett, 2017).

The project has also been portrayed as being ecologically sound and in compliance with the needs of the indigenous population (Russian Ministry of Foreign Affairs, 2016), although the veracity and accuracy of this claim continues to be challenged (Hille, 2016), (Johnson, 2018).

China - Policy and Communication

In January 2018, China published a white paper called ‘China’s Arctic Policy’. This indicates a formalisation of its long-standing interests and ambitions in the region since it is the first formal and separate policy document concerning the Arctic issued by the government of the People’s Republic of China (People’s Republic of China, 2018b). The main message from this paper is that the sustainability, survivability and future of the human race is dependent on the situation in the Arctic region (People’s Republic of China, 2018b). It is also evident that China intends to participate in all aspects of regional issues, including the decision-making process. As Vice Minister for Foreign Affairs Kong Xuanyou stated during the press conference introducing the White Paper on China’s Arctic Policy, ‘China’s Arctic policy goals are: understanding the Arctic, protecting the Arctic, using the Arctic and participating in the governance of the Arctic’. (People’s Republic of China, 2018a).

China portrays itself as being environmentally conscious and professes its readiness to cooperate to achieve ‘peace, stability and sustainable development in the Arctic’ (People’s Republic of China, 2018b p. 14). The white paper connects the Arctic region with China’s Belt and Road Initiative and this signals the country’s intention to incorporate the Northern Sea Route in its vision to change how the world transports goods, services and people. The economic benefits and possibilities connected with involvement in the region are also mentioned, but are not substantial. The paper underlines and stresses that China abides by international law, respects the

sovereignty of others and values cooperation and building mutual understanding (People's Republic of China, 2018b).

The publication of the paper may be interpreted as China's attempt to re-brand the region and is even introducing the new concept of 'near-Arctic states' in order to make the structures of the Arctic Council more internationally centred. Climate change in the Arctic having impact on and severe consequences for countries and regions beyond itself, facilitates and legitimises the need for a more comprehensive international cooperation. By this, China also signals opposition of the authority of the Arctic Council (People's Republic of China, 2018b). Chinese narratives regarding the Arctic focuses on building its self-image as a 'near-Arctic' state and construction of a unique and distinct Arctic identity (Allan, 2018b).

China uses several national power dimensions to express its narratives, which presently seem focused on highlighting the impending doom due to environmental issues and the need for international cooperation. This aims to establish China as an influential and substantial partner in the Arctic region (People's Republic of China, 2018b), (Stronski, et al., 2018). Vice Premier Wang Yang attended the International Arctic Forum in March 2017 and stated, '...we should enhance protection of Arctic ecological environment [...] so as to jointly safeguard Arctic peace and stability.' (Ministry of Foreign Affairs of the People's Republic of China, 2017).

As demonstrated by both the White Paper and statements from Chinese officials, China clearly wants the authority to act as an equal partner and not to be viewed as interfering in matters outside its natural sphere of influence. In the White Paper, China defines itself as 'an important stakeholder in Arctic affairs.' (People's Republic of China, 2018b p. 3). During the press briefing introducing the policy, Vice Minister for Foreign Affairs Kong Xuanyou stated, '...China will not absent itself from Arctic affairs.' (People's Republic of China, 2018a). It consistently communicates that China is not a threat to the status quo in the region and wants peace and stability without any disputes or overblown conflicts (People's Republic of China, 2018a), (Ministry of Foreign Affairs of the People's Republic of China, 2017). The repeated use of the term 'near-Arctic state' in official statements coupled with a focus on how climate change in the Arctic impacts the Chinese economy and agriculture justifies its outspoken interests in the region. China invests in the region and uses resources such as financial

support and technological capabilities to gain favour with nations and organisations (Eiterjord, 2019). These actions also underline the non-political interests of China.

As stated above, China has an aspiration and inherent need for the Arctic region to be an international arena in which many countries may legitimately have interests and responsibilities. Climate change is integral to the messaging for facilitating the perception that the Arctic region needs governance by others than the eight permanent members of the Arctic Council, and in a collective effort (People's Republic of China, 2018a), (People's Republic of China, 2018b). As stated in the policy document, the new shipping route through the Northern Sea Route is a tremendous opportunity for economic growth for China. Similarly, the need to make what China calls the 'Polar Silk Road' attractive, viable, secure and profitable is confirmed by bi-lateral agreements with Russia, as is the building and purchasing of icebreakers (Johnson, 2018), (Stronski, et al., 2018).

From reading the White Paper, it is notable that it mentions the word cooperation at least 45 times. It also emphasises that China will work to maintain and expand bilateral and multilateral relationships with Arctic actors as well as its profound respect for international law (People's Republic of China, 2018b). Cooperation implicitly requires a nation to create and maintain relationships with other states and organisations. For China, this strategy necessitates a careful and delicate balance between wanting to be perceived as a trustworthy actor and not being regarded as forceful or intruding in matters which are not China's purview (Stronski, et al., 2018). This delicate balance is apparent in China's relationship with and statements regarding the Arctic Council (World Economic Forum, 2018). China displays respect and endorses the Council, while at the same time being clear about the fact that they expect the council to consider other nations' interests, primarily by acknowledging the right of non-Arctic states to express their interest and opinion about the well-being of the region and adhering to international law and existing agreements. (Ministry of Foreign Affairs of the People's Republic of China, 2015), (World Economic Forum, 2018). The current procedural rules of the Arctic Council do not favour China, however, as the Council does not have any obligations to reciprocate (Arctic Council, 2013).

China is reaching out to the indigenous populations in the region with the narrative that China has altruistic motives and wants to increase their socio-economic standing.

The arguments are that the investments in the region and the exploitation of trade routes, oil and gas will have the greatest benefits locally (Allan, 2018b), (People's Republic of China, 2018b p. 6). This narrative also works to placate and persuade a wide range of different stakeholders and state actors that China's presence in the Arctic region is natural and beneficial. However, as China's involvement in the region increases, so does the mounting reports and news stories about how its investments, pipelines, and other exploitive endeavours in the region creates friction with and difficulty for the indigenous populations or encumber the traditional way of life for these groups (Hawksley, 2018), (Johnson, 2018). From this perspective, the narrative may prove to be counter-productive.

Many of the direct actions taken by China in the Arctic region are of a scientific or financial nature, most often in collaboration with foreign companies or nations. China is heavily involved in several financial projects with Russia, most notably the Yamal LNG project in Russia (Stronski, et al., 2018). The influx of financial support shapes and enforces China's narratives of cooperation, social obligation, need to globalise the governing of the Arctic region and care for the environment. However, China's behaviour in the South China Sea and Africa, as well as emerging public knowledge about how Chinese companies exploit intellectual property and financial relationships, are making potential collaborators hesitant about starting joint ventures (Pezard, 2018), (Corkin, 2014), (Pilling, et al., 2018).

Comparison of Russia and China - Policy and Communication

The previous sections outline the policies and narratives that China and Russia employ in constructing their Arctic identities. There are clear similarities, but also some differences.

China and Russia frame the Arctic region geographically in diverging narratives. Russia sees the Arctic region through a lens of sovereignty, focusing on Russia as the most substantial Arctic actor defending its interests on its territory. For Russia, the Arctic and its challenges are regional issues, on which cooperation between the recognised Arctic countries is the solution. Russia through this narrative also perceives most of the issues in the region as national issues which each nation has as its

prerogative to handle as it sees fit. China on the other hand sees the region through a lens of globalism, focusing on China as a responsible actor contributing to solving the environmental challenges of the region as well as to sustainable development of the region. China describes the issues of climate change and shipping through the Northern Sea Route as 'transregional' (People's Republic of China, 2018b p. 3). This globalist lens encourages other Arctic states to favour China's interests and thus legitimises its behaviour (Arctic Council, 2012). As outlined above, the discrepancy in how China and Russia frames its narratives could undermine China's aspiration to be regarded as an Arctic nation in its capacity as a 'near-Arctic state'. Of the eight countries with territories above the Arctic Circle, the country most likely to support China's developmental efforts in oil, gas and science is Russia (Pezard, et al., 2016). Russia depends to a large degree on China in realisation of its development and exploitation ventures and this mutual dependence provides assistance to their individual objectives (Stronski, et al., 2018).

The most obvious example of where Russian and Chinese interests and narratives align is with regards to business development in the region. Both countries use climate change and environmental issues, as well as social obligation, to develop the region and validate their increased activity and endeavours. China describes climate change in its White Paper as a task to solve as well as an 'historic opportunity' that it has an obligation to take advantage of (People's Republic of China, 2018b). China, more than Russia, emphasises the severe state of emergency that climate change in the region constitutes, but Russia and President Putin has also repeatedly mentioned the unique possibilities which this gives Russia in business development (Pezard, 2018), (Russian Federation, 2014b). These common narratives and objectives give China and Russia an opportunity to mutually support each other's policies, synchronise and harmonise the narratives and messages they issue. Presently, however, this does not seem to be happening, and reasons for this may be the countries' widely different view on the right to influence the region.

Both Russia and China utilise their relationships with indigenous populations in the region in their narratives. China talks about 'win-win' scenarios in their Arctic Policy and Russia talks about 'the well-being and stable development [of the northern indigenous peoples]' being a principal task for the Russian government (People's Republic of China, 2018b p. 5), (Russian Federation, 2014a). This attempt by China

to influence indigenous communities over which it has no jurisdiction fits into China's narrative of being a caring and responsible global actor while forging relationships with organisations who are recognised actors in the Arctic. For Russia, the indigenous populations provide a legitimate reason for exploration and development as well as military expansion as this provides financial stability and security for these populations.

Another common thread of Russia's and China's narratives is cooperation. What this entails and the concept behind cooperation is however markedly different. Russia does not want non-Arctic states to have influence in the governing of the region and actively seeks to limit and monitor the actions of these states. Russia is willing to cooperate, but maintains that the primary Arctic actors have the burden of responsibility. The Arctic Council is for Russia the main instrument for cooperation and the strengthening of its legitimacy is at the core of Russia's narrative on cooperation (Russian Federation, 2013). China has a starkly contradictory take on cooperation. For China, cooperation in the Arctic region entails participation of several nations and organisations with interests in the region. China see this as the only viable solution for productive and effective governance of the Arctic region (People's Republic of China, 2018b). Recent narratives regarding cooperation has stressed the need for diversification, while earlier narratives emphasised the respect for international law and China's willingness to adhere to the authority of the Arctic Council (Allan, 2018a p. 5), (Ministry of Foreign Affairs of the People's Republic of China, 2017). This attempt to display two narratives at once leaves China's communication on cooperation disjointed and inconsistent.

Conclusion

Successful strategic communication and well-developed narratives may take time and resources to establish, but it may also be the most essential element in achieving an actor's short-term and long-term objectives. Winning hearts and minds, thus gaining influence, and shaping perceptions are of intensifying importance, and increasingly difficult in today's complex media and communication environment.

Russia's narratives on the Arctic region have some main themes. Russia emphasises the inherent right of sovereign states to protect and develop its own territory.

Narratives focuses on security and a social obligation to conduct a sustainable exploration and development of the region. Russia communicates that cooperation is important and recognises the structures of the Arctic Council as the principal governing body for cooperation. Narratives also emphasises the Arctic region's history as exceptionally peaceful. As the largest Arctic state, Russia has the inherent right and duty to be the regional leader in development and governing of the region.

China's main narratives aim at establishing itself as an influential actor in the Arctic. China promulgate its identity as a 'near-Arctic state' with a legitimate and recognised right to participate in decisions regarding the region. Narratives also includes the need to diversify the decision-making body for the region and that the environmental challenges present in the Arctic demands a global solution. China communicates that the sustainable development of the Arctic region is a duty for responsible and caring actors. Cooperation and respect for international law is the cornerstones of its narratives and financial support is the main tool for China to achieve its policy. China actively uses financial, scientific and technological instruments of power to gain physical access to the Arctic region.

When comparing the narratives and aims for China and Russia, a few characteristics emerge. China has a globalist view when it comes to governing of the Arctic region and participation in developmental and scientific projects. Russia on the other hand has a national and regional view where participation and governance of the region is the purview of the Arctic states. The importance and duty for responsible actors to explore, exploit and develop the region are important aspects of both nations' strategies, and several of the promoted narratives facilitate for this. The focus on the needs and rights of indigenous populations are utilised by both nations in their narratives as this creates an image of responsible, caring actors and facilitates for legitimising resource extraction and development in the region.

Even though Russia's and China's objectives seem to align on several issues, an extensive collaboration on narratives seem unlikely at present due to their difference on the subject of governance of the Arctic region. China's Arctic projects are part of its Belt and Road Initiative, whose overarching goal is global dominance. The creation of a new system for governing the Arctic region seems to be a part of this plan. This objective is not one that Russia will leave uncontested, but its power to actually affect

or alter China's policy is questionable. At present, Russia is more dependent on Chinese financial support than China is on Russian political support. However, a relationship, both politically and economically, has emerged between the two and it is unlikely that this will diminish when considering how European and North American countries resist the influence of both countries. China's actions in other regions across the globe undermines China's narratives and creates difficulties for China in its effort to achieve legitimate recognition as an Arctic actor. Based on actions, statements and policy, Russia will continue to attempt to dominate and guide the dialogue about Arctic issues as well as consolidate its physical foothold in the region. Arguments and conclusions in this paper outlines that both Russia and China attempts through strategic communication to alter the international order to suit their needs and objectives. From this originates the most significant threat to European and North American Arctic nations, the possibility of a forced and unwanted change in the established international order.

Russia and China utilise a variety of narratives and instruments of power to achieve their objectives. Analysing and evaluating strategic communication is valuable when attempting to ascertain the ultimate goals of actors. Focused and adaptive strategic communication is necessary for nations to capably counter opponents' narratives and to protect their own interests. The Arctic nations in Europe and North America ought to consider the ultimate objectives of Russia and China when associating with these countries, whether it be by political, financial, scientific, technological or any other means. For the Arctic to continue to be a region of peace and cooperation, other nations have to be willing and able to state, protect and work towards their own interests in a proactive manner.

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Emotional Intelligence in Today's Military Leaders. Is emotional intelligence required to be a successful military leader in today's environment?

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Introduction

Is emotional intelligence just psychobabble or can it assist military leaders? It is increasingly difficult to be successful in today's environment as it is complex and in constant flux, so military leaders have to embrace any set of leadership skills that will assist in mission success.

Today's environment is not only complex and rapidly changing, but encompasses how leaders are operating within the different age generations while understanding digitalization created a small world bringing people together faster than ever envisioned. Today's environment also refers to present challenges of continual professional development, retention, and retaining optimism. How do military leaders embrace subordinates who need praise, like the freedom to accomplish their mission, and seek continuous growth and development?

Military leaders have to develop sets of skills, tools, and attributes to aid in their success to provide purpose, direction, and motivation to those around them including those in their chain of command or outside (known as their sphere of influence) (U.S. Army, 2015). These military leaders include officers, warrant officers, and enlisted leaders (commonly referred to as non-commissioned officers or NCOs). Doctrine mentions the human dimension numerous times despite no mention of emotional intelligence. So, is a high a measure of emotional intelligence required to be a successful military leader?

While only one of many leadership attributes, emotional intelligence often refers to how someone manages his or her own emotions to build mutual trust through a particular set of attributes. The Oxford Dictionaries define emotional intelligence as 'the capacity to be aware of, control, and express one's emotions and to handle interpersonal relationships judiciously and empathetically' (Oxford Dictionary, n.d.).

If emotional intelligent leaders build the strongest teams in today's environment, military organizations are successful because of those leaders who learn how to employ emotional intelligence while enhancing the art of mission command philosophy. To determine this, it is necessary to answer the question: How does emotional intelligence relate to leadership theory? This paper explores the relationship between leadership theory and emotional intelligence. Then, it discusses how emotional intelligence enables today's military leaders, especially through the six principles of mission command, by assembling diverse teams through shared trust and diversity of thought. Lastly, this paper discusses how to avoid possible pitfalls of emotional intelligence. Before doing this and answering the other questions posed, what exactly does emotional intelligence entail?

Emotional Intelligence Explained

Not long ago, emotions and work were two areas left separated. However, studies have shown leaders must balance IQ with emotional intelligence (Sterrett, 2000). Emotional intelligence is a set of attributes that are common to its definition, but the specific terms used vary from one scholar to another. Wendy Morton discusses what she calls the three major theories of emotional intelligence by exploring the Mayer-Salovey-Caruso, Goleman, and Bar-On models in her eBook, Everything You Need to Know About Emotional Intelligence & Leadership (2012, p. 14). The terms these models use seem different; however, they are very closely related and are essential to every military leader.

Mayer-Salovey-Caruso Model	Goleman Model	Bar-On Model
Perceiving Emotions	Self-Awareness	Intrapersonal
Reasoning with Emotions	Self-Management	Interpersonal
Understanding Emotions	Social Awareness	Stress Management
Managing Emotions	Relationship Management	Adaptability
		General Mood

While scholars agree emotional intelligence is an intrinsic characteristic, one can hone emotional intelligence at any age through experience and education (Bradberry, 2014). Daniel Goleman even states emotional intelligence increases with life experiences (2004, p. 2). Motivation to improve and their ability to receive assistance from others especially those they trust, influences one's lifelong ability to increase their emotional intelligence. It is important to remember one cannot improve their emotional intelligence or affect their ability to lead without aid from others (Boyatzis, et al., 2001, p. 51). Military leaders should become more emotionally intelligent with time adding to the importance of pairing of junior officers with senior NCOs at the tactical level while receiving mentorship from superior officers. This help must be forthright and honest.

Empathy, self-regulation, motivation, self-awareness, and relationship building are five attributes or specific traits and competencies associated with emotional intelligence (Morton, 2012). This paper narrows down the characteristics using the Goleman model of emotional intelligence. The Goleman model comprises of two domains. The first domain is the personal competency encompassing of self-awareness and self-management, while the next is the social competency that comprises of social awareness and relationship management (Boyatzis, et al., 2002). U.S. Field Manual 6-22 on leader development does not list these specific terms but links the aspects of Goleman's attributes into all facets of emotional intelligence including self-awareness (U.S. Army, 2015, p. 7-44).

Self-Awareness

Understanding yourself or self-awareness is the initial step of applying emotional intelligence as a military leader. The primary key to emotional intelligence and good leadership is self-awareness. Self-aware leaders recognize not only their weaknesses but also their strengths. They know how to harness what drives them, understand their abilities, and build upon their limitations; however, self-awareness 'requires a great deal of introspection and the ability to internalize feedback from others' (George, 2004, p. 7).

Leaders must be self-aware of how their actions influence their organizations and those around them. 'Because if we cannot recognize how we are feeling, if we cannot

take our “emotional temperature,” we are at risk of behaving in demeaning, angry, belittling and belligerent ways that will turn others off” (Book, et al., 2006, p. 66). Also, Bar-On theory adds to self-awareness in its self-perception model that also includes self-regard and self-actualization (Multi-Health Systems Inc., 2017, p. 2). All of these concepts are crucial to being able to employ emotional intelligence successfully as self-awareness is the foundation of emotional intelligence and leads to the next attribute of self-management.

Self-Management

Closely linked to today’s mission command philosophy, those military leaders who display self-management tend to ‘show the initiative to seize opportunities as they arise’ (Boyatzis, et al., 2002) as those leaders who can control their emotions while remaining optimistic and flexible. Self-management is about building trust through transparency, honesty, and integrity. Leaders who display self-management do not give cynical control the culture of their organization or even let the occasional bad mood affect their work environment (Boyatzis, et al., 2001). Keeping an encouraging attitude even through stressful situations allows junior leaders to seek mentorship despite any challenges they may face. This openness only enhances military organizations (The Field Grade Leader, n.d.). Again, Bar-On theory adds to self-management by discussing stress management that consists of flexibility, stress tolerance, and optimism (Multi-Health Systems Inc., 2017, p. 2). These traits are consistent with the overall attribute of self-management and lead to the successful employment of mission command. Self-management reinforces the military adage of leading by example, which leads to our next quality of social awareness.

Social Awareness

Social awareness is a crucial attribute for military leaders as it allows them to gauge the climate of their unit and builds those all-important relationships required to be successful as a leader at any level. One key aspect of social awareness is empathy. Empathy is often synonymous with emotional intelligence, and the right employment of understanding is much more crucial to the success of the social competencies.

Social awareness skills include not only empathy but include service and organization awareness. This attribute leads to improving others while assessing the organization's emotional welfare (CFCD, n.d.). Social awareness assesses the adage of fair being synonymous with equal. Leaders who believe they are fair and equal at the same time often use these two terms interchangeably. Military leaders must understand fairness and equality are not the same and must apply them appropriately while in leadership positions. Self-aware and self-managing leaders can build on social awareness by instinctively regulating their method based on the collective dynamic thus positively affecting the organization, which leads to the next attribute of relationship management (The Field Grade Leader, n.d.).

Relationship Management

Maybe the most influential attribute of military leaders is their ability to manage relationships or relationship management. Relationship management involves the skills to develop and influence others, manage struggle while building connections and increasing teamwork through inspirational leadership (Boyatzis, et al., 2002). 'Leaders use these skills to spread their enthusiasm and solve disagreements, often with humour and kindness' (Boyatzis, et al., 2001). The Field Grade Leader states this attribute is 'bringing out the best in people and teams [...] regardless of rank or position, every individual in the military has the ability to lead' (The Field Grade Leader, n.d.). Other traits a leader could couple with relationship management are social responsibility, impulse control, and emotional expression (Multi-Health Systems Inc., 2017, p. 2). While relationship management is just one of the four attributes commonly used in emotional intelligence models, the theory of emotional intelligence derives from leadership theory.

Emotional Intelligence's Relationship to Leadership Theory

Emotional intelligence serves as a component of most new leadership theories explored over the last century. While there are too numerous leadership theories to discuss, this paper focuses mainly on the theory of authentic leadership as it relates to emotional intelligence. Contemporary thought explains leadership philosophy as the

art of command with the science of control. Victoria McKee's dissertation discovers while authentic leadership and transformational leadership theory are separate; the research shows individuals coordinate them together. She states additional research to separate authentic leadership as a different theory from transformational is required (2013). Attributes of authentic leadership tie into the models of emotional intelligence theory.

Authentic Leadership

The theory of emotional intelligence is, if not directly, derived from the authentic leader theory. Common attributes of authentic leadership are 'balanced processing, internalized moral perspective, relational transparency, and self-awareness' (Avolio, et al., 2009, p. 424). Like emotional intelligence, authentic leaders develop these attributes through life experience; however, integrity and self-awareness are the cornerstones. Military leaders must strive to be authentic leaders while continuing to improve (including their emotional intelligence) if they want to lead subordinates, earn promotions, and reach retirement successfully.

Eilam and Shamir state there are four ways authentic leaders development through their life: 'leadership development as a natural process, leadership development out of struggle and hardship, leadership development as finding a cause, and leadership development as a learning process' (2005, pp. 403-404). Arguably, emotionally intelligent leaders can develop through these areas quicker and more successfully than leaders who do not possess a high level of emotional intellect. Development of authentic leadership creates leaders who can deal with conflict. 'Stable self-conceptions (of an authentic leader) act like the rudder of a ship, bolstering people's confidence in their ability to navigate through the sometimes murky seas of everyday life' as Swann Jr. writes (1990, pp. 414-415). Greater self-awareness and self-regulated behaviour facilitate a positive self-development process, which draws from having a developed organization perspective and positive psychological abilities (Avolio, et al., 2003). Military leaders generally understand the underlying philosophy of being authentic but can improve their leadership by applying emotional intelligence attributes into their daily lives as well.

Applying Emotional Intelligence as a Military Leader

Military leaders are expected and understood to be tactically and technically proficient while emotional intelligence enhances one's ability to be successful. Natural leaders apply emotional intelligence as one of their inherent traits; however, all leaders must strive to increase their effectiveness through emotional intelligence. Emotional intelligence allows a military leader to know themselves and those in their sphere of influence. Gerald Sewell even states 'the most valuable element in building and maintain successful relationships, individual or team, is emotional intelligence' (2009, p. 93). The motto of the U.S. Army is 'mission first, people always.' Although a traditional saying, it explains the importance of the human element within the military. Although there is a lack of military doctrine on emotional intelligence, the human dimension reference and links describing attributes prevalent to both enhance the importance of improving one's emotional intelligence as a military leader.

Leaders can enhance their emotional intelligence through self-study and incorporate it into their professional development programs for their subordinates. Free online assessments are readily available online if units do not possess the resources to have someone trained in emotional intelligence to be able to administer and counsel using more in-depth tools. Mind Tools © includes a free emotional intelligence survey where it provides useful tools for further self-development as well as counselling tools (Mind Tools, n.d.). The Johari Window assessment from Joseph Luft and Harrington Ingham is another easy online tool that requires candid feedback from others for positive discussions (Kevan, 2006a). If a leader can handle criticism, the Nohari Window assessment is the same as the Johari but uses critical words instead of positive or neutral verbs (Kevan, 2006b). Both assessments require a hard self-internalization from the individual to request and ask the hard questions.

All of these tools enhance what is already available for most military leaders in feedback forums. For example, the U.S. Army uses the multi-source assessment feedback system to increase one's self-awareness through the views of superiors, peers, and subordinates. This feedback system does not directly equate to gaining emotional intelligence, but leaders must focus on integrating the results into their future development. Leaders need to incorporate emotional intelligence into written and oral counselling sessions, mentoring sessions, and physical fitness as it ties into leadership

attributes and the individual and unit success. Additionally, the U.S. Army's Master Resilience Training (MRT) program indirectly addresses emotional intelligence using their educational modules. These are already in use at the company level through trained facilitators; however, leaders often do not emphasize the importance of these training sessions.

Morton (using Goleman's theory) states 'emotionally intelligent leaders are often more effective than leaders with low emotional intelligence; more easily maneuvering the social facet of organizations and organizational member' (2012, p. 7). Part of emotional intelligence is understanding how and when to apply it to one's leadership philosophy. Leaders often use an advisory council to apprise them of what is 'actually' occurring within their organizations whether it is good, bad, or ugly (Jung, 2004, p. 5). Leaders in the U.S. Army often use junior enlisted advisory boards to get a feeling for the culture of their organization as well as bring a new perspective to senior leaders. These boards and aspect directly relate to emotional intelligence if used to bring about positive changes, and not simply occurring because of a requirement.

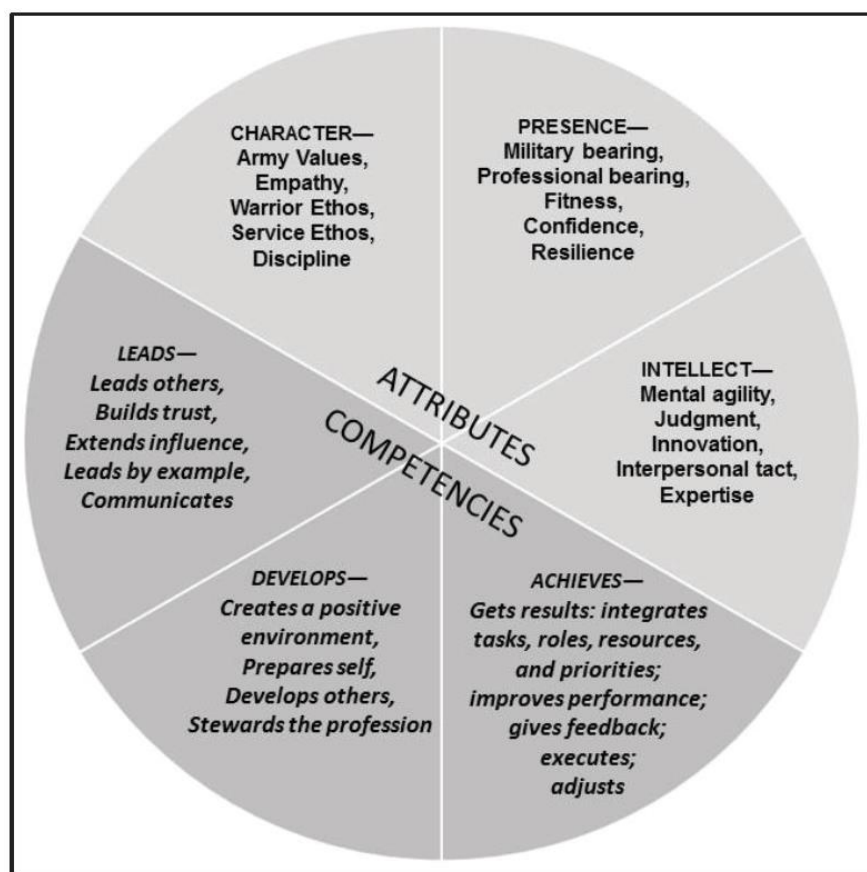
Emotional intelligent leaders understand the importance of diversity of thought (not to be confused with indiscipline). These leaders allow subordinates the flexibility to grow and develop while accomplishing the task. Richard Boyatzis, Goleman, and McKee summarize that emotionally intelligent leaders monitor their moods through self-awareness, improve their moods through self-management, 'understand their impact through empathy, and act in ways that boost others' moods through relationship management' (2001, p. 48). Senior leaders sometimes struggle with optimism, as they grow more cynical with time. Both self-management and relationship management aid leaders to remain optimistic and inspire others. Many militaries struggle with retention or recruiting of personnel. Emotional intelligent leaders could also assist in this issue as 'optimistic, enthusiastic leaders more easily retain their people, compared with those bosses who tend toward negative moods' (Boyatzis, et al., 2013).

Lastly, newer generations of military members insist on adhering to mission command by telling them what to do, not how. These individuals want to be heard and not disregarded. Emotional intelligence bridges the gap between generations and different styles of leadership by winning the proverbial hearts and minds of those in their sphere

of influence (Book, et al., 2006, p. 288). Allowing all military members to buy in when appropriate enables mutual trust and enables the mission command philosophy.

Enhancing Mission Command through Emotional Intelligence

The U.S. Army defines mission command as enabling disciplined initiative through mission orders and a detailed commander's intent (U.S. Army, 2018). To employ the philosophy of mission command properly, leaders develop agile and adaptive subordinates that have a core set of attributes and competencies. While the emotional intelligence attributes do not directly align with the mission command attributes, they do correlate and complement one another. The U.S. Army defines these attributes and competencies in the below table from Field Manual 6-22 Leader Development.



(U.S. Army, 2015, p. 1-4)

Like the U.S. Army, mission command focuses on development through both self-awareness and candid feedback, which are hallmarks of emotional intelligence. The

U.S. Army uses six guiding principles to aid in executing their mission command philosophy (U.S. Army, 2012). Emotional intelligence can only enhance one's ability to conduct mission command. The first of the principles is building interconnected teams through mutual trust.

Build Cohesive Teams through Mutual Trust

Leaders at all levels are responsible for building their teams through a mix of individual and group training and development programs. One cannot successfully develop their team without a foundation of mutual trust. Emotional intelligence is essential to creating this trust amongst commanders, subordinates, and peers. First, a leader shapes the culture or work environment based on their level of emotional intelligence (Boyatzis, et al., 2001, p. 44). The leader sets the tone through the management of their own emotions or self-management and managing the mood or relationship management of their units (Harvard Business Review, 2004, p. 1). Relationship management includes a leader's sphere of influence and not just their team.

Emotional self-management or relationship management does not equate to an organization void of emotions, but one who knows how to harness emotions to bring the best out of the individual and the overall team. Bringing the best out of every team member through building mutual trust allows organizations to seize opportunities as they rise or size the initiative, which is a principle tenet of mission command. Morton states productive thinking occurs when emotions enable individuals to accomplish and promote ideas (Morton, 2012, p. 9). Next, emotional intelligence does not just allow for the production of new ideas but builds the foundation between teams. This foundation of mutual trust is critical to surviving despite whatever environment a military organization may face. Not exercising emotional intelligence allows negative emotions to feed quickly through an organization as emotions, especially those of the leader, are contagious (Boyatzis, et al., 2001, p. 44). This collective trust allows leaders to create a shared understanding, which is the next principle of mission command.

Create Shared Understanding

A key fundamental in creating a shared understanding is establishing a human connection that builds on the first principle of mutual trust (U.S. Army, 2012, p. 3). Book and Stein state 'self-awareness and the capacity to build mutually satisfying relationships provide the backbone of strong management' (2006, p. 31). Without emotional intelligence, a leader has difficulty building a foundation to create an effective shared understanding. Shared understanding correlates directly to a North Atlantic Treaty Organization (NATO) principle of operations, unity of effort (NATO, 2017, p. 1-13). Unity of effort allows synchronization and collaboration towards a common objective even if units are outside the same chain of command. U.S. Army doctrine speaks about establishing human connections while building trust to create and maintain shared purpose and understanding (U.S. Army, 2012, p. 3). A leader cannot create these connections to build and maintain trust to enable shared understanding without practicing emotional intelligence even though not specifically mentioned in the text. A crucial part of creating a shared understanding is providing a clear commander's intent.

Provide a Clear Commander's Intent

Emotional intelligence does not tie directly to providing a clear and concise commander's intent. Indirectly, emotional intelligence aids a commander in nesting their intent into not only their higher commanders but also ensuring they write their intent in a manner where their subordinates can understand and achieve it. Just as vital to a clear commander's intent is being able to effectively communicate it both written and orally so that it is understood two levels down.

Tomas Chamorro-Premuzic and Dave Winsborough state 'drivers of effective team performance are the group's average level of emotional intelligence and a high degree of communication between members' (Chamorro-Premuzic, et al., 2017, p. 2). Communication allows for self and relationship management as well as social awareness to understand how to communicate with your specific team. Emotional intelligence also directly improves communication (Matthews, et al., 2012). A leader knows how to motivate and inspire their organization through their intent; however, a

perfect intent not communicated properly will not enhance mission command nor does it allow for the next principle of exercising disciplined initiative.

Exercise Disciplined Initiative

Disciplined initiative occurs under a commander's intent when superiors and subordinates have built mutual trust and have a shared understanding. Disciplined initiative fails without the application of emotional intelligence. Commander's intent provides the 'what' needs accomplishing as well as establishing the left and right limits for subordinate commanders. Leaders must understand their limitations and the limitations of their team before exercising exploiting an unforeseen situation. Morton affirms motivation and leadership affect situations by using emotions (2012, p. 7). Many leaders discuss a so-called 'gut' feeling when exercises their duties, especially disciplined initiative. Robert Goffee relates to this by stating 'one component of emotional intelligence is "situation sensing" – the ability to sniff out the signals in an environment and figure out what's going on without being told' (2004, p. 6).

A military leader uses all of the tools at their disposal to accomplish the mission. These tools include not only their unit capabilities but also their mental and emotional intelligence capacities. Disciplined initiative occurs under the commander's intent as well as the next mission command principle of the use of mission orders.

Use Mission Orders

While the use of mission orders does not directly relate to emotional intelligence, mission orders are the overall comprehensive concept of emotional intelligence. 'Mission orders seek to maximize individual initiative, while relying on lateral coordination between units and vertical coordination up and down the chain of command' (U.S. Army, 2012, p. 5).

First, this is the conception of a commander or leader being self-aware to recognize their limitations and abilities. Next, transparency, integrity, and honesty enable the use of mission orders through the self-management skills of the parent and subordinate units. There is a trust that a commander will resist the urge to micromanage as they

have built up confidence in their subordinate leaders. These subordinate leaders exercise disciplined initiative as enabled by their commanders through short and flexible orders that focus on what rather than how. Commanders continue to use their emotional intelligence (gut instinct) skills also to intervene during execution if subordinates fail to meet intent or there is a change in the situation. Use of these mission orders leads to the last principle of mission command, acceptance of prudent risk.

Accept Prudent Risk

Accepting prudent risk is a cornerstone of the mission command philosophy. 'Leaders' use of emotional intelligence when making tough decisions is important to their success – and to the success of their organizations' (Jung, 2004, p. 5). Accepting prudent risk does not dissolve a leader of responsibility nor does it mean all risk is acceptable. Assuming risk occurs each day by every leader. There is a difference between allowing risk while developing a team during staff work or during garrison operation compared to live fire exercises or armed conflict involvement.

First, part of developing mutual trust is allowing each team member the flexibility to grow sometimes at the cost of failure. Failure is an essential aspect of development if appropriately used. Emotional intelligent leaders use relationship management skills of developing others through positive change. Flexibility, stress tolerance, and optimism in coordination with taking individual time to improve those on the team who need more one on one time are key to being able to accept risk during the stages of staff work primarily in a garrison environment.

Next, it is more difficult for military leaders to accept prudent risk during live-fire exercises or armed conflict. Enabling the other principles of mission command through emotional intelligence allows a commander to have mutual trust between themselves and their subordinates to accomplish the lowest contact to possible injury or loss based on the significance of the mission (U.S. Army, 2012, p. 5). The aforementioned allows leaders at all levels exercise disciplined initiative to accomplish their mission through an acceptance of prudent risk. Despite emotional intelligence enhancing the mission command philosophies, it can influence an organization negatively.

Avoiding the Pitfalls of Emotional Intelligence

Military leaders must use emotional intelligence wisely; if 'maliciously applied, it can paralyze leaders or allow them to manipulate followers for personal gain' (Harvard Business Review, 2004, p. 1). The pairing of authentic leadership theory with emotional intelligence regulates their use through integrity and empathy. Steven Gutstein's contribution to the Harvard Business Review's Leading by Feel article discusses the importance of balance (2004, pp. 3-4).

Emotional intelligence attributes highlighted without balance creates units that are in a constant state of change, stifle building the individual by overusing teamwork, and do not allow standards to be upheld through the overuse of empathy (Boyatzis, 2004, p. 4). In addition, leaders who harshly judge themselves (self-deprecating) through unproportioned use of self-awareness tear down their self-esteem, a crucial element of leadership (Mayer, 2004, p. 2).

Leaders must also balance being fair with being equal. A fair leader proportionally uses empathy to address a situation to do what is best for not just the individual but also the organization. As most military leaders understand, leaders must maintain overall situational awareness and avoid becoming too close to any individual. Simply stated, leaders must learn and develop themselves to not overemphasize any one attribute, but use them in combination with other leadership attributes to avoid these pitfalls.

Conclusion

Military leaders who control their emotions and those of their team are merely more effective than those who do not. These emotionally intelligent leaders take the best from individuals and today's environment to build the strongest team. They can enhance their leadership philosophy and excel where executing mission command philosophy. Emotional intelligence comprises of many models and attributes, but the importance of it within military leadership is invaluable. Goleman's two competencies focused on personal and social domains, which encompass other theories or models as well.

Military leaders utilize self-awareness to see in themselves both weaknesses and strengths to gain more perspective on how they interact and make daily decisions. Controlling one's emotions to remain optimistic and flexible defines the attribute of self-management. Self-management closely links to the mission command philosophy of being able to seize the initiative. Social awareness allows commanders to gauge the culture and apply empathy to affect their sphere of influence positively. Leaders build a foundation of mutual trust through relationship management, which is Goleman's last attribute in his model of emotional intelligence.

Emotional intelligence is rooted in leadership theory, but the authentic leadership theory best relates it to practical application. Authentic leadership provides the balance required to avoid the pitfalls or misuse of emotional intelligence. This balance allows for the enhancement of exercising the six principles of U.S. Army mission command philosophy through the building of mutual trust while enhancing the individual and team. Empathy, optimism, and communication are critical traits exercised. While there is limited research in the direct application of emotional intelligence to improve mission command, the analysis does show correlation. Confirmation requires additional research explicitly focused on military application. Military leaders who balance emotional intelligence attributes are more successful long term than those who do not apply emotional intelligence as part of their leadership philosophy. In conclusion, today's military organizations are successful because of leaders who employ emotional intelligence to build the strongest teams while enhancing the art of mission command philosophy.

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How can adult learners be motivated in military educational settings?

MAJ Anton Kardoš

Introduction

On January 1, 1678, Duchess Maria Giovanna Battista of Savoy-Nemours opened The Royal Academy in Turin, Italy, the first military education institution in the world (Wikipedia, n.d.). With this date, the new era of military personnel's education started. Military leaders were no more prepared for their follow-on duties on battlefields only. With this event, military leaders begun to gain their knowledge and skills by participation in a learning process in an academic environment. Since motivation is a crucial part of the learning process, it is important to motivate learners to actively participate, persist, and successfully fulfil academic goals in military education settings, as well. During centuries of military education system's existence, the way of motivation to engage in the military learning process evolved also. Different motivational techniques and strategies have been used. Some of them more, others less successfully.

This essay brings attention to the new possibility of military learners' motivation in the process of their education. The paper argues that the most suitable way of supporting military learners' motivation is a theory described by Teresa Amabile and Steven Kramer in their book 'The Progress Principle: Using small wins to ignite joy, engagement, and creativity at work'. This theory was selected due to its complexity and potential to influence positively learning motivation of different types of learners. The theory allows motivating people through permanent achieving of *small wins*. In essence, when people are able to see progress, even a small one, in activities, they put an effort on, their motivation is increased, and it drives them into the achieving of additional progress. By this process, the loop of permanent progress is created.

In order to support the argument about the effectiveness of the theory, this essay will describe in the first chapter the motivation and its characteristics in education and in the military environment. The second chapter will bring the overview of the selected motivation theory and the following chapter will deal with argumentation, why can be

selected theory successfully introduced in the education system. Finally, the essay will bring some counterarguments and will describe possible shortfalls of the selected motivation theory.

This essay is based on the assumption that the military education system is not different from its civilian counterpart, argumentation about motivation and principles, which are affecting motivation, are described in the education system generally.

Chapter 1

1.1. The concept of motivation and its role in learning

There is a need to explain what motivation is first. In order to gain a goal, human beings have to activate themselves and use energy in a way needed. Such impulses, which are the cause of human beings' acting and behaviour, which give some direction or purpose, are known as 'motivation'. The word's '...original meaning is moving or driving factor.' (Defence Command Denmark, 2008). As Professor Roy F. Baumeister, who is one of the contemporary world's most influential social psychologists, holder of highest award given by the Association for Psychological Science, states, 'Motivation is wanting.' (2016). He describes it as the status of an organism, which encompasses internal desire for some change in itself and/or in the environment. 'In more plain terms, it could be said that motivation can be understood as the psychological basis for people's doing what they do.' (Defence Command Denmark, 2008). However, motivation can be defined in many different forms, but generally, it can be understood as inner force, which drives us toward set objective. Motivation can be described as a set of forces leading people to behave in some style, to choose goals and select means of their achievement. The process of motivation starts when something is missed, when there are unsatisfied desires (Technical University of Košice, n.d.). By the words of Olexová and Bosáková (2006), as a subject, motivation can be understood as 'inner driving force' of individual's actions, who motivates him/herself by seeking and performing an activity that satisfies his/her needs or leads to goals' realization. As an object, motivation can be understood as the ability to motivate others in activities' performance by using various methods, e.g. rewards, promotion, praise, and many others.

Motivation, in general, has been a topic of research since the beginning of the 20th century. During this period, different scientists have introduced different theories of motivation. Probably the most famous motivation theories are Abraham Maslow's Need Hierarchy Theory, Frederick Herzberg's Two Factor Theory, Richard Ryan and Edward Deci's Self-Determination Theory, as well as Amabile & Kramer's Progress Principle Theory and Locke's Goal Setting Theory.

Motivation is one of the most important factors of effective education of adult learners. Motivation in learning is characterized as the inner momentum through which an individual is spending energy to persist in learning and gaining of objectives by an understanding of goals during education process (Lee, et al., 2010). Nowadays, in a time when information is a crucial part of our everyday life, it is more important for adults to educate themselves throughout their lives. The main motives of adult learners' education are a desire for social credit and prestige, relatives' and friends' recognition, curiosity, the joy of knowledge and learning, use of gained knowledge and skills in a problem-solving process (Beneš, 2003). Nevertheless, the abovementioned motives are not fixed, therefore they are changing during life. Development of learning motivation starts in the time of early socialization and this motivation is the outcome of initial learning experiences. The initial, usually negative, learning experiences in a school are the reason why adults do not want to continue in additional education (Beneš, 2003).

In the education process, motivation is an essential driver of success. A more motivated student has a higher probability of completion of a learning programme or a course. Learners' motives, which propel their will to persevere, and success in an educational process can be divided in many ways. However, the most common division that is generally accepted recognizes two basic groups of motives: intrinsic and extrinsic. Even people often use expressions "internal" instead of intrinsic and "external" instead of extrinsic motivation, those are not synonyms, and therefore those motivations are different. Psychologists, for instance Edward L. Deci, Richard M. Ryan, Mark R. Lepper, and many others, who are dealing with research on motivational theories, describe intrinsic motivation as executing of an action for its natural enjoyment instead of external driving factor which can be easily identified (Ryan, et al., 2000). Learners are actively involved in the learning process because they want to do so. Challenges of the process provide fun and amusement. On the

other hand, extrinsic motivation is based on achieving of clearly identifiable consequence. Overall drivers of this kind of motivation are achieving some advantages, rewards and/or avoiding of possible punishment (Ryan, et al., 2000).

1.2. Motivation in the military environment

Motivation in the military is usually established using extrinsic motivation. The “carrot and stick” principles are common for highly hierarchical organisations, which military is part of. This attitude affects military education setting as well. Extrinsic motivation is especially prevalent in in-service education, when individuals are enrolled in courses. Extrinsic motivational factors, such as advancement in military structure or fear from possible punishment in case of failure in the course, play a major motivational role there. However, this traditional motivation system has its own unwelcome side effects. Individuals’ overall effort put in the learning process is lowered and they may have a tendency to gain the minimal necessary amount of knowledge only. Moreover, they do it in unbending mode, which means they do not have a tendency to come up with own opinions and their will to apply gained knowledge in new setting is low, and it finally leads to disappearing of traditional features of human learning. Learners are more focused on avoiding punishment and/or earning rewards than on the learning process (Defence Command Denmark, 2008). Due to the abovementioned reasons, military personnel who have been educated in such conditions might be lacking analytical skills in their work, can have problems to make a decision when needed, and might not be open to new ideas’ implementation. Therefore, intrinsic motivation in the military becomes more and more important. With mission command principle in the military comes also need for individuals with own adherence, judgement, and responsibility. Intrinsic motivation has great influence on individuals’ self-management, which outcome is behaviour ‘...characterized by flexibility, adaptation, responsiveness, innovation, and learning.’ (Thomas, 1996), therefore, intrinsic motivation is one of the enablers of the effective military education system.

Chapter 2 Overview of the Progress Principle Theory

This chapter provides a brief overview of the selected motivation theory. The essence and main principles of the theory are described below.

Unlike the motivation theories mentioned in the first chapter, The Progress Principle theory (PPT) was primarily developed as a management motivation theory in a business environment. Theresa Amabile and Steven Kramer described the outcome of their research in a publication titled 'The Progress Principle: Using small wins to ignite joy, engagement, and creativity at work' (2011). Their work is based on the analysis of nearly 12,000 diary entries of more than 200 people from 26 project teams in seven companies stationed in the United States. Due to this fact, the western work culture influenced the overall consequences of the research and the theory's application in the different culture might have different outcomes than expected.

The most important discovery of their analysis was that forward movement in meaningful work is the strongest trigger of positive emotions and strongly supported motivation and quality of performance in the work. They found out that when people are moving forward due to constant progress, even the small one, they are more creative and happier with their work. Therefore, it means they are more motivated and that is why they continue making progress. This overall process creates a relationship between progress and positive inner work life and forms 'The Progress Loop' (Amabile, et al., 2011). As the authors described, this progress loop is the essence of a successful company, the outcome is a favourable situation for employees, as well as for managers. However, the progress itself is just part of the entire success. In order to maintain this constant progress, the authors identified two types of factors important for motivation. Catalyst factors and nourishment factors. The first one supports overall progress and speeds it up. There were seven major catalysts stated:

1. Setting clear goals – people are able to work more effectively if their short- and long-term goals are unambiguous and if they can see the meaning of those goals;
2. Allowing autonomy – people's self-efficiency feeling rises when they are not told what to do and how to do it;
3. Providing resources – when people do not have access to necessary equipment, material, data and so on, they realize that progress is slowed down or worse, it can be stopped at all;
4. Giving enough time (but not too much) – if there is permanent time-pressure or if people are overloaded by the amount of work to do they are stressed and

unmotivated. On the other hand, no or very low time-pressure does not help in progress also;

5. Help with the work – people are not able to work on their own only, they are dependent on each other and due to this fact they need help in various forms;
6. Learning from problems and successes – everybody makes mistakes, if those mistakes are analysed people can overcome them in the future and this creates a more positive environment in the work because people do not fear of making mistakes;
7. Allowing ideas to flow – when leaders are able to actively listen to subordinates' ideas and critiques and when they do not harshly criticize new ideas, people do not close in themselves.

The second group of factors makes people feel better and happier and therefore creates a more positive working environment. Authors mentioned four major sources of nourishment:

1. Respect – people feel respected when managers express awareness about their effort and when they treat people's ideas in a serious way;
2. Encouragement – managers need to demonstrate their own enthusiasm, as well as belief, that team members are able to deal with a task properly;
3. Emotional support – emotions are an inseparable part of life, so if managers are able to signify understanding of subordinates' emotions, or in better case the empathy, people can free their minds easily and focus more on the current task;
4. Affiliation – as people are working as members of a team, they need to rely on each other and trust each other, so they have to build good linkage among themselves in order to enjoy each other presence. It leads to a better working environment and collaboration.

Chapter 3 The Progress Principle Theory in the learning environment

As mentioned in the previous chapter, The Progress Principle Theory was developed as a motivation theory for business companies and describes manager-subordinate and peer-peer relationships in the working environment. However, in this chapter, the reasons why the theory can be introduced to a learning process also, are elaborated.

The main reason why the theory can be successfully used in an education system is its fundamental essence. To put the theory in an educational context, when a learner achieves even small objective set in their learning, it means they make some progress, they will be more motivated in achieving of follow-on objective(s). To compare PPT to other motivational theories, it has the same base on which is established the Goal Setting theory introduced in the late 1960s by Edwin Locke. This theory links goals with a level of performance, and once the goals are accomplished favourably, gratification leads to stronger motivation toward fulfilment of the following goals. The effectiveness of the Goal Setting theory in the learning process was examined and proved by many past, as well as recent studies, e.g. studies by Moeller et al. (2012), Han and Lu (2018), Dotson (2016), etc. Especially, task-based goals' positive influence is described in the study by Clark et al. (2017). The latter study provides proof of increasing level of overall performance in the learning process due to fulfilling of tasks-based goals.

The second reason is that the theory's essence is intrinsic motivation of learners. The theory shares similar motivation tools with other motivation theories, e.g. The Self-Determination Theory, which is widely used in the field of education, as well. The need for autonomy (ability to learn and evaluate learning progress without external support) and relatedness (involvement in the social interaction among peers in the class) are aspects, which are reinforced by both theories.

In order to enhance the motivational effect of permanent progress in the learning process, it is necessary to use the catalysts described by Amabile and Kramer (2011), which help with the overall progress.

Setting clear goals may lead to the increased motivation in the learning process. This factor is shared with the Goal Setting theory, which describes goals as the essential driver of motivation and learning success (Locke, et al., 2002). In according to this theory, in order to be effective, goals have to be also challenging and clearly formulated. When such goals are set in educational process, the positive effect on self-efficiency is present, as it is shown by study of Wood and Locke (1987). Due to direct interconnection between self-efficiency and motivation (Relationship between Self-Efficacy and Academic Motivation, 2014), clearly formulated goals have a positive impact on motivation, too. If teachers set clear goals for learners, their motivation to

maintain in the learning process is increased and progress in education is achieved easier. In accordance with Locke and Latham (2006), goals may easily motivate individuals to use their existing skills and knowledge, even bring up topic-related information stored in an unconscious, and/or may motivate those individuals to gain new knowledge (2006). Clearly set goals give learners explicit idea about the course expectations and that is why it is helpful in focusing of their endeavour effectively on achieving of those goals. Instructors can also divide goals into smaller objectives in order to vector them on the way of achieving learning goals (Turkay, 2014).

Allowing autonomy is the essence of intrinsic motivation. This factor is one of the main pillars of the Self-Determination theory. The research did by Zhao and Chen (2014) is one of those which proved a strong positive correlation between learner autonomy and learning motivation. This means that higher autonomy in learning process may foster learners' motivation. When learners are allowed to decide how they achieve desired goals, their creativity is more involved and sense of self-efficacy raises. This leads to higher intrinsic motivation and therefore better performance in the learning process. As Niemec and Ryan (2009) noted that students' intrinsic motivation is guided by autonomy supportive educational climate, on the other hand, when it is controlled, students' intrinsic motivation is decimated. This means that if a learner has the possibility of choice which problem to solve, they have a greater feeling of learning progress control. When learners are in the control of the learning progress, their academic performance is usually better than an academic performance of students who only follow the others' instructions (Lerma, et al., 2015).

Providing resources enhances learners' ability to fulfil set objectives and therefore may foster overall motivation. As the research (Colvard, et al., 2018) focused on impact of open educational resources on students' performance shows, access to various educational resources caused tendency to perform better in the educational process. It means learners' academic achievement increased, and because there is significant positive correlation between motivation and academic achievement (ICLS '06 Proceedings of the 7th international conference on Learning sciences, 2006), it might be assumed that motivation is fostered by access to resources. When learners do not have access to proper learning resources, but to the other material resources as well, which are essential for progress maintenance, they realize that it will be difficult or impossible to proceed on a way to learning goals. This factor is influenced by many

other inputs, e.g. economic resources, student-teacher ratio, students' socioeconomic background, etc. However, in modern society with quality educational resources may accessibility of those resources increase learners' school performance (Texas Higher Education Coordinating Board, 2014).

Providing sufficient time to fulfil learning objectives may foster overall performance and learners' motivation. The qualitative research conducted in mathematics classrooms in Thailand (Nenthien, et al., 2016) mentioned provision of sufficient time for solving of problems as one of the important factors, which maintained students' motivation from moderate to high level. In other words, this factor is about providing just right amount of time needed to fulfil a task in an effective way. Too much time has a similar negative effect as not enough time (Amabile, et al., 2011). Importance of sufficient time provision is well known in the literature for a long time. For example, McIlrath and Huitt (1995), as summarized by Kasa (2016), stated that one essence of a proper level of skills achieving in the learning process is the allocation of sufficient time. For teacher it is very important to find out how much time is "just right". For learners to be motivated it is good when they feel some level of time pressure. However, if this time pressure is too much intensive and permanent, learner became stressed and perform worse in their performance. On the other site, if there is no time pressure at all, it means learners are provided more than enough time needed, they may become bored. Due to learners' boredom, they do not feel motivated and usually, they lose their attention during the learning process. The overall outcome is worsened learning achievements (Baker, et al., 2010).

Versatile **support** provided to learners by their teachers and peers plays a significant role in the motivation and academic performance. Study in the field of education (Zumbrunn, et al., 2014) described relationship between support from different sources and motivation. The conclusion indicates that overall support to learners may have a great impact on their level of motivation in learning. In the learning process, teachers are the prime source of help to learners. They are supposed to have all the knowledge and professional skills in order to provide information and/or assistance if needed. However, they are not the exclusive source of support. The support provided by fellow members in the class presents an important part, too. As the study conducted by Nenthien and Loima (2016) shows, the level of students' motivation in classes where teachers used different methods of support to the learning process was from

moderate to high. The teachers in the study increased students' motivation by reinforcing their group learning, providing a needed timeframe for problem-solving, creating positive interpersonal relationships, leading group discussions, and others, as well as using autonomy supportive teaching methods. Contemporary learning is demanding due to the amount and complexity of information, which learners have to deal with. That is why they are not able to manage entire learning by themselves and external help is crucial. Teachers can use different ways how to support learners' motivation, for instance, teachers can provide additional instruction in a class, they may clearly express what their expectancy for the learners in the class is, they can encourage and guide learners during group tasks performance, and many others (Bojuwoye, et al., 2014). When help from a teacher and peers is in the right form and in the right time, learners' performance can be significantly amplified and therefore, as it was mentioned above, due to strong positive correlation between motivation and academic performance it might be assumed that motivation is fostered, too.

To provide the **ability to learn from problems** which learners may face as well as from success may create an environment, which maintains a positive level of motivation. According to Weiner (1985), the author of Attribution Theory, each outcome, success, as well as failure, has its own impact on motivation. Due to this reason, it is one of the teachers' important roles to help learners find real reasons of those outcomes and analyse identified reasons. Despite learners' skills, everybody makes mistakes and has to confront those errors. Failure can be used to provide feedback. Learners' thinking is pointed to the gap in knowledge and this can be also triggering their actions leading to deeper understanding (Chase, 2011). Teachers have to accept learners' mistakes and there is a need to analyse these mistakes in order to take a lesson from failure. Moreover, keeping in the mind that learners' motivation to remain in the learning process is negatively affected by a failure, teachers need to create a learning environment which allows learners' persistence after facing failure (Chase, 2011). On the other hand, learners' ability to learn from success is very important, too. When learners are successful in their classes and when they realized the correlation between their endeavour and success, their confidence is increased (Morales, 2014).

Allowing ideas to flow, which means that teachers need to listen to learners' ideas during the learning process, may have a positive influence through possibly cultivating

learners' autonomy. By the words of Daniels and Arapostathis (2005), when teachers are promoting their view instead of listening to the learners' voices, they create students dependence on them and its natural outcome is reduction of autonomy. As it was mentioned earlier in this chapter, autonomy is not only important part of the PPT, but it is also the cornerstone of widely used Self-Determination Theory. If teachers ignore the learners' thoughts, do not allowing debate and/or criticize students' ideas, learners tend to close into themselves and the lack of motivation is present due to negative feelings in the education process. As Rudduck and McIntyre (2007) stated, when a teacher listens to the students' ideas, the students' contribution to the learning process, as well as the overall ability to learn, is increased. When teachers consult with students, it has several positive reactions. Those reactions include strengthening students' self-esteem, new learning skills development, a more active relationship between student and teacher, among others. Teachers, who actively listen to the students, encourage and answer their ideas and opinions, and express their interest in students' view of teaching procedures, usually establish a proper relationship between them and students. This creates a positive climate in a class and students are more engaged and motivated (University of Bedfordshire; University of Manchester; Northumbria University, 2011).

The overall combination of catalyst factors mentioned above creates a positive learning environment, which supports learners in achieving academic goals. This environment strengthens learning progress and therefore is fundamental to learners' motivation, in accordance with the Progress Principle Theory. Nevertheless, not only catalyst factors are important for the quality of the learning environment. Nourishment factors play an important role in the education system, too. Like all human beings, learners have the need for respect, positive treatment, and recognition of their success.

The PPT describes four major nourishment factors, which contribute to the positive classroom climate. The positive classroom climate is significant contributor of learners' well-being during educational process and this is one of the basic parts of the PPT.

Providing **respect** to the learners helps to create and maintain motivational environment among students in the classroom. Kathleen Ellis (2004) in her research studied and confirmed high indirect impact of the way teachers communicate with

students, especially when they express respect, on learners' motivation. As Paul Michalec (n.d.) pointed in his work, when students felt respect given from their professor's side, they had a positive attitude and tendency to adopt knowledge provided by a teacher and it significantly supported the achievement of learning goals. This respect can be given in many different ways. It can be recognition of effort given into specific task, and a form of recognition does not really matter. Proper consideration of learners' ideas and opinions provides signals that teachers recognize and value those ideas. Moreover, the student-centric method of learning does not mean success, automatically. The important aspect is the learners' perception. When students are treated as equal colleagues, with politeness and professionalism, they usually describe the overall classroom environment as a respectful. This leads to a positive attitude toward the learning process and achieving of academic goals (Michalec, n.d.).

Encouragement of learners' participation in the educational process fosters their autonomy and therefore has direct influence on students' motivation. The research conducted by Black and Deci (2000) is one of numerous studies, which support positive effect of autonomy on overall motivation. This factor can support students' learning in several ways. By encouraging active participation during classes, students are more autonomous in the learning. When students are encouraged to take more responsibility during the learning process, their motivation is stimulated (Kusurkar, et al., 2011). In order to encourage learners' motivation, they need to hear from teachers how important their success in the learning process is. Learners have to realize the relevance of the subject to their overall educational goal and they need to know how to use gained knowledge and skills in the future.

Emotional support is part of teacher-student relationship, which co-creates positive well-being in the educational environment. As Ruzek et al. (2016) stated, teachers who promoted emotional support toward students usually raised learners' autonomy and through it contributed to the learning motivation. Emotions are an inseparable part of everyday life and therefore play an important role during the process of education. Due to this reason, as mentioned by Blazar and Kraft (2017), teachers' emotional support provided to learners has a significant influence on both learners' self-efficiency as well as a positive environment in the class and therefore, as mentioned above, it has positive effect on motivation (Ellis, 2004). Source of emotions can be in a learning

environment and in learners' personal life, also. Teachers, who recognize learners' unhappiness and dissatisfaction, can easily diminish the effects of those long-lasting negative emotions. Some negative emotions can foster learners' motivation for a limited period of time due to reason, that learning is not easy. Learning process creates situations when learner faces new information and need to handle this information is present. Learners are moved out of their comfort zone and it is a cause of unpleasant feelings (Groccia, 1997). However, if negative emotions accompany learners during the entire learning process, their impact on academic performance is counterproductive and learning effectiveness is reduced due to frustration, which causes decreased level of motivation. On the other hand, teachers can exaggerate positive emotions among students by emotional support. Moreover, when teachers are able to express empathy toward learners' emotions, they usually improve the positive impact of emotional support more, then just by simply recognition of those emotions.

Perception of **affiliation** is connected with overall positive learning environment in the classroom. In their research, Zumbrunn et al. (2014), examined relationship between students' feeling of affiliation and motivation and described positive correlation between those two. People need to feel that they are a valuable part of a team with a common goal. Effect of students' affiliation is fewer conflicts among peers and positive interpersonal relations. Sidelinger et al. (2011) mentioned in their article the importance of positive and supportive climate among peers in a class and the climate's strong association with students' involvement in the education process in a class. Therefore, one of teachers' role in the class supposed to be a facilitator of such connected environment in the class and not to focus on the building of teacher-student positive relationships only. The teachers have to keep in mind that their behaviour in the classroom can be understood differently by students, and that is why they need to consider its impact on the relationship among peers and faculty, and focus on management of positive atmosphere in the classroom. As Barr (2016) stated in his work, positive status in learning environment helps learning in general, supports motivation of students and results in increased academic outcomes.

Chapter 4 Possible disadvantages of the Progress Principle Theory

In the previous chapter were described conditions and reasons why the Progress Principle Theory of motivation can be effective in the learning system. However, overall effectiveness of the theory in the educational environment is based on assumption that the theory works because of evidences of its attributes' and factors' capabilities to motivate students. The lack of practical experiences with the PPT in the educational setting might be the main part of its critique.

The other possible issue with the theory may be its student-centric character. Like similar motivation theories of this type, e.g. Ryan and Deci's Self-Determination theory, the essence of this learning system is the assumption that learners are naturally curious and they want to learn new information and gain new skills due to strong intrinsic motivation. However, there are scholars, e.g. William C. Bagley, Siegfried Engelmann, Barak Rosenshine, etc., who claim that students are generally lazy. Therefore, they need to be motivated by different external factors. Due to this reason, the teacher-centric system is widely used in contemporary military educational institutions. In this case, a teacher is the source of all knowledge and skills and he/she is delivering this knowledge and skills to students. Teachers have to be ready even to force students' development, if necessary. A set of rewards and punishments is one of the important factors of this system, which drive learners' motivation. So, taking into consideration the facts mentioned above, the theory is based on the assumption that learners feel inner satisfaction due to their involvement in a learning process. They want to satisfy their need for gaining new skills and abilities through permanent success in doing progress in achieving academic goals. If students have a lack of intrinsic motivation, or worse, if they are demotivated, the theory may become ineffective. For this reasons, the lack of integration of external motivation factors can be understood as a shortfall or disadvantage of the PPT.

Analysing factors that support the progress developing process, other controversies can be found. First, effective goals need to be not only clear. Teachers have to set goals, which are also relevant to the learners and learners are able to fulfil those goals. At the same time, teachers have to have some mechanism to measure those goals, as well. Those are goals' properties, which the PPT does not consider or specify. Next,

speaking about the ability to learn from failure. In the words of Thomas Guskey (2015), mistakes in the education process are common and good to learn from. However, failure may mean a total collapse and students are expected to prevent it. Under some circumstances, failure in the learning process may be an issue. If students are not able to take the responsibility, most likely they will continue to face the unsuccessful practice during the process of achieving academic goals.

Conclusion

The paper sought an answer to the question how can learners be motivated in the military education system? As this paper describes above, the Progress Principle theory of motivation is one of the suitable possibilities. The theory is based on maintaining a way ahead during the overall learning process with its supportive and enhancing factors providing advantages of the student-centric education system. The theory uses intrinsic motivation as its enabler through creating positive feelings from permanent success. Supporting factors of the theory make the progress faster and for that reason, they strengthen those positive feelings. Moreover, the nourishment factors contribute to a sort of learning environment, which allows students to enjoy participation in the learning process even more. The theory combines rules of similar motivation theories contemporary used in education and therefore it has strong preconditions to be successfully introduced as a learners' motivation theory. For that reason, it is recommended to introduce this theory into practice and use it as a driver of motivation for military students.

The purpose of this paper was to bring a new perspective on the motivation of learners. Based on theoretical implications, the Progress Principle motivation theory seems to be a very effective tool. The theory has attributes of widely used students' motivation theories. However, in order to prove these theoretical implications, there is a need to use this theory in real life education environment. Only practical experience can demonstrate its motivational theory is fully applicable in the education process. The empirical study of its effectiveness can answer questions regarding the theory's applicability, advantages, and disadvantages in the learning process. Therefore, it is strongly recommended to conduct such a study on an academic level in order to

introduce new possibilities in learners' motivation and their performance in pursuing learning objectives.

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Can virtual simulations improve military training?

MAJ Dmitrijs Nemeņonoks

‘A nation’s ability to fight a modern war is as good as its technological ability.’

Frank Whittle (Military History Matters, 2015)

Introduction

Historical evidence reveals that people started armed clashes since the very beginning of humankind thousands of years ago. At first, our ancestors used clubs, after that they fought each other with bows and arrows, and then they waged wars with swords and spears until finally the gunpowder was invented providing even more destructive power for the humankind to invade and conquer even the mightiest foes. Eventually, evolution of warfare and weapons is a never-ending story and it seems that humanity is doomed to eliminate human species until the very extinction of humankind. Why is it so? Some psychologists assume that it is in nature and genes of human beings to pursue armed conflicts in order to protect or conquer resources necessary for survival and reproduction. Other claim that humanity is addicted to war due to its encouraging and inspirational psychological effects not only for soldiers but also for nations overall, because war serves as an unique opportunity to unite society (Steve, 2014). Nevertheless, none of psychologists can safely claim that human beings will abolish military conflicts in the nearest future.

Either way, evolution of warfare requires persistent changes in methods of fighting, tactics, strategy, and training approach. The more sophisticated weapons of destruction humanity uses, the more advanced military drills are to be applied to prepare soldiers for battles. Nowadays armies around the world use technologically advanced weaponry and devices such as innovative military vessels, sophisticated weapon systems, and other cutting-edge developments to accomplish the entire spectrum of contemporary military tasks. Needless to mention, that modern military arsenal is not only technologically complex, but also expensive and requires special training to be handled accordingly. For instance, the cost of a modern tactical military aircraft almost sextupled in comparison to the cost of an aircraft 70 years ago, and on average nowadays it will cost twice more expensive to replace each outdated fighter

jet with a new one. Not to mention, that modern military aircrafts already have an enormous price tag of hundreds of millions of dollars per piece (Mizokami, 2017). Surely, such expensive military assets could not be trusted to the soldiers with limited or insufficient training experience. In addition to that, contemporary technologies increase tempo of military operations and speed of decision-making process, which ought to be fast, flexible and accurate in order to provide timely and appropriate response from soldiers and leadership in accordance with rapidly changing situation on the battlefield. The increased tempo of decision-making process requires a new approach for effective training of soldiers. However, advanced technologies not only increase speed of military operations and decision-making process, but also could provide outstanding opportunities to improve modern military training process by shifting it to digital domain and providing unique opportunities to educate soldiers virtually before practical exercises with costly modern equipment and weaponry. Therefore, this paper will investigate if virtual simulations can actually improve military training. In order to examine simulation technology contribution to military training, the author will explore the theory behind simulation and gaming technology training, its benefits for military training, risks, current state, and the future of virtual simulations for military training worldwide. Due to applied size limitation, the research paper will focus on virtual simulations used by militaries of North Atlantic Treaty Organisation (NATO).

Experiential learning – the theory behind simulation and gaming technology training

Simulation and gaming technology is a relatively new trend of educational activities. The revolution of computer technologies and the invention of the Internet created an outstanding opportunity to use simulation and gaming technology for training purposes. Even though, simulation and gaming concepts use different learning principles, sometimes they are confused one with each other. Canadian research team from the research network entitled Simulation and Advanced Gaming Environments for Learning (SAGE) in 2007 conducted a research to investigate potential differences between video games and simulations. According to the research, video games and simulations retain different characteristics and qualities, which make significant distinctions between them. On the one hand, games are usually associated with

artificially created conditions, which unnecessarily represent reality. On the other hand, simulations are defined as a system with minimum or no deviations from reality. Typically, the main goal of a video game is to win a competition, solve a quest, or a problem either individually or as a team with real or digitally simulated teammates. In contrast, the aim of simulations is not essentially the achievement of the winning conditions. Generally, simulations provide an opportunity to gain or improve some specific skills based on virtual trainings in realistically simulated digital environment (Sauvé, 2007, p. 253).

If combined together, simulation and gaming technology might provide unique and exclusive opportunity for participants to practice so-called experiential learning based on education through comprehensive involvement and instant feedback on achievements. According to Swedish researchers, experiential learning is an educational process where practical activities take place before academic knowledge; therefore, it is not obligatory to provide excessive theoretical training before the actual activity (Taylor, 2012, p. 666). Hence, experiential learning is learning by doing which decreases involvement of trainees in theoretical study process by experiencing extended practical exercises. Therefore, this core principle of experiential learning perfectly fits military training system, which constantly acquires excessive practical experience before actual combat engagement.

Military training as a process of establishing and enhancing basic and specialized skills of military personnel generally uses the same principles in all modern militaries around the globe. First, enlisted personnel begins with basic military training, then it proceeds with specialization-based drills, and finally it acquires additional speciality-based or career-based education. In addition to that, military training consists of individual and collective preparation process. Despite of the type of rehearsal, role, or position of military personnel, key purpose of military training always remains unchanged – preparing soldiers for combat. Moreover, it is crucial to determine potential readiness of military personnel to perform duties in real combat efficiently and appropriately prior a real combat. Even a single mistake on the battlefield might lead to grave consequences for not only a single undertrained soldier, but also endangering the entire military operation.

Years of research performed in civil educational institutions have demonstrated that effective learning is not only about memorizing facts in order to apply theoretical knowledge in a written test. In fact, getting the highest result in the theoretical test does not necessarily mean that academic educational experience grants opportunity to solve real life issues. For civilian educational institutions, this might not be a concern; however, for the military practical problem solving is crucial (Mead, 2013, p. 66). Thus, fundamentality of real-world problem solving competence for military environment might highlight a logical question - how to ensure the maximum level of pre-readiness in addition to traditional military exercises performed in the training area without actual involvement of soldiers in real battles? Simulation and gaming technology representing experiential learning approach as an inherent part of a common military training process could potentially provide unique benefits and advantages for modern military environment.

The benefits of virtual simulations for military training

According to analysts, military simulation and virtual training spending reached 10.4 billion United States (US) dollars in 2015 and forecasted to increase to 15.8 billion US dollars by 2025, which indicates significant popularity and growth of military simulation and gaming technology worldwide (US Strategic Defence Intelligence, 2015). For instance, battlefield simulation system Virtual Battlespace 2 (VBS2) firstly used exclusively by US Marine Corps, later was officially approved by NATO and became a standard tool for virtual training systems in many NATO countries. For example, United Kingdom (UK) military effectively uses VBS2 to prepare UK troops for international security operations abroad (Curry, 2016, p. 7, 17). Researchers have discovered and constantly continue to present exclusive gains of simulation and gaming technology for modern military training process. However, due to the imposed size limitation applied to the research paper, this section will examine only four major benefits of virtual simulations for military preparation – suitability for military environment, timesaving and flexibility, improvement of decision-making process, and cost-effectiveness.

Firstly, specifics and overall controversy of military profession (preparation for war mostly during peacetime) as well as wide variety of different military specialities, and extensive range of applicable tasks emphasise need for a very special training tool with few or no boundaries for developing and creating almost any possible course of action. Unique essence of virtual simulations perfectly serves this purpose providing unlimited opportunities for designing and creating infinite number of possible scenarios and tests. Modern technologies assure countless possible variations of simulated actions limited only by imagination of simulation developers and military advisors assisting scenario preparation for a particular simulation platform.

Additionally, constant and comparably swift generation change in the military due to shorter retirement system in comparison with civilian retirement system (usually after 20 years of military service a soldier is eligible for a pension) ensures dynamic and active conditions for better acceptance of advanced technologies. Newly recruited and trained soldiers have been using advanced technologies such as smartphones and computers since childhood. Therefore, they are much more open for innovative virtual learning opportunities in comparison with elder and more conservative service colleagues. Moreover, based on their own experience, young military leaders are aware that youngsters prefer practical and interactive learning methods rather than theoretical lectures (Mead, 2013, p. 62). Thus, dynamic and adaptive military environment serves as an excellent basis for pioneering training approaches such as virtual simulations.

Second significant benefit of virtual simulations for military training is timesaving and flexibility. Live exercises, especially live shooting outside specifically arranged training grounds such as building clearing with live ammunition, are particularly time consuming for arraignment and overall demanding due to strict safety regulations. It takes weeks if not months for commanders to arrange such activities for subordinate units and, in case of success, all actions during the exercise are precisely described in the scenario and firmly followed by trainees and instructors to avoid any accidental incidents. Furthermore, getting a unit in and out of the specific training area takes additional time and since dangerous live exercises are usually pre-planned considerably in advance, different unpredictable factors such as inappropriate weather conditions for air or maritime component might significantly limit military activities or even cancel the

exercise. Obviously, virtual simulations could save considerable amount of time if training devices are located in close proximity to a military installation or at the military base. In addition, all types of exercises and activities with any degree of deviation from scenario are possible if allowed by scenario settings or guidelines from supervising staff ensuring vast diversity of exercises. Furthermore, use of simulation technology may allow effectively dealing with space restriction problems for military bases hosting many different units and having limited size of available training grounds. For example, number of military units accommodated in US military facility Fort Lewis located in the state of Washington exceeds size of available training grounds seven times. Simulation trainings provide an excellent opportunity for military units located in Fort Lewis to mitigate lack of life-trainings space and availability (Mead, 2013, p. 68). Therefore, effective use of virtual training could allow military commanders more easily to adapt to restrictive security and space requirements during different types of practical exercises and can save significant amount of time while planning and executing practical training activities.

Thirdly, virtual simulations also serve as an outstanding tool for improvement of decision-making process in military training. Contemporary technologies allow creating of digital training applications for all levels of military education – specialized simulations of military vessels and high-tech weaponry for individual training, vast battlegrounds for collective virtual exercises, complex operational areas for military leadership, and many others. Each of these teaching tools could provide unlimited opportunities to exercise decision-making skills in countless possible scenarios. Real life limitations such as safety regulations, training ground restrictions, and space and weather conditions restraints are not applicable to virtual reality. Simulation and gaming technologies facilitate creating any conditions, any terrain, and any possible situation on the battlefield, thus allowing comprehensive evaluation of critical thinking and decision-making process of trained personnel. For instance, American researcher and professor of literacy studies at Arizona State University James Gee made a significant research to investigate learning benefits of video games. Based on results of the research, the professor claims that qualitative video games can improve critical thinking and analytical skills of players. Gee argues that passively acquired knowledge such as educational information at schools or universities and successfully passed theoretical tests and exams not always assure a successful application of theoretical

knowledge to solve difficulties in real life. According to Gee, video games provide unique opportunity to apply and practice new skills in highly motivational and interactive digital environment. Thus, interactivity of video games inspires players actively participate and use obtained theoretical skills converting them into valuable practical experience (Mead, 2013, p. 66-67).

Additionally, virtual simulations provide an exclusive opportunity for instructors, supervisors, and evaluators of simulated trainings to observe and assess each step, each decision, and each action of exercising personnel. For instance, traditionally during practical educational process, soldiers use maps, overlays, and markers for training purposes in order to evaluate situation, prepare course of action, and present findings to the evaluating staff. Assessors usually evaluate only outcomes of overall activity of exercising personnel, provide feedback, and rarely if never have the opportunity to observe the entire preparation process and assess individual contribution of each evaluated person. This training approach does not always motivate exercising soldiers to find out the best possible solutions since emotionless maps and overlays barely can assist in generating enthusiasm and robust mental link with the exercise. Alternatively, realistic and interactive simulated combat environment might enhance level of emotional involvement and increase credibility of decision process of exercising personnel. Furthermore, combat simulation ensures outstanding opportunities for evaluators to access effectiveness of decision-making process of each supervised individual in real time (Stoltenberg, 2012, p. 41).

Moreover, researchers suggest applying proper training techniques such as 'Input - Process - Outcome Game Model' or 'The coaching cycle' for simulation and gaming applications in order to maximize training experience (Garris, 2002, p. 445, Taylor, 2012, p. 660). Three main stages of both learning methods contribute to effective management of virtual training process by, firstly, creating, shaping, and introducing scenario of the exercise, secondly, assessing, regulating, and adjusting gaming process, and, finally, by examining gaming experience and outcomes (Garris, 2002, p. 444-446, Taylor, 2012, p. 659-665). Therefore, use of any of mentioned learning methods could ensure maximum engagement level of participants with minimum deviations from learning objectives and provide robust framework for teaching staff to manage virtual training process with necessary level of efficiency and precision.

Hence, virtual simulations organically fit into military environment where even inexperienced soldiers must exercise high level of critical thinking and demonstrate instant decision-making capabilities on the battlefield where quick and precise decisions could potentially contribute to the positive outcome of the decisive battle.

The final major benefit of simulation and gaming technology for military training is also the most significant one, especially for large armed forces as US military. Michael Blades, North America director of research for Frost & Sullivan's aerospace, recently explained to US magazine National Defense that the main reason behind wide implementation of virtual training programs in military education process is cost-effectiveness. He elucidated it in a simple but eloquent way claiming that 'The biggest thing that's driving it is dollars'. According to Blades, US military continues to transform training process to achieve maximum cost-effectiveness by reducing amount of live trainings and prominently increasing amount of virtual simulations (Harper, 2017). Therefore, evolution of modern warfare have created a new dilemma for military budgets. In order to keep soldiers prepared and trained to use innovative technologies in a real combat, militaries have to shift to virtual simulations due to high costs of live trainings. For instance, installation of one battlefield simulation system VBS2 in Fort Campbell, Kentucky, has costed US military 750 thousand dollars. Since then, the system successfully serves as a helpful training assistant for thousands of soldiers. In comparison, a single Tomahawk projectile's price is around 1 million dollars. During the first day of combat operations in Libya in 2011, US military launched approximately 110 Tomahawks missiles (Mead, 2013, p. 108, 165).

Additionally, based on survey performed in US military in 2015, projected saves of the US Air Force due to increased use of virtual simulations and decreased amount of real training flight hours were around 1.7 billion dollars just for a 4-year period starting from 2012. Similarly, the US Navy forecasted to save almost 120 million dollars a year starting from 2020 by increasing use of virtual simulations for training of Navy pilots (Tucker, 2015). Therefore, use of virtual simulations may significantly reduce training costs by replacing live exercises with simulated environment where soldiers can sustain battle skills without firing expensive ammunition and utilizing costly vehicles.

Overall, evidence provided by researchers, academics, experts, and practitioners excessively highlight substantial benefits of simulation technology for military training. Flexibility, efficiency, and suitability for military environment makes virtual trainings a credible and competitive military educational tool. However, there are also some identified risks, which are overviewed in the next chapter of the research paper.

The risks associated with virtual simulations for military training

Despite the fact that NATO militaries have successfully integrated virtual trainings into general educational process, there are some risks associated with use of simulation and gaming technology for military trainings.

Firstly, virtual simulation-based trainings could potentially be rejected by conservative trainers who prefer old-style teaching techniques such as combination of classroom learning reinforced by live exercises. Negative attitude could serve as a decisive factor for such instructors not to accept effectiveness of innovative training technologies. Lack of experience and unappropriated proportion of live and virtual trainings could also potentially cause poor performance and insufficient results demonstrated by the trained soldiers. Lopsided combination of live and virtual exercises is especially dangerous aspect taking into consideration that according to UK Strategic Defence and Security Review (2010) 'There is currently no analytical method to pre-determine the most cost-effective or optimum Live / Synthetic balance' (Curry, 2016, p. 19, 22). Therefore, role of experienced, open-minded and curious trainers in virtual simulations-based learning process is crucial. As any other training method, virtual simulations also require proper supervision and thorough analysis. Therefore, without appropriate attitude of coaching staff, execution and results of virtual trainings might fail to achieve anticipated results and meet required criteria (Curry, 2016, p. 26). Not to mention that human factor will always play a crucial role in implementation of pioneering technologies, because all innovations have to be tested and approved by qualified experts and high commanding officers who decide whenever to accept and implement new inventions or not.

Secondly, there is an important psychological aspect, which could significantly reduce effectiveness of virtual simulations-based training - lack of stress. Live training exercises, especially live shooting, help participating soldiers to generate sufficient amount of adrenaline due to the reason that in case of violation of safety procedures soldiers might be accidentally injured or even killed. In comparison, during virtual trainings, soldiers always subconsciously aware that training is not real; therefore, harmless. Hence, awareness of unreality of virtual training could negatively affect speed reaction and decision-making process of involved personnel. In order to deal with the lack of stress during virtual military training, specialists are currently researching possibilities to create algorithms that imitate combat pressure and sustain sufficient stress level of participants during virtual exercises (Wilson, 2018). Reinforcement of virtual trainings by applying pioneering technologies such as augmented reality or mixed reality (a mixture of simulated and real environment) might be another feasible solution for mitigating the lack of stress. Thus, perspectives of adaptation of the mixed reality in military trainings will be overviewed in the next chapter of the paper.

Finally, while virtual simulations are cost-effective for militaries of large NATO countries, they might not be always affordable for smaller countries with limited military budgets. The real cost for implementation of a new training project such as virtual simulations is not an easy task to calculate. The cost of the project might include many different positions and elements starting from initial cost of training technologies, sustainment and functioning costs and ending with software upgrade and decommission costs. Strategic business analysis expert Marcel Smit from the Netherlands provides a cost analysis tool 'Cost Breakdown Structure' to assist calculation of all related costs for new military training initiatives. Even though proposed cost analysis instrument includes dozens of possible expense positions, Marcel Smit argues, that the tool can serve only as a framework for planners to anticipate estimated expenditures related to implementation of a new military training project (Smit, 2012 p. 2-6 – 2-8). Therefore, preliminary cost analysis of implementation of a virtual training initiative might be a demanding task and it could be very challenging to predict all possible expenses precisely. In order to overcome these difficulties or even to decrease possible expenditures of a new virtual training project, it is advisable for the smaller states to cooperate with larger NATO partners or

to join new initiatives, for example, Permanent Structured Cooperation established by European Defence Agency in 2017 (Permanent Structured Cooperation, 2017). Cooperation and participation in new initiatives could potentially lead to sharing project expenses and increasing feasibility of implementation of a particular innovative project.

Even though, presented risks associated with virtual simulations for military training might delay practical implementation of virtual training systems, real life practices demonstrate inevitability of changing reality of military training process even in the militaries of smaller countries. For instance, Royal Danish Navy successfully uses advanced naval simulator reinforced with real navy equipment to improve naval training experience (Kongsberg Maritime, 2012). Whereas, Latvian National Armed Forces for training of Joint Terminal Attack Controllers (JTAC) use JTAC training simulator approved by the US and NATO authorities (Boyd, 2018). Both examples highlight unavoidability of adaptation of effective innovative solutions for improvement of military training purposes even in case of smaller states with considerably lesser military budgets comparing to larger NATO countries.

To sum up estimates of cost-effectiveness of virtual simulations for military training, it is crucial to mention the most complex component of the calculation process - ethical aspects. It is the most complicated factor of cost-effectiveness equation of the military training. How much does a soldier's life worth? How much the military is ready to invest into training process to ensure sufficient readiness level of soldiers? What is a clear boundary between affordable cost of preparation and necessity to limit expenses for innovative training features? All these questions are rhetorical and doubtfully any NATO nation could answer them with a certain level of confidence.

Although, the major risks associated with virtual simulations could potentially impede implementation of virtual trainings in military environment, it is essential to highlight that military education process greatly benefits from technological progress. Therefore, identified risks could be mitigated by applying appropriate measures. Consequently, proactive attitude of the coaching staff could lessen the lack of interoperability between old-fashion training techniques and the necessity to reinforce military training process with modern technological solutions. Moreover, further implementation of technological advancements such as augmented reality or mixed

reality could possibly enhance trustworthiness of virtual trainings. Finally, wise and foreseen allocation of resources and active participation in international research projects related to development of simulated training programs and platforms could provide the best opportunity for the smaller states to acquire advanced solutions for the improvement of military training process.

Current state and the future of virtual simulations for military training

Currently military virtual simulations are widely utilized by many NATO countries. Virtual trainings assist preparation of personnel from all military domains – air, maritime and land, including vast range of different military specialists such as pilots, gunners, joint terminal attack controllers and many others. For instance, in US Air Force and Navy proportion of trainings in virtual environment several years ago already reached 40 percent and military experts forecast increase up to 50 percent by 2020 (McHale, 2012). That means that in the nearest future virtual trainings of US Air Force and Navy specialists will play as crucial role as standard class trainings and life exercises.

Besides, decreasing budgets of militaries and growing costs of life exercises will continue to increase virtual training ratio in the future as well. Thus, present military simulation and virtual training global market forecasts predict continuous growth of expenditures for simulation technology for military training (Global Data, 2017, Business Wire, 2018). Moreover, increased use of virtual simulations most likely will intensify overall use of virtual trainings in the military environment in general. According to US analyst Michael Blades, already beginning from 2020 almost all US military training activities could use some mixed reality accessories reinforcing regular live exercises with advanced virtual training features (McHale, 2016). The US army official YouTube channel describes the idea of mixed reality as incorporation of simulated components of training activities like objectives, enemies, and projectiles into a soldier's actual line of vision (The U.S. Army, 2017). In other words, mixed reality allows modifying real environment by applying different virtually created training elements. Therefore, it maximize sense of presence for participants since they perform live exercise in real environment with real weaponry and equipment reinforced by

added virtual components. The United Kingdom military official YouTube channel explains use of mixed reality in military training even further by providing evidence of mixed reality research projects such as use of mixed reality features for military medics training and use of mixed reality maps (Forces TV, 2016). In fact, use of mixed reality features in military training process opens limitless opportunities for effective preparation of soldiers before combat deployment. Furthermore, use of mixed reality could potentially allow minimizing required technical set-up for virtual simulations since researches hope to integrate mixed reality features into soldiers' helmets; thus, making simulation tool kit deployable and compact. Less equipment means less weight and increased freedom of action, which consequently will progress virtual military trainings even further (Wilson, 2018).

Another remarkable feature scientists are currently working on is 'Intelligent AI tutors' (AI – artificial intelligence). Researchers claim that AI instructors could become an inherent part of future simulation systems and will allow supervising and processing learning process much faster than human instructors can actually perform. Nowadays experienced instructors spend a lot of time evaluating individual performance of soldiers after actual exercises. However, future systems might have integrated AI supervision capabilities to assess trainees in real time without spending hours for additional analysis (Wilson, 2018). Additionally, creation and introduction of fully independent AI systems might lead to fully autonomous virtual training process where soldiers could face unique and unpredictable combat situations simulated, supervised and evaluated exclusively by AI. Needless to say, these new opportunities could significantly improve further efficiency of virtual simulation training process.

Generally, contemporary research trends undeniably indicate that the future of simulation and gaming technology for military training is promising. Nevertheless, it is crucial to mention that virtual simulations cannot replace live trainings completely. Thus, recently officials of the US Defence Department confirmed continued usage of live trainings in military preparation process. Lieutenant General Michael Lundy, commanding general of the US Army Combined Arms Center, in one of the recent meetings with journalists informed that live trainings are still essential for validation of weaponry and familiarization of personnel with genuine armament (Harper, 2017). Therefore, the bound between soldiers and actual combat weaponry and vehicles

remain vital and robust. The only entity, which might be changed in the future, is actual proportion of live and simulated trainings depending on specialization of next generation soldiers and further advancement of military technologies.

Conclusion

The paper intended to examine if virtual simulations can improve military training process. Research of proposed thesis was conducted by exploring the theory behind simulation and gaming technology approach, analysing its benefits and risks for military training, and investigating present status and the future of military virtual simulations. Findings of the paper, made based on both theoretical research and analysis of practical use of virtual simulations in military trainings of NATO countries, have verified effectiveness of virtual simulations, which consequently improve military training process. Moreover, significant benefits of military virtual simulations, such as appropriateness for military environment, timesaving and flexibility, improvement of decision-making process and cost-effectiveness significantly outweigh identified risks. Besides, the risks could be mitigated by changing attitude of teaching staff, implementing new technologies, and participating in international research projects. Furthermore, analysis of current state and the future of virtual simulations provides credible evidence of increasing trends of further utilization of virtual simulations in military training process. Therefore, it is expected that in the further consumption of virtual simulations in military training will only increase and implementation of new technologies will continue to provide additional opportunities for further improvement of military preparation process.

During the research, the author of the paper discovered that rapid advancement of technological development and its wide use in NATO militaries have produced a new fundamental challenge. Due to growing expenses of live trainings, which are affected by increasing costs of cutting-edge technologies and military assets, NATO countries have to decrease proportion of live trainings and increase use of virtual simulations. Thus, soldiers' preparation for real world battles shifts to virtual domain and current trends demonstrate unavoidability of these changes. While for the militaries of large

NATO countries this process is driven mostly by cost-effectiveness considerations, for smaller countries with limited budgets the changing paradigm of military training process might cause significant challenges. However, in order to continue being competitive, interoperable, and effective, it is recommended for smaller NATO militaries to implement and develop virtual training capabilities. Vigorous membership in international virtual training projects and effective distribution of available funds might provide the best opportunity for the small NATO member states to implement virtual training process and improve it further.

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Operation ALBION 1917: A case study of Planning, Mission Command and Morale

LTC Benedikt Raimund Zacher

Disclaimer: The views and opinions expressed in this work are those of the author and do not necessarily reflect the official position of the German Armed Forces or the Baltic Defence College.

On October 12th 1917, German troops landed on the island of SAAREMAA, starting the amphibious invasion of the western islands of Estonia, codenamed Operation ALBION. Barely a week later the Germans had seized the islands, capturing over 20 000 Russians, at a cost of less than 400 own casualties, and won a stunning operational victory with their first “joint” operation.

The aim of this research paper is to investigate the reasons for the German success and the Russian failure, focussing on the land campaign. It will be argued, that Mission Command - including clear commander’s intent, flexibility in execution combined with initiative – and proper cross-branch planning were key factors for the German victory, overcoming shortcomings in cross-branch coordination during the operation and partly miscalculating enemy actions. On the Russian side, the lack of proper cross-service coordination and bad morale were key factors, outweighing a generally sound plan for the defence of the islands.

This paper is divided into four parts. The first will give a short overview in the strategical reasoning and planning for both sides. Second, the events will be described. In the third part, the aforementioned reasons for victory and defeat will be analysed. In the conclusion, some lessons still valid for today are identified.

This work is based on the study of literature. The number of publications on ALBION is limited, as it was in comparison to other operations not a major operation for the German side. Sources include memoirs written by participants on both sides and secondary literature. Especially of interest is an analysis of the operation written by Estonian Lieutenant General Nikolai Reek, which he wrote in 1936. Then-Captain Reek served on the Russian side during ALBION. While other authors used some

reports from Reek right after the operation, they seem to have no access to Reek's complete analysis from 1936, probably due by the limited availability, as Reek wrote his analysis in Estonian.

1. Strategic Background & Planning

On 19th September 1917, the German Emperor issued the order to seize the Islands of SAAREMAA and MUHU. The 8th Army under General of Infantry Hutier was tasked with the execution, the Operation was named "Albion". The first ideas - mainly from the German Navy - to invade the islands, dated back to 1915, but were dismissed (Ganz p. 91). The strategic situation in 1917, especially the seizure of Riga in early September, caused the Germans to pick up the idea again. A

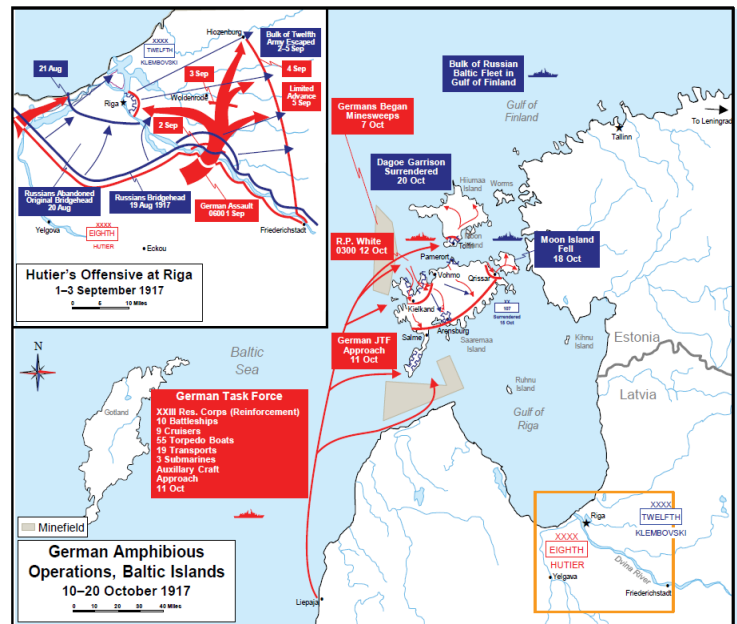


Figure 1: General conduct of Operation ALBION
(Pressley, page 63)

seizure of the islands would threaten the Russian forces in nowadays Latvia and Estonia in their right flank, as well as protecting the own forces around RIGA. The islands provide a possible jump-off point for an attack on the Russian capital, St. Petersburg, via the Gulf of Finland and also facilitate logistic affairs by enabling the use of the Riga harbour (von Tschischwitz p. 12) (Barrett p. 14). In addition, further major defeats of the Russian forces would destabilize the Russian new government and could lead to a separate peace with the German Empire (DiNardo p. 397). Though Army and Navy had different opinions and reasons regarding the operation over the years, both branches finally agreed to conduct it (Gross, 2004 p. 5).

The **importance for the Russians** was similar: the islands provided them the possibility to control the Gulf of RIGA with land-based artillery (together with minefields), which could make up some of their lack in naval assets and provided a first line of protection against any naval assault on ST. PETERSBURG. The loss of RIGA (Reek, 1936 pp. 2-8) added to the danger for ST. PETERSBURG (Pressley pp. 65-66).

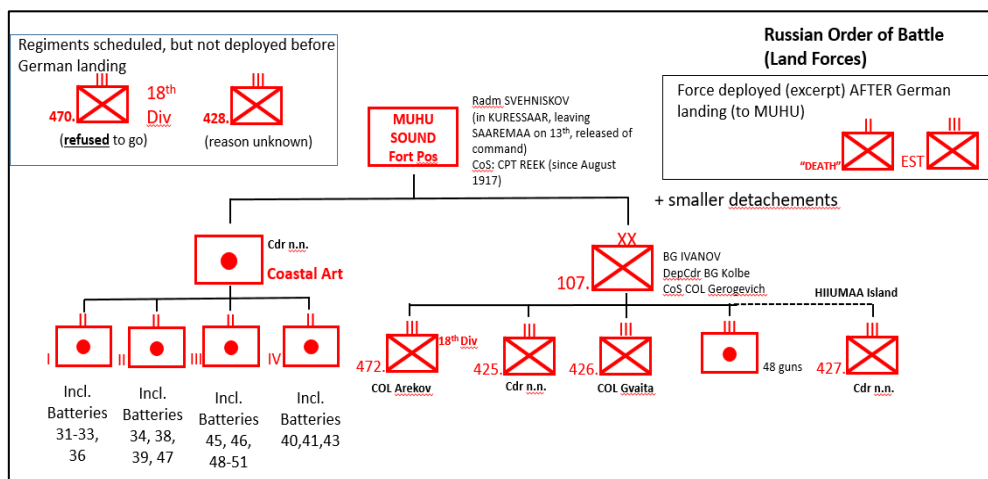


Figure 2: Russian Order of Battle (Land Forces)
(Source: created by author)

Therefore, the Russians created the “MUHU Defensive Fortified Position” under the command of Rear Admiral Sveshnikov, with headquarters at KURESSAARE. His available forces constituted only land-based forces. One Infantry division (107th Infantry Division, BrigGen Ivanov) and the Coastal Defence Artillery.

RAdm Sveshnikov had no control of any naval assets; they were under command of the Baltic Fleet, respectively under the command of the “Commander-in-Chief of the Naval forces in the Gulf of Riga”. The very small aerial forces on the islands (thirty-six, mostly outdated planes) were also under naval command (Reek, 1936 pp. 106-107).

The Plan for the defence was quite simple and basically sound. Sveshnikov and Ivanov concluded after reconnaissance of the terrain that the most likely amphibious landing sites were TAGGA BAY and KÜDEMA BAY (close to MINASE) on the northwestern side of SAAREMAA. In addition, the coastal artillery positions on SÕRVE had to be halted under any circumstances to keep control of IRBE STRAITS and the GULF OF RIGA (Reek, 1936 pp. 2-14).

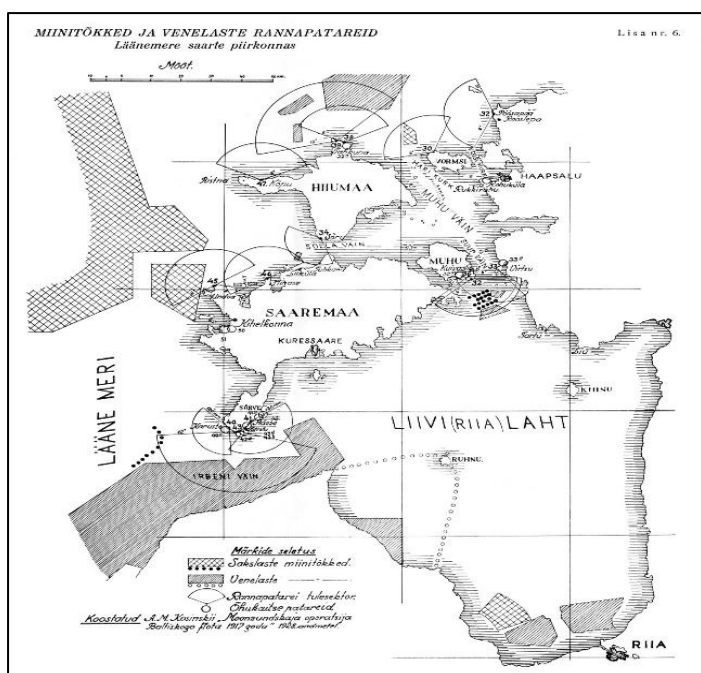


Figure 3: Minefields and Coastal batteries (Reek, 1936)

The general idea was to defeat any landings at the beach or conduct a counterattack with local reserves or the general reserve. If this did not work, the forces on SAAREMAA would retreat to the MUHU causeway at ORISSAARE, in order to hold a bridgehead there until reinforcements from the main land arrived. The SÕRVE garrison was to hold the peninsula, whose narrow neck would advantage the defenders (Barrett pp. 66-67). HIIUMAA was

to be defended independently.

To enable an effective defence two division were needed. The 107th Division was already in place and there were repeated requests to get more troops on the island, starting in Spring 1917, but for various reasons assigned units did not come at all or just in small numbers (Reek pp. 48-49).

On the eve of the German invasion one reinforced division, the coastal batteries and some smaller detachments of cavalry, engineers, etc. were defending the two islands. The manning of the units was not full and morale was low. There was a lack of communications equipment, the fortifications and the coastal batteries were in different states, but generally not satisfactory (Reek pp. 98, 107).

There was no coordinated plan for navy-army cooperation. This was caused by the lacking willingness of the Russian navy to risk their high value naval assets against the German navy, the main task was to defend the Gulf of Finland and St. Petersburg (Barrett p. 74).

This was the first German amphibious, joint operation (Gross p. 4). The operational planning started on 11th September in Berlin and completed on the 18th of September. The first days the “Sonderstab” (Special Staff) from the Navy worked out the most important naval issues, together with some personnel from the German High Command and the operations officer of the 42nd Infantry Division, General Staff officer Captain Volkmann. The German estimate of Russian forces - based on aerial and naval reconnaissance and intelligence reports – proved to be quite accurate (von Tschischwitz pp. 20-21). One of the key findings during planning was the need of additional, fast-moving land forces, therefore the 2nd Cyclist Brigade was requested and obtained (Barrett p. 103), in addition to two storm trooper companies, who were to execute high value missions.

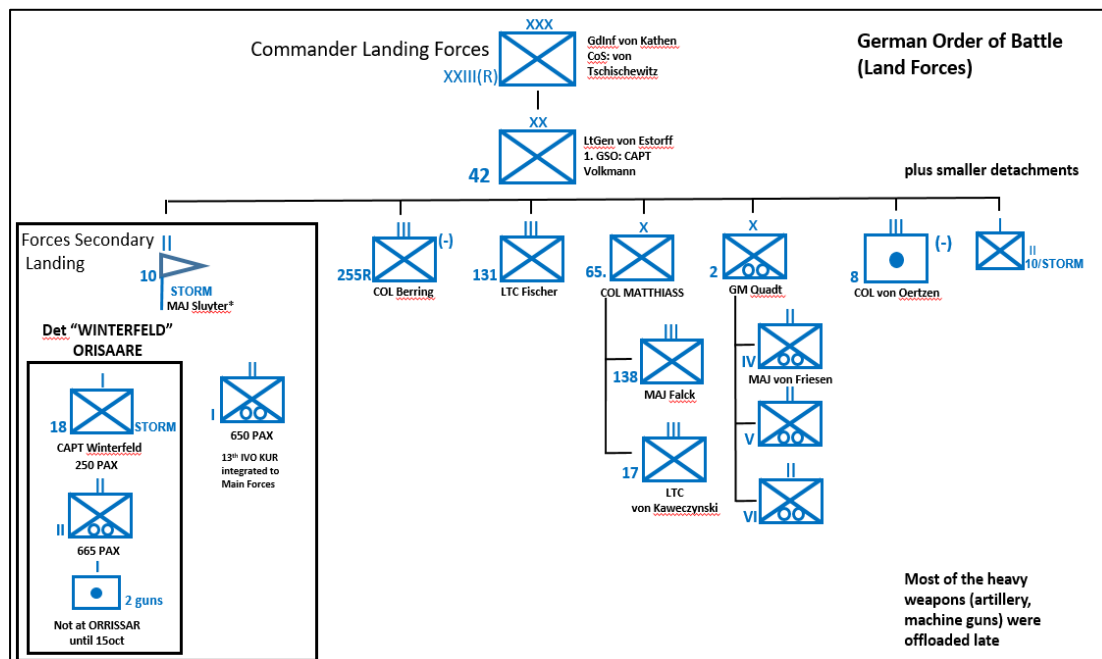


Figure 4: German Order of Battle (Land Forces) (Source: created by author)

After the basic concept was agreed and affirmed, the planning group travelled to LIBAU (LIEPAJA) on the 19th of September (the day the German Emperor issued the official directive for the operation), where they met with leadership of the XXIII Reservecorps, the designated landing forces headquarters. The Chief of Staff of the XXIII Reservecorps, LTC von Tschischewitz, took over coordination between army and navy as the planning continued (Barrett p. 97).

On 24th September, the 8th Army Operations Order ordered to seize both islands, a classic terrain-oriented approach, but in the continuation it was added, that the Russian forces on the islands need to be destroyed as well, a force-oriented approach (Volkmann p. 70).¹ In addition, other essentials were covered: the command and control relations between navy and army, the landing site at TAGGA BAY and the Seaport of Embarkation (LIBAU). Some of the details in the Army's Order were changed later during further planning (von Tschischwitz pp. 24-27). The planning time was also used for embarkation and disembarkation training for the land forces.

As surprise was essential, the Germans decided on landing at TAGGA BAY instead of KURESSAARE, which would have had logistical advantages. A secondary landing was planned in the north, near PAMMANA (PAMEROT). The Navy was supposed to clear the minefields, escort and transport the landing forces, as well as provide covering fire to suppress the coastal batteries. In addition, a bombardment of SÕRVE was to be conducted to deceive the Russians (von Tschischwitz p. 28).

After the Landing at TAGGA BAY, a bridgehead was to be established in a 10 km radius around the bay to unload heavy weapons and equipment, taking approximately three days. As soon as sufficient forces were available in the beachhead, the forces should cut the main road from KURESSAARE to MUHU to cut off the possible retreat line of the Russians to the North. After that, KURESSAARE itself, supposed location of the Russian main force, should be seized with naval gunfire support. Meanwhile forces should cut off the garrison of SÕRVE and destroy the coastal batteries there, in close coordination with naval gunfire (von Tschischwitz pp. 28-29).

¹ Barrett (p. 54) attributes this intent to Col Hoffmann, Chief of Staff Eastern Front, during the meeting with Captain Volkmann, citing Volkmann (p. 67-68) as a source. Volkmann himself (p.70) attributes it to his Division commander. Von Tschischewitz also mentions the intent of "Vernichtung des Feindes" (p. 92), but does not mention "who" desired it. Whoever made that decision, the outcome is the same: the Germans intended not only to seize the islands, but also destroy the Russian forces.

2. Operation ALBION

On 12th of October the Germans landed at dawn with the main force in TAGGA BAY and with the secondary landing in the vicinity of PAMMANA (PAMEROT). The landings were a surprise for the Russians; they were not expecting it on that day, due to bad weather (Barrett p. 124). At TAGGA BAY, there was little resistance from the coastal gun batteries or the Russian land forces, so the Germans succeeded in seizing the bridgehead and the Russian coastal batteries and could easily move 10 – 12 km inland.

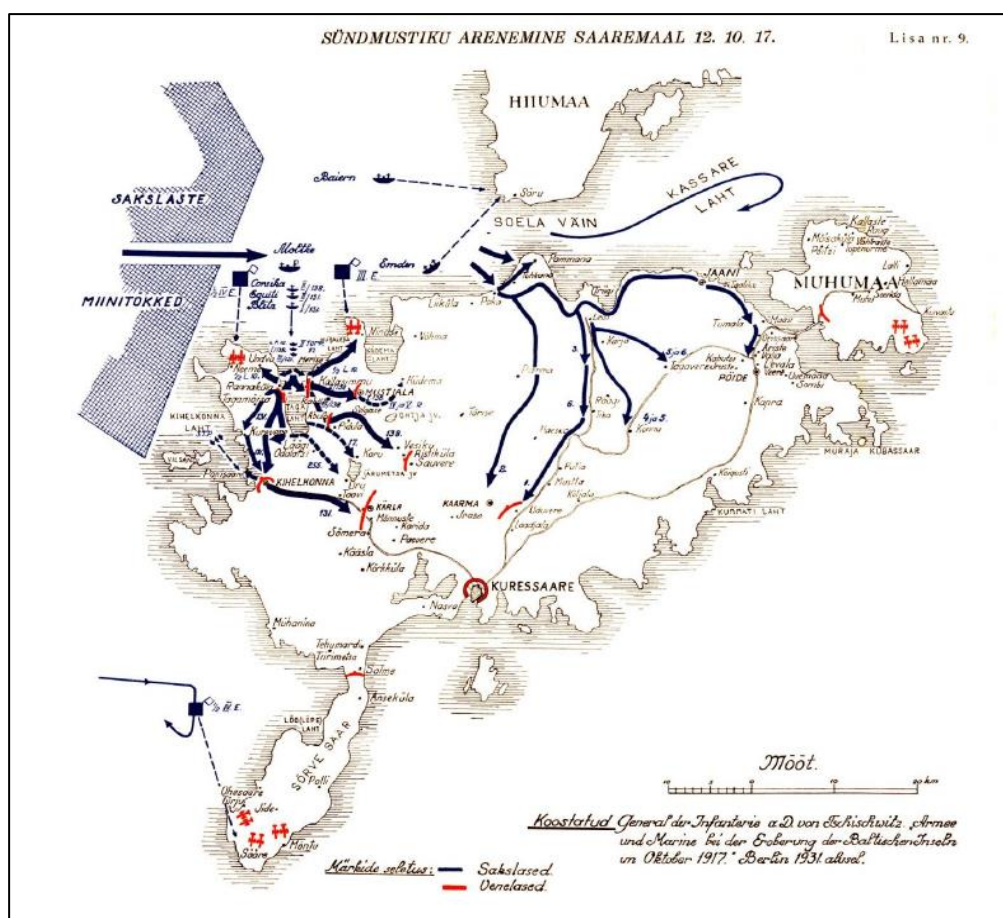


Figure 5: Landing on 12th October (Reek, 1936)

The Russian units, at TAGGA BAY (426th Regiment) were eager to retreat (Reek pp. 133-135). The reserve, two battalions of the 472nd Regiment, sent to counter the German advance, barely picked up fighting, due to the chaotic situation and morale issues.² Therefore, the German advance met limited resistance and communications

² It is not quite clear what happened to all units. Some of them met retreating elements of the retreating 426th Regiment and were drawn into the rout, some refused to occupy allotted positions, other were redirected to counter smaller German cyclists detachments coming from the north. In the end those two battalions ceased to exist as a coherent fighting force (Reek p. 136-138; Barrett p. 132; von Tschischewitz p. 48-55)

to the Russian command post was nearly non-existent in the first hours. The landing was a success, though the landed troops were still lacking artillery (von Tschischwitz p. 52)

The Winterfeld Detachment³ landed at about 0830hrs unopposed at PAMMANA and seized the ORISSAARE-MUHU crossing in the afternoon, covering over 40 kilometres. Russian forces on MUHU denied crossing to MUHU, but a perimeter south of the crossway was established, effectively cutting off the Russian retreat to MUHU (von Tschischwitz pp. 55-56).

The German Navy supported the landing with gunfire at TAGGA BAY and with a feint bombardment at SÕRVE in the early morning.

At about 1600 hours Captain Reek, Chief of Staff of the MUHU position, had a picture of the situation and communicated it to higher headquarters on the mainland. The SÕRVE forces (mainly 425th Infantry Regiment) was to hold the peninsula, while the other two regiments were to retreat to ORISSAARE, then reach MUHU and hold a bridgehead there for reinforcements (Reek pp. 138, 141). RADM Sveshnikow, Commander of the MUHU position, left the island for the mainland (HAAPSALU), under the pretext of organizing the deployment of reinforcements (Reek pp. 143-144).⁴

The first day brought a major success for the Germans, although they did not know how big it was. Two of the three Russian regiments were shaken and retreating to ORISSAARE, thereby leaving SAAREMAA to the Germans, except for the SÕRVE peninsula. The causeway to MUHU was under German control, cutting off the retreat.

On the Russian side, things looked very bad, morale in the troops was low and the mood within the leadership was very pessimistic. There were no coherent fighting forces left (except 425th Regiment on SÕRVE) and the situation was confusing. It is not clear if anyone in the leadership knew that the causeway to MUHU was in German hands, but the MUHU HQ was probably unaware of it. Higher Command informed the MUHU HQ that reinforcements (173rd Regiment and a "Death Battalion") were being sent to MUHU, but the Russian leadership on SAAREMAA was not inclined to fight.

³ The secondary landing was in overall command of Stormtroop Major Sluyter, but the most relevant party was Winterfeld's drive to ORISSARE.

⁴ RADM Sveshnikow was relieved of command the next day and over the next days tried to get himself, parts of his staff and their families [sic!] to Tallinn, complaining about the lack of transport.

Instead of trying to repel the Germans, the main aim was now to “save the 107th Division” (Reek p. 141).

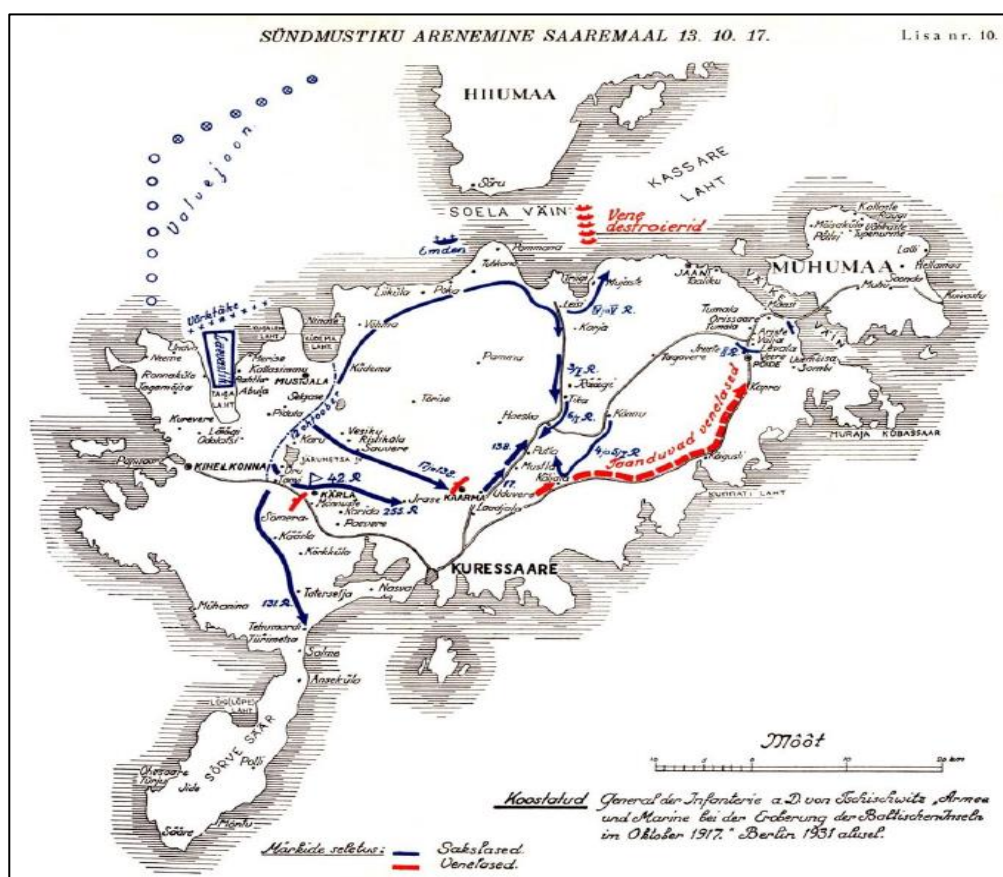


Figure 6: Events on 13th October (Reek, 1936)

The **13th October** brought bad weather (rain, wind) and further bad news for the defenders. The commander of the 42nd Division, disembarked on the evening of the landing, decided to use the obvious disarray of the defenders (Pressley pp. 67-68). In the night from 12th to 13th, he ordered to break out in the morning. Deviating from the original plan, which planned to further secure the bridgehead and bring ashore the artillery, horses and other heavy materiel, which would take up to three days, the German forces would push further inland towards KURESSAARE (Volkmann pp. 81-82) (von Tschischwitz p. 58).

The 65th Brigade (138th and 17th Regiment) and 255th Regiment began advancing in the early morning to objectives about 20 km (HAESKA) and 7 km (LADJALA) north of KURESSAARE, encountering bigger elements of the Russian 426th Regiment.

There was a short battle, which resulted in 1000 Russian prisoners and the remnants of the 426th regiment retreated to the east (von Tschischwitz p. 61).

The 131st Regiment reached and cut off the entry to the SÖRVE peninsula.

The 255th Regiment reached IRASE, about 6km short of their objective. Reconnaissance suggested that KURESSAARE was free of major Russian forces.

Events for the Winterfeld Detachment started well, but developed to a crisis during the day. Holding their perimeter south of the causeway, they could capture about 600 retreating Russians by midday. Those were mainly rear echelon personnel coming from KURESSAARE, unaware that the Germans were already at the causeway. As the Germans could not cover the whole perimeter, some groups of Russians infiltrated and attacked the Germans from the back. In addition, some elements from the 472nd Infantry Regiment attacked the positions with artillery support (Reek p. 163). Running low on ammunition, without support from the navy and fearing to be worn out, Winterfeld had to pull back his forces to ORISSAARE, abandoning the causeway, but able to cover it by fire (von Tschischwitz pp. 63-66).

The German Navy tried to break through the SOELA SOUND into the KASAR INLET. They set a landing party ashore on HIUMAA and destroyed the coastal battery at SERRO/THOVRI (Number 34). The Flotillas were successful in clearing some of the minefields west of the SOELA SOUND, but were repelled by Russian ships, so the navy could not support the Winterfeld detachment for the time being (von Tschischwitz pp. 56-58). The Russian reckoned the danger of the Germans breaking through the SOELA SOUND into the KASAR INLET. They tried to block the SOELA SOUND by sinking an old steamer and laying mines. However, both endeavours failed, so the SOELA SOUND stayed free (Barrett p. 205).

On the evening of the 13th, the situation around KURESSAARE looked good for the 42nd Infantry Division's main forces, but the situation of Winterfeld was grim.

The 42nd Infantry Division again faced a decision point: the Germans knew through aerial reconnaissance, that the main Russian forces had left KURESSAARE and were moving to ORISSAARE and the MUHU causeway. It was expected, that the Russians

start a deliberate attack on the 14th to push aside the Germans at the causeway and open the way of retreat to MUHU, thereby evading the intended annihilation. As the day before von Estorff decided for the bold move: attack with his main force to the north to relief the Winterfeld detachment.

This meant, that the regiments (with the exception of the 131st, which stayed at SÕRVE), already marching and fighting for two days in bad weather and road conditions, were again to advance another 40 kilometres to the MUHU causeway without sufficient rest or resupply (Volkman pp. 86-87).

The available divisional reserve, a cyclist battalion, was to seize abandoned KURESSAARE and succeeded without problems (Barrett p. 141).

The regiments broke bivouac before dawn on **14th October** and started the ordered advance to the ORISSAARE region. There, the Russian started a deliberate attack at about 0800 hours against the Winterfeld, which nearly broke through, and Winterfeld had to use his last reserves to hold his positions. The battle trickled on for hours without decisive action, but the Winterfeld was in great danger (von Tschischwitz pp. 71-73). Fortunately for the Germans, at about 1400 hours a cyclist battalion arrived and bolstered the defences. Shortly after, two battalions of the 17th Infantry Regiment arrived as well, attacked and were able to close the access to the causeway (Volkman pp. 88-89). With the main forces of the division arriving in the night of the 14th to 15th October, the situation became much more favourable for the Germans and the crisis was over. Even better, the mass of the remaining Russian forces were locked between the reinforced Winterfeld detachment at the causeway and the 255th Regiment. Nevertheless, this was unknown to Germans yet and – after receiving information from a recce plane at midday of the 14th – they perceived, that the Russian main forces were able to retreat with their main body over the open causeway, after Winterfeld had to abandon it on the evening of the 13th (Volkman p. 88).

The German Navy forced its way through the SOELA SOUND and engaged, resulting in the sinking of the Russian “GROM” and further ships being damaged on both sides during the fighting. However, the intended Naval Gun Support for Winterfeld did not happen until the last minute, after a naval liaison officer was detached ashore, some

ammunition was delivered and the causeway taken under fire (Barrett pp. 159-160). The German ships then had to retreat from their positions at the SMALL SOUND (VÄIKE VÄIN), due to the appearance of bigger Russian ships (Barrett pp. 206-208).

On **15th of October**, major combat operations ended on SAAREMAA. Locked between the reinforced Winter detachment in the north and the 255th Infantry Regiment to the south, the remnants of the Russian 107th Division made a final attempt to break through the causeway, but were repelled. At the same time, the 255th Regiment started an attack to the north, to link up

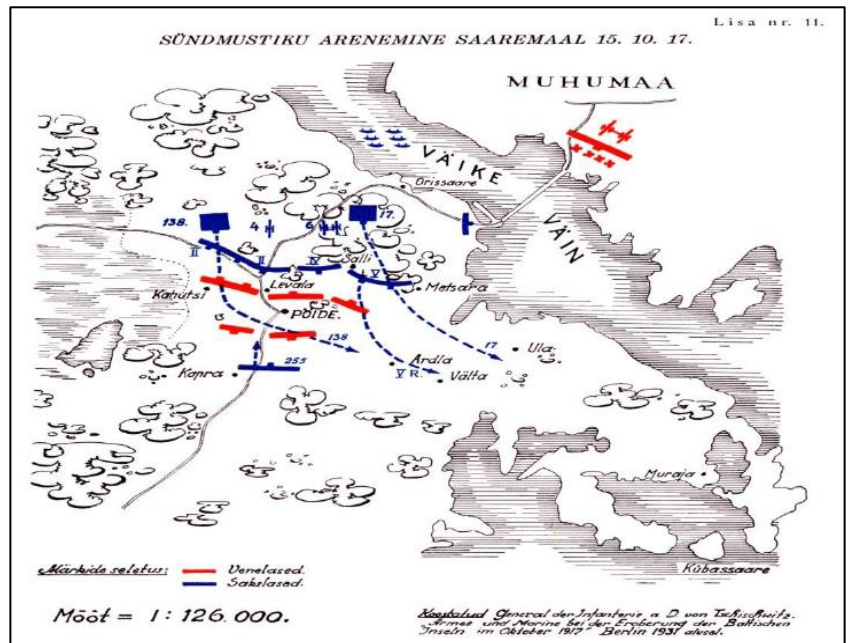


Figure 7: Events at ORISAARE on the 15th October

with Winterfeld and destroy the remaining forces, still believed to be only a rear guard. At about 1430 hours the Russian started to capitulate in large numbers (Reek p. 192). In the late afternoon, General Ivanov surrendered personally to General von Estorff. It was only then, that the German realized that they indeed had captured the main force of the 107th Division, which would total around 10.000 soldiers (Volkmann pp. 90-93).

The **Conquest of SÕRVE**, with the coastal batteries covering the IRBE STRAITS, was – while operational important - happened nearly bloodless. The 131st Infantry Regiment reached the entrance to the peninsula on the evening of the 13th October, thereby cutting off the 425th Regiment and the coastal batteries. In order to avoid bloodshed, the regimental commander, LTC Fischer, sent emissaries to the Russian garrison in the morning of the 14th, demanding their surrender. As a contingency plan, LTC Fischer planned an assault supported by naval gunfire. The emissaries did not return. Due to radio problems between LTC Fischer and the naval squadron assigned for the support, what happened was an example of two services doing different things.

During in the afternoon the 131st did a reconnaissance by force, which was not supported by navy. When LTC Fischer faced stronger opposition, he did not continue the attack. Meanwhile the naval squadron arrived from TAGGA BAY in the SÕRVE area. Without communications to the 131st Regiment and not able to establish them through a liaison detachment sent ashore, they came under fire from the ZEREL coastal batteries, exchanged fire for an hour and then retreated (von Tschischwitz pp. 102-103).

The same problem occurred on the 15th, when a naval liaison officer could not relay the requests of LTC Fischer to the naval squadron for another land forces attack (von Tschischwitz p. 104).

These episodes exemplify the problems the Germans had repeatedly during the invasion. While joint operations and mutual support were planned repeatedly, the actual conduct and coordination was lacking (von Tschischwitz p. 116). The problem of communications and liaison between land and naval forces on the tactical level was mostly non-existent.

Nevertheless, the Russian forces finally surrendered without major fighting on the morning of 16th of October. This was because of dissolving morale. Though uncoordinated with the land forces, repeated shellings of the coastal batteries and no available extraction from naval assets made the Russians lose their will to fight. About 4000 - 5000 prisoners surrendered and the IRBE STRAITS was open (von Tschischwitz p. 107).

On the evening of the 16th October, SAAREMAA was in German hands. A coup de main via the causeway to MUHU was planned, but was not executed. The Russian Navy shelled the Germans near the causeway and reports from Russian prisoners indicated about 7000 Russian soldiers on MUHU, as they had received reinforcements (von Tschischwitz p. 129). A deliberate crossing by boats established a bridgehead on MUHU in the afternoon of the 17th. On the 18th, the Russian garrison of MUHU surrendered after naval troop transports could not evacuate them due to threat from German ships. These forces were mostly reinforcements, including a "Death Battalion"

and the 1st Estonian Regiment, who were brought to MUHU just four days before (14th) (von Tschischwitz p. 131).

HIIMUMAA was seized on the 20th October. Most Russian forces (main body was the 427th Regiment) were evacuated before, so only approximately 450 prisoners were taken, after the 17th Regiment had landed on the 19th (a 300-strong naval detachment had established a bridgehead as soon as 15th October) (von Tschischwitz pp. 141-143).

In the end, the victory of the Germans was based on the land forces as center of gravity, with the naval forces in a supporting role, mainly providing the transport and escort, as well as some naval gunfire support. The aerial assets played a minor role as reconnaissance and some nuisance with strafing runs and bombings. The effect of the German navy, preventing the Russian navy to support the garrison more actively was an important contribution to the overall success.

3. Reasons for victory and defeat

3.1. Morale & Leadership

Morale of the SAAREMAA garrison was generally low to very low, even before the invasion started, according to Nikolai Reek:

“The general disgust of war just as much in the people as in the armed forces had destroyed definitely the fighting spirit. [...] The belief into leader had vanished, [...]”

The fighting spirit was extinct in the army and in the complement was dominating only the instinctive life preservation impulse, which influence altered the Russian forces to a mass without a leader during the progress of German attack.” (Reek pp. 107-108)

The political turmoil in the wake of the Revolution, the strategic dire situation, the implementation of the *soviets* and their interference in tactical business had a huge impact on morale and discipline. Reek mentions the lack of morale in his summary as the decisive factor of the German victory (Reek pp. 243-245).⁵ He gives numerous, graphic examples, describing how companies rejected to accept new officers, refused

⁵ Captain of General Staff Nikolai Reek was Chief of Operative Section of Muhu Sound Fortified Position from late June 1917 and on the 23rd August he was appointed to Chief of Staff. (Reek, p 89)

to work, fight or even embark on ships, threatening more eager soldiers/units and so on.

Training is the foundation of soldiering, cohesiveness and morale, all being fundamental for “operational effectiveness”. Training of the rank and file in the Russian system was lacking (Cornish p. 61). In addition, service on the islands was rather dull, guard duties and building fortifications, but little actual training.

Morale is always closely linked to leadership (or the lack of it). There are some exceptions, which indicate that there were sub-units with sufficient fighting spirit and morale. Those examples indicate that sub-units were eager to follow their company grade officers, even in the face of defeat and adversity. So why did the 107th Division, as the main body, fail to such an extent?

While Reek states the correct fact - low morale - there is no indication about actions the responsible leadership took to counter this and improve the situation in the quiet time prior to the invasion. The only actions taken were obviously requesting more troops, more officers and more supplies.

The Russian leadership above company level obviously showed no interest in the rank-and-file, which is understandable regarding the Russian social culture at the time, but they equally showed no interest in their junior officers. Especially on the company level very young, unexperienced officers, fresh from academy were in charge, who needed guidance. There is no indication, that the field grade commanders supported their junior officers in any way. As the MUHU position was not a front-line assignment, there was plenty of time to do so, before the imminent threat of the invasion occurred.

Neither did they accept the new realities after the Revolution and proactively engaged the *soviets*, to drag them to their side and use them as force multipliers to achieve a common goal and build trust. The fact, that officers had their wives and families with them on the island – while partially understandable due to the turmoil in Russia -, implies that they were distracted from their actual duties.

Summing up, the negligence of duty and being aloof were certainly the major failures of the Russian leadership resulting in lack of trust, even before the invasion started and continued during the fight for the islands.

Lack of fighting spirit results not automatically in defeat, if the enemy has similar problems. Unfortunately for the Russians, the Germans did not. The German units – mainly the elements of the 42nd Infantry division, reinforced by elite storm troopers and the cyclist brigade (Nash, 2008 p. 46) – were combat experienced on the Western and Eastern front, although only rated “average” in general in an after war assessment by the U.S. Army (Intelligence Section, 1919 p. 453). The division recruited locally from Western Germany, which further fostered unit cohesion (van Crefeld p. 75). Von Estorff had served as the division’s commander for nearly two years. Likewise, his First General Staff Officer and most of the battalion and regimental commanders had been in their subsequent positions for long periods, so they knew and trusted each other. Training and morale was high and the officers knew, what to expect from their rank and file (Samuels pp. 78-79). Still, the 42nd division was not an “elite” division, but their “operational effectiveness” was much higher than their Russian counterparts on the islands.

3.2. Planning

The “Joint” planning staff included the naval “Special Staff” – mainly tasked with planning the embarkation, transport, escort and debarkation – and Army planners from German High Command down to the division level. There was a clear continuity from the very start of strategic decision making over operational planning to execution of the operation and everybody was aware of the expected outcome (Thiele pp. 146, 155). The integration and cooperation of both services in the planning from the very start was essential for success.

The naval “Special Staff” was later the core for the naval forces HQ. It was a very small planning group, consisting for the most part of only about 10 officers, partially quite junior (Barrett pp. 44-45).

The division conducting the operation was involved from very early stages. Captain Volkmann, Operations Officer of the 42nd Infantry division, was involved in the main planning phase already in Berlin. Even the Chief of Staff of the Eastern Front, COL Max Hoffmann, was having a private talk with him about the operation, which highlighted the importance of the operation (Volkmann, 1940 pp. 67-68).

These factors contributed largely to a successful cross-service planning. While there were flaws in the cross-service support during the operation, especially regarding naval gun support, and the allocation of barely enough forces to the secondary landing, the overall planning was astonishing smooth, notwithstanding a certain lack of understanding of each other services' thinking and philosophy (Gross p. 7).

German Command & Control arrangements were clearly defined and definitely innovative.⁶ As soon as the disembarkation was finished, naval forces were the "supporting" force. If necessary, Commander 8th Army would decide on contradicting views (Thiele p. 146). The commanders of the Naval (Vice Admiral Schmidt) and Landing forces (General von Kathen) were collocated on the flagship "Moltke". Corps Commander XXIII Reserve Corps was therefore able to directly communicate and liaise between both forces, while he seems not to have intervened in any tactical decisions on land.

In contrast, the Russians lacked proper cross-service planning. Land forces on the islands and the navy fought their own independent engagements. There were during the operation repeated requests by MUHU's defenders, but navy engaged as it saw fit.

3.3. Mission Command

General von Kathen used the preparation phase in LIBAU to assemble his commanders to define and explain his intent for the operation (Volkmann p. 72), an essential precondition for the application of Mission Command (Samuels pp. 14-15). Captain Winterfeld, company commander of an elite storm trooper company, was tasked to seize the MUHU causeway in order to cut off the retreat of the Russian forces on SAAREMAA (von Tschischwitz, 1934 p. 56). When the situation deteriorated for his detachment on the evening of the 13th, he still kept the causeway under fire with his machine guns (von Tschischwitz, 1934 p. 63) to at least hamper any movement from the Russians and at least partially accomplishing his mission at the time. Further

⁶ The role of "supporting" and "supported" force was very similar to nowadays U.S. Marine Corps doctrine (DiNardo p. 404).

events demonstrated that he fully accomplished his mission, an important precondition for the great success of the invasion.

Only assigning a relatively weak forces (Winterfeld's storm company and one cyclist battalion) was a major flaw in the German planning, as the promised naval gun support only materialized at the very end, nearly too late. Winterfeld was close to be driven off by weak Russian forces and a deliberate, forceful attack would have crushed the small detachment, but *fortune favours the bold*.

The divisional commander, General von Estorff, used initiative, essential part of Mission Command, twice on two consecutive days:

The breakout on the bridgehead on the 13th (ordered on the evening before) (DiNardo p. 410) and the push forward to ORISSAARE up north on the 14th (ordered during the night before). On both occasions, von Estorff deviated from the original plans, due to the developing situation and seized opportunities, therefore taking by surprise the defenders and worsening their morale. Taking initiative and calculated risks was generally fostered in the German Army and von Estorff adhered to it. Using initiative kept the Russians off-balance and in the end often caused panic.

4. Conclusion: Lessons for today

While the German success was not as brilliant as German sources would like to make us believe and not only based upon the lack of morale of the Russian soldiers, as Reek wants us to believe, it is still remarkable and has its lessons for today's operations, some of them are listed below.

Planning on the joint operational level, using a small staff and involving the executing units as soon as possible, provided with a clear and concise desired end-state by the commander. The main German planning group consisted of not more than 10-12 officers during most of the time. It had personnel continuity with the execution staff; the danger of information getting lost was mitigated. The timely involvement of representatives from the corps and divisional level, gave the staff a realistic picture of the capabilities and limitations of the executing units and brought up further requirements (i.e. the additional forces from the cyclist brigade). Not to underestimate

is the importance of a feeling of “ownership” for the lower echelons. They are not just executing a plan made by some planning staff, but have a say in it and can contribute their own ideas. Although the modern operations are more complex, one should consider the benefits of small planning groups and personnel continuity.

Applying **Mission Command** - including the necessary intensive training and mutual trust – and fostering initiative needs to be empowered again. During the last decades, peace support or stabilization operations have been the main effort for most western nations and NATO. Political and strategical consequences of actions and faults at the operational down to the tactical level have led to a culture of limiting subordinates’ freedom, also causing a lack of initiative. In face of the renewed importance of Article 5 operations, armed forces need again to retrain, relearn and allow subordinates more freedom (and tolerance of their mistakes) to achieve the benefits of mission command.

Mission command goes together with training and cohesive units, which in itself is strengthening morale. While nowadays “modular” and mostly multinational task organizations have its benefits, the basic elements should be drawn from cohesive units, who know each other and their leaders. Additionally the level at which different units are intermixed, especially different countries, should be well considered.

ALBION was conducted over 100 years ago and its success contributed to the Treaty of Brest Litowsk on 3 March 1918. While technology and the geopolitical environment has greatly changed, there are still lessons to be learned and applied nowadays from the first German “joint operation”, this paper covering only some of them.

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Author's note: This paper is based on the study of literature. The number of publications on ALBION is limited, as it was in comparison to other operations not a major operation for the German side. Sources include memoirs written by participants on both sides and secondary literature. Especially of interest is an analysis of the operation written by Estonian Lieutenant General Nikolai Reek, which he wrote in 1936. Then-Captain Reek served on the Russian side during ALBION. While other authors used some reports from Reek right after the operation, they seem to have no access to Reek's complete analysis from 1936, probably due by the limited availability, as Reek wrote his analysis in Estonian.

Due to the integrated graphics, sometimes spaces between paragraphs are differing.

Graphics:

Figure 2 & 4: drawn by Author; Figure 1: Pressley, p. 63; Figure 3, 5-7: Reek, 1936

Location names

Estonian town names are used. English nautical terms are used.

Estonian	German/English
SAAREMAA	ÖSEL
MUHU (also MUHUMAA used)	MOON
HIIUMAA	DAGÖ
KURESSAARE	ARENSBURG
ORISSAARE	ORRISAR
SÕRVE	SWORBE
SOELA VÄIN	SOELA SUND / SOELA SOUND
KASSARE LAHT	KASAR WIEK / KASAR INLET
IRBEN VÄIN	IRBEN STRASSE/ IRBE STRAITS
PAMMANA	PAMEROT
TAGA LAHT	TAGGA BUCHT/TAGGA BAY
SÄÄRE	ZEREL

BEST ESSAY OF THE CIVIL SERVANTS COURSE (CSC)



Strategic Communications: From Words to Actions and How the Government Can Communicate Better?

Ms. Paula Pelčere

‘Winning over hearts and minds is not a single battle anymore – it is an everyday routine. It is an All-time, All-things, All-places *modus operandi*.’

(Daugulis, 2019 p. 188)

Introduction

Strategic communications over the last years has been an integral component in discussions on security matters, both in global and national level. Nowadays, when hybrid threats and non-conventional warfare are increasingly among the main security topics, and the role of social media has increased as well, strategic communications have been brought up to a new level. The concept itself, however, is not new, especially if we talk about the use of ‘soft power’ elements. Latvian State Defence Concept declares that the changing security environment makes it harder to draw a clear line between peace time, a period of crisis and wartime. ‘Elements of non-conventional warfare are getting harder to identify, but mostly they are directed towards weakening the state internally, discrediting political governance of the state and destructing the faith in the state’ (Latvian Parliament, 2016).

Increased awareness of the dynamics of the security environment and the possible threats caused by external and internal players, has helped to recognize a necessity for a dynamic and comprehensive approach to security matters. These matters can be put in place through an effective deterrence policy, a collective defence approach and by encouraging self-confidence in the Latvian nation and instilling a wish to defend their country by providing favourable circumstances to do so (Latvian Parliament, 2016).

Latvia has chosen to strengthen its resilience capabilities by implementing and establishing a concept of comprehensive state security. It emphasizes society’s participation in securing the state from external influence and is a part of a larger effort to strengthen the state’s resilience. The establishment and the implementation of a comprehensive state security concept is a strategic message in itself not only to the

inhabitants of the state, but also to its allies, strategic partners and potential enemies. Strategic communication is one of the crucial elements of implementing and developing sustainable comprehensive state security and it cannot be ensured without successfully adopted strategic communication strategy that results in capabilities of psychological defence.

The paper will take a glance at the role and application of strategic communication in the national security context in Latvia, its role in the comprehensive state security concept as well as particular governmental efforts in this domain. The paper will thus try to answer why strategic communication is important within the broader discussion on defence, psychological defence and related governmental efforts.

Strategic Communication and Defence

In order to understand and explain “strategic communication” it would be necessary to divide the usage of this term in two different environments where it is in use – military and non-military. In this context non-military refers to a field encompassing businesses, state institutions, non-governmental and political organisations where strategic communication is understood as a determined use of communication in order to achieve one’s mission. Even though in the military the word ‘communication’ is still in common use, the difference between the military and non-military environment is that in the military it is not only the use of pictures and words that counts, but the actions taken as well, especially when considering the possible detrimental effect on society’s perceptions of the military caused by lethal and potentially lethal operations. (Dmitričenko, 2013 p. 2).

A British officer, researcher and the head of Media & Communication Research at the UK Defence Academy Steve Tatham defines strategic communication as:

“A Systematic series of sustained and coherent activities, conducted across strategic, operational and tactical levels, that enables understanding of target audiences, identifies effective conduits, and develops and promotes ideas and opinions through those conduits to promote and sustain particular types of behaviour” (Tatham, 2008 p. 3).

S.Tatham compares strategic communication to an orchestra, where he writes that ‘the conductor is the government, the musical score is the Strategic Communication

plan and the orchestra itself the various communities of practice and or lines of operation, music is the narrative' (Tatham, 2008 pp. 3-4). These statements define multiple actions that are crucial in order to achieve the state's goals in this context. In this process the government plays a significant role. It has to prepare a Strategic communication plan or at least include elements of it in other government plans, strategies or national level planning documents. It should define target audiences, the main narrative that the state wants to spread to its society and also define the goal of this process that could be viewed in terms of a measurable change in society's perceptions, attitudes or behaviour. An important aspect to grasp is that strategic communication is not founded only on communication at its basis (as one understands, for example, mass media or the spread of messages, opinions and images across informational environment), but includes also at its core a focus on purposeful action, that more often than not 'speaks louder than words' so to say. The strategic communication activities can and should be done through public diplomacy (to influence foreign audiences), public affairs and military public affairs (to influence internal audiences and work with local media), information operations and psychological operations (to fight the enemy with the aim to influence), ruin and damage the enemy's humane and automatic decision-making and to protect one's own. Purposeful use of public diplomacy and public affairs gives the opportunity to shape the state's public image on international and national levels, which is of particular importance when dealing with sensitive and possibly contradictory matters, such as interpretation of historical facts (Dmitričenko, 2013 pp. 5-6).

Comprehensive State Defence

Latvian State Defence Concept states that it is the state's task to create such defence system that secures the state's existence by deterring, preventing and, if necessary, overcoming any type of threat to sovereignty and security of State of Latvia (Latvian Parliament, 2016). Since hybrid threats and non-conventional warfare methods have been on the agenda of recent political and governmental discussions, the necessity for a defence that is comprehensive and based on the readiness of society and state institutions to overcome a crisis has been recognized, together with the need for an enhanced resilience against external influence and an ability to resist it. Due to the

aforementioned considerations, the Ministry of Defence of Latvia has started to adjust the defence system towards one that would be based on mutual trust and partnership between society and state institutions, and would include a responsible attitude by the public towards its state and security (2019, p. 2).

Comprehensive state defence in some cases is also called total defence. The main difference between the two terms is that total defence focuses only on full defence through the defence sector while comprehensive state defence includes adjustment to different challenges of the modern security environment since non-military threats have increasing role in it (Bērziņa, 2018). Similar concepts have been established in other countries as well, such as Singapore (MINDEF, n.d.), Finland (Ministry of Defence, n.d.), Sweden (Government Offices, n.d.) and, on some level, in the other Baltic States. Lithuania defines comprehensive approach to security as one of the principles of Lithuania's Defence policy, stating that military measures are insufficient in ensuring the national security (Ministry of National Defence, n.d.). Whereas Estonia defines it as an Integrated national defence concept that involves civilians in a supporting role to aspects of psychological defence, military national defence, and the maintenance of vital public services (Ministry of Defence, n.d.). Being aware of the geopolitical situation, historical background and potential threats Latvia cannot simply adopt successful experience from Scandinavian countries or Singapore, even though the concept of comprehensive defence has been implemented in these countries for an extended period of time (Kepe, et al., 2017 p. 2).

Latvia has defined nine key components of comprehensive defence which all need to be developed – 1) improvement of military capabilities and defence strategies; 2) strengthening of cooperation between public and private sectors in matters of defence; 3) teaching basics of statehood in Latvian schools as well as an overall education of society on these matters; 4) civil protection; 5) psychological defence; 6) strategic communications; 7) resilience of the national economy; 8) strengthening of the law enforcement agencies; 9) cybersecurity (Ministry of Defence of Latvia, 2019, p. 2).

In practice the aim of this process is to define to all state institutions their tasks and roles in state's defence, as well as to strengthen the cooperation between society, businesses, non-governmental organisations and state entities in order to decrease

the distrust between society and the government as well as between various segments of the society itself. It emphasizes the importance and awareness of common goals and cooperation. Dr.I.Bērziņa stresses the importance of developing different cooperation mechanisms among different players in the long-term in order to be able to rely on those mechanisms in a crisis (as opposed to a planning process that's oriented towards the achievement of short-term goals only) (2018). Even though many elements and approaches defined in the Latvian comprehensive state defence concept are not innovative in themselves, the concept brings together a wide spectrum of tasks, which can lead to a positive development, an improved coordination in executing the tasks and bring better results overall (Andžāns, 2019 p. 102).

Ministry of Defence of Latvia in its development plan for comprehensive state approach states the importance of strategic communication and defines it as communication that is focused on management of society's actions and decision-making process. That includes the development and production of narratives that help to create and instil in the members of society an emotional perception of specific topics and issues. During this process, it is important to identify and include key leaders of society that can explain and popularise the necessity of defence and security on all levels. The plan also states the necessity for government to communicate and strengthen the idea of national continuity – that Latvia is a successful state and will remain so in the future. It also includes the enhancement of society's resistance towards negative narratives on Latvia that are being spread by other states. This would include measures focusing on the development of critical thinking skills among the population as well as efforts to make different sources of information more accessible (2019, pp. 7-8).

Another key component of comprehensive state defence is psychological defence, which can be understood as emotional preparedness to defend one's country. Psychological defence in other countries that have implemented comprehensive or total defence is understood as pride in one's national identity, a sense of belonging, resilience after crisis, a united understanding and support of common history and core values of state and society, which can all be seen as necessary preconditions for the motivation to defend one's country (Bērziņa, 2018). The acknowledgment and inclusion of psychological defence is the central innovation of the comprehensive state

defence, and might present significant challenges in the long-term (Andžāns, 2019 p. 102).

The current situation in Latvia shows that there is a high level of patriotism in the population and during the last 10 years it has grown, but it is based mainly on nature, sports and culture instead of civic and political values of the state. Latvian society separates the term 'state' from politics and 60% of the population define 'state' as a geographical territory, native country, closely linked to conceptions of family and nature. In the broader society there is a lack of civic patriotism or nationalistic patriotism that would include a desire to participate in political processes in order to achieve common benefits and the overall development of the state. The data also shows that among the youth there is a higher wish to do something for the benefit of the state and highlights that they have less critical views on politics, which leads to the conclusion that they have a higher civic patriotism potential and it can and should be further encouraged by qualitative political educational programmes (Bērziņa, 2018 p. 24).

Government's efforts

As previously mentioned a key component of successful strategic communication strategy at least in the field of security and defence is the narrative. In the context of public diplomacy Prof.Ž.Ozoliņa states 'Values are extremely important for foreign policy as the creators of the national image, and if we do not create our own image, one that is rooted in our values, then the image of Latvia will be defined by others' (Tabuns, 2019 lpp. 221). This statement fits perfectly not only within the larger picture of foreign policy, but also as an essence to having a narrative that the state wants to spread among the members of the society, a narrative that society wants to believe in and agree upon. It can get quite challenging to create and sustain a united narrative on state's image, interests and values that would be shared by the majority of the society if there is a lack of common understanding of such elements (Tabuns, 2019 lpp. 221).

One of the ways how a narrative can be developed is through defining the national identity. Currently Latvian national identity on some level is defined in the preamble of the National Constitution (Satversme):

“(..) Latvia as democratic, socially responsible and national state is based on the rule of law and on respect for human dignity and freedom; it recognises and protects fundamental human rights and respects ethnic minorities. The people of Latvia protect their sovereignty, national independence, territory, territorial integrity and democratic system of government of the State of Latvia. (..) Loyalty to Latvia, the Latvian language as the only official language, freedom, equality, solidarity, justice, honesty, work ethic and family are the foundations of a cohesive society. Each individual takes care of oneself, one’s relatives and the common good of society by acting responsibly toward other people, future generations, the environment and nature.” (Constitutional Assembly, 2014)

This preamble of the Constitution was added in 2014 after many discussions among society and the political elite on defining and stating the essence of our country, state and culture – the narrative that would not allow anyone to misinterpret our values. Discussions started after a referendum in 2012 that looked to acknowledge the Russian language as a second State language. Even though Latvian citizens voted firmly against it, the necessity for a strictly defined narrative on Latvian values and their core essence was clear (Brikmane, 2014).

To support such a narrative and to act accordingly on a political level in order to further achievement of a united and integrated society, the Latvian government has also approved several national planning documents such as ‘National Identity, Civil Society and Integration Policy Implementation Plan’ (for 2012-2018 and 2019-2020). These plans raise such issues as society’s participation in political processes, the sense of belonging, cultural diversity, exploration and understanding of local and European history, as well as democracy in informational environment and role of media in integration processes (Cabinet of Ministers, 2018 p. 2).

Even though strategic communication itself is not about pure communication as we are used to understand it (through public affairs or public relations), mass media plays a significant and crucial role in the way the government can get through to society’s hearts and minds. All previously mentioned issues are necessary to communicate in a manner that speaks to all levels of society. The narrative, plans, efforts and good deeds of the government have to spread through a healthy media environment, and it

cannot be done without a proper media policy in the state, nor without a mutual cooperation between media and the government. Due to this Latvia has created its “Media guidelines 2016-2020” which states the rather high aim of designing a media policy that would bring about a strong, professional, diverse, transparent, sustainable and stable media environment which would provide quality content suitable for the interests of Latvian society, as well as strengthen the image of its core values in the national media (Cabinet of Ministers, 2016 p. 4).

A key element in an open, sustainable and trustworthy media environment is the resistance towards possible negative and biased messages from external actors. To measure how resistant and resilient the Latvian media is, a research was made on Russia’s aspirations to spread their narratives regarding defence issues in Latvian media after Warsaw 2016 NATO Summit. It showed that overall, Latvian mass media is resistant towards negative and provocative foreign narratives. Messages can be different in Latvian or Russian speaking media, but the major mass media in Latvia are not highly vulnerable to malign influence by biased or non-objective information from foreign countries (Andžāns, et al., 2016 p. 3).

Conclusion

The implementation of comprehensive state defence in Latvia in current security environment is a step towards a more open, inclusive and, at the end of the day, stronger defence system. With the constant presence of hybrid threats it is a strong reminder that not only military capabilities are necessary in order for the state to be resistant and resilient; the broader society has a crucial role to play in these efforts as well. Strategic communication can be seen as a way to develop comprehensive defence that is based on mutual trust and partnership between society, organisations, institutions and state, which would in turn result in an increased sense of belonging and a responsible attitude towards the state among the public.

Actions taken by the government in order to define the state’s narrative and support it, by, for instance, developing the preamble to the Constitution that includes Latvian core values, and by designing national level planning documents on how to strengthen national identity and improve integration policies, develop media environment and

spread the narrative through it, can all be seen as beneficial for the achievement of these goals. These and other actions show that the government is aware of the necessity to bring strategic communication to the table to achieve its strategic imperative – having a united society with clear values, common understanding of historical and political situation and a sense of belonging which would result in increased societal resilience.

The main challenge in this process is not only to write new policies, strategies, adjust national level planning documents and formally define intentions to make the state a better place, but to link these words, documents and strategies with real actions. If words do not meet the actions taken afterwards and stay only on the level of governmental documents, an increase in distrust and the gap between society and the government can be expected to occur or expand. The main risk here is that it can decrease society's motivation to participate in state defence and it can also be used by hostile actors to achieve their political and military goals. In order to strengthen the relationship and reduce the gap, the government has to take into account and put on a political agenda, the issues that most of the society can relate to, such as economic development, unemployment, health care, education. State institutions have to be aware of the responsibility that comes with their decisions not only in the context of any specific field but also regarding the overall relationship between state and society (Bērziņa, 2018).

To sum up, the government should use all possible means through public diplomacy and public affairs to spread its message among the society. It should be done not only on the level of governmental processes, but also by promoting to all levels of society the message that the state is capable to stand for its values, and cares for the well-being of its population. Such messages cannot be successfully developed and pursued without proper media policy in the state and a cooperation between media and the government. Only by creating, implementing and sustaining an effective strategic communication strategy the narrative can be truly owned and endorsed across the society, which would hopefully lead to a motivated, united and strong population, willing to defend its country and, thus, be a part of comprehensive defence.

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**BEST ESSAY OF THE HIGHER COMMAND STUDIES
COURSE (HCSC)**



Building cyber capabilities for the armed forces: challenges and solutions.

LTC Vytautas Sriubas

Introduction

At NATO Summit in Warsaw, 2016, the Heads of State and Government of the member countries 'recognise cyberspace as a domain of operations in which NATO must defend itself as effectively as it does in the air, on land, and at sea' (NATO, 2016). That emphasizes the importance of cyberspace and leads to following strengthening of the national capabilities in this domain.

The ambition to declare that cyberspace is equal to other domains (land, air and sea) most likely means that cyber will be treated like others domains and will be integrated into NATO planning and operations (Ducaru, 2018). At the same time is clear declaration from NATO and EU '...that cyber security of its member states is a national responsibility' (Pernik, 2014, p.7). It means that cyber capability is being built at the national level, firstly for the national purposes, but, at the same time, it should be built in the way, that would be possible to use it at the international level as well. As an example might be mentioned NATO Military Cyber Operations Centre which functionality based on national cyber capabilities contribution (Emmott, 2018). The Centre is part of the new NATO command structure since 2018 but full operational capability will reach just in 2023. It is and will be based on '...voluntary national cyber contributions...' (Ducaru, 2018).

There is a lot of uncertainty in cyber domain starting, for example, with basic definitions, legal issues of usage cyber at the international level. Besides that, nations probably are at different stage of cyber capabilities development, have different resources, even not always because of the national security interests or relation to intelligence (Warner, 2017) are willing to share information related to cyber capabilities. The paper will argue that *differently structured national cyber capabilities and defined role of the armed forces in the national cyber defence framework have an impact on the interoperability of these at the international level.*

The purpose of the paper is to analyse the challenges, which are rising in front of national cyber capabilities planners and provide possible solutions how to address those challenges. It will be done through analysis of several important factors, which could possibly be viewed as very basic elements for the building the cyber capabilities for the armed forces. The first chapter starts with the understanding of some aspects of the cyber definition, which follows with analysis of the relationship between cyber capability and communication and information systems (CIS) capability. A different interpretation of these 'capabilities' relations might pose a challenge for cyber capabilities planners, especially when it is necessary to decide whether to keep those parts separate or join into one capability.

The national cyber strategies show different involvement of armed forces into cyber related tasks towards 'civilian' information technology (IT) infrastructure. If tasks are different, capabilities will be built differently as well. The second chapter analyses this challenge and the outcome of the research should help to understand the national positions related to civilian infrastructure cyber defence. The possible solutions also have presented. A brief analysis of the international cyber activities, which can contribute for cyber capabilities building, is presented in the last chapter. The importance of the practical cooperation among nations and ways how it addresses the challenges of the cyber capabilities building are examined in the last chapter.

'A major challenge in the study of cyber-defence is that most of what happens in that sphere is conducted in secret' (Muller, 2019). For this reason the paper does not cover all challenges, which exists in the cyber capabilities area; also it intentionally does not touched upon topics related to the specific of cyber capabilities designed for the intelligence services.

Defining the boundaries: 'cyber' versus 'communication and information systems'

As it has been mentioned previously, nations are responsible for building of the national cyber capabilities. However, the cyber domain is multinational in its essence and the cooperation among nations on cyber issues is very important. Cyber domain comparing with land, air and maritime domains is relatively new. For that, certain cyber

domain related matters do not have long usage traditions. In order to exchange information, conduct common actions and cooperate effectively nations should use the same terminology, or, let say, speak the same 'language'. Sometimes even relatively new papers on cyber start with the chapter, which sets terminology for that paper (Pernik, 2018 p. 2). Therefore, possibly, the different understanding of similar terms, definitions and other matters might lead to some difficulties for the multinational cooperation in that field. The term 'cyber capabilities' might be understood differently among nations as well and that might be considered as the challenge, which exists on a way of the building of cyber capabilities for armed forces.

Term 'cyber' might have a very general meaning. For example, Oxford dictionary says cyber is 'Relating to or characteristic of the culture of computers, information technology, and virtual reality' (Oxford Dictionaries, 2019). In one of the European Commission supported publications it is stated that "'Cyber" today can refer to almost anything' (European Union Institute for Security Studies, 2018). So the use of 'cyber' in conjunction with additional word could help to be more precise, as '...Only the complete term of the compound word (modifier+head) itself can be considered to possess actual meaning' (The Government of Finland, 2013). Term 'cyberspace' have many synonyms, which mean the same or have very close meaning, for example 'cyber domain' or 'cyber environment'. There are many definitions of these terms, wordings are different, but it is possible to say that in many cases it stands for '...an electronic information (data) processing domain comprising of one or several information technology infrastructures, it includes verity of devices, software, processes, information and etc.' (The International Telecommunication Union, 2008). The situation is not so clear when it comes to the term 'cyber capability'. There are cases when 'cyber capabilities' refer to the creation of all 'cyberspace' in the widest understanding - 'Cyber capabilities now indispensably enable most of the communications, reconnaissance, command-and-control, and operational functions of modern militaries' (Perkovich, et al., 2017). That interpretation of the term 'cyber capabilities' includes everything what in the old understanding was referred to the terms of CIS, IT and does not make any distinguish between the means which create IT environment itself, services which are running on it and other actions towards defence or offence of that. However, from practical point of view, the difference exists and it is very important.

'We are getting a little bit confused on infrastructure versus buying a network weapon for the [cyber protection teams] to use. And we have to make sure we understand when we're weaponizing the network to do [defensive cyber operations] or [offensive cyber operations] versus maintaining the network' (Pomerleau, 2017).

Two components of cyber capabilities might be depicted. First, related to IT infrastructure and CIS, which run on that IT infrastructure and second, an activity, which designed to defend or offend that 'first' part. It is important that 'cyber capabilities' might be associated with just the second part of that delineation. In other words, cyber activities are just those, which present a new effect – can get information from the advisory systems; make an influence on their functionality in a desirable way etc. There are even cases when this additional effect, created by cyber presents like a tool or even a gun. For example, some authors comparing cyber with the specific kind of weapons – 'nonlethal weapon' (Perkovich, et al., 2017).

The nations have different approaches toward this aspect of cyber capabilities. As an example of this delineation might be the Defence System of the Republic of Lithuania, where those two parts of 'cyber capabilities' are clearly separated. In accordance of the Terms of Reference (ToR)((Minister of Defence, LTU, 2017) of the Information Technology Service under the Ministry of the National Defence (MoND) of the Republic of Lithuania is not responsible for any cyber related activities, just for IT infrastructure, CIS and etc. Meanwhile, the National Cyber Security Centre under MoND is not responsible for IT infrastructure, but has many cyber related tasks (Minister of Defence, LTU, 2018). Two defence institutions with very clear delineation between IT infrastructure and cyber. As an opposite situation is in case of the Cyber Command of the Estonian Defence Forces – they are responsible for both discussed parts (Headquarters of the Estonian Defence Forces, 2018). The understanding 'cyber' as some separate (from general IT) entity in cyber defence case is described by U.S. Cyber Command representatives 'DoD Information Networks operations are those that are executed daily as part of running a network while defensive cyber operations/internal are specific actions taken in response to either intelligence, a threat or an incident' (Pomerleau, 2017).

Consequently, there are two possible approaches in sense of what part of IT activities include in cyber capabilities definition. First, let call it 'broad', refers to all IT infrastructure, services and all other activities that could be related to it. Second, let

call it 'narrow', refers just to that part which seeks to achieve defensive or offensive effect in cyberspace. The separation of these two activities of the cyberspace is not always an easy task, both activities often run on the same or very similar equipment, and just a purpose for what they are used might separate those. Again, it looks like it is important at the first steps the term 'cyber capabilities' is used together with 'supporting' words like 'cyber defence' or 'cyber offense' or just 'cyber operations'.

The definition of 'capability' says that it is 'Capacity, provided by a set of resources and abilities, to achieve a measurable result in performing a task under specified conditions and to specific performance standards' (Bucur-Marcu, et al., 2009, p.61). Probably, 'performing a task' is essential in this definition, because it may lead to the solution how to deal with that 'double' cyber understanding. In case when the same authority executes both cyber tasks 'narrow' and 'broad', situation is less complicated. The process of establishment of the Cyber Commands is ongoing among the nations; at least eight NATO nations had established the commands at the end of last year (Pernik, 2018). Many of them are responsible for both cyber tasks. For example, that tasks conducts already mentioned Estonian Cyber Command, Cyber and Information Space Command in case of Germany: '...everything in the Bundeswehr that has anything to do with information technology has been concentrated in a single organizational area...' (Kiesel, 2018). However, the trend of building of cyber capabilities under separate commands is not an absolute concentration of everything under one umbrella. For example, UK Joint Doctrine sets requests for the maritime, land and air elements to have their own capabilities designed to cyber operations, which should be used within respective domains (UK Ministry of Defence, 2019).

In conclusion, two possible approaches in sense of cyber understanding exist. The participants of the multinational cyber related activities should consider those national differences and act appropriate during common involvements. The establishment of the common military authority at national armed forces level in cyber-domain is one of the solutions for addressing abovementioned issue. However, the cyber commands most probably are different from nation to nation and do not always concentrate all cyber related activities under one command.

The national military capabilities planers should consider that 'dual' approach as well and it is necessary to make decision how to proceed with that area capabilities plan –

to joint in one or keep those separately. It is popular to declare that cyber capability building is a priority. Probably, that 'priority' is going just to 'narrow' understanding of cyber capabilities? It would be more logical that CIS infrastructure (both static and deployable), information systems for different warfighting systems and cyber are assessed and prioritized separately, keeping in mind, of course, existing minor relations among those areas. That separate prioritization is necessary because CIS part usually are developing in relation with other warfighting capabilities like air defence, artillery etc. Even it might be considered as a part of that capability. A decision to develop CIS depends on decision to develop certain warfighting system.

At the same time, the decision to build cyber capabilities for armed forces under one command, most probably, good solution. CIS and cyber are depended on each other, so one command allows better coordinate the implementation of complex CIS and cyber parts, arrange effective functionality of both parts.

However, one needs to be aware that at least some separate maritime, air, land domains related cyber 'elements' still might be developed and these will be subordinate to certain domain command.

Role of the Armed Forces related to the critical civilian infrastructure

The Armed forces are using cyberspace very intensively and in different ways. The part of that "space" is created by their own IT infrastructure, often based on the mobile or deployable equipment without direct connection to any civilian infrastructure. This situation is easiest from the systems security point of view and is clear that armed forces are responsible for the whole functionality of their own cyberspace elements including cyber defence. On the other hand, armed forces intensively use Internet and civilian IT infrastructure for the execution of their task. It probably in some cases creates dependency on it (Pernik, 2014). What does it mean? Should armed forces defend that civilian infrastructure? Even more, the adversary probably are using internet and civilian infrastructure as well. Therefore, possibility to make influence on the adversary throughout internet-based systems also presents an interest for the armed forces. Besides that, the requirement for the armed forces to have cyber capabilities designated to act in civilian IT infrastructure not necessary are rising just

from the purely military tasks. We know that 'militaries have evolved primarily to protect from external threats ... cyber threats often come from overseas' (Wallace, 2013). It leads to understanding that armed forces should play their own role addressing the cyber threats at the state level. EU guidance for cyber operations states that '...during the development of national cybersecurity strategic frameworks, defence actors (e.g. ministries, academies) are important stakeholders as part of a whole-of-government approach' (European Union Institute for Security Studies, 2018).

The definition of capabilities show relation between capability and assigned task (Bucur-Marcu, et al., 2009, p.65), so involvement of the armed forces into defence of the civilian infrastructure, or, in another words, tasks which armed forces have in relation with that, should be known from the very beginning. It would make strong influence on the cyber capabilities building.

The governmental level regulation is that starting point for the analysis of existing situation related to involvement of armed forces in civilian infrastructure defence. Even European Security Directive on Security of Network and Information Systems (NIS directive) (The European Parliament and the Council of the European Union, 2016) requires from all Member states to have a strategy where the important decisions for the cyber domain would be fixed. Of course, those national decisions on cyber space regulations should lead to the clarification of the involvement of the Armed forces in that space at national level. Many countries have cyber related strategies. According to the International Telecommunication Union (ITU), currently 124 out of 194 ITU Member States have a National Cyber Strategy (International Telecommunication Union, 2019). The National strategy might be followed by other cyber related strategies designated for the certain area of the national activity. The U.S. DoD 'Cyber strategy 2018' (Department of Defence of the United States of America, 2018) has many guidance for the militaries concerning cyber related tasks. For instance, on the militaries involvement into defence civilian infrastructure is said that

'The Department must defend its own networks, systems, and information from malicious cyber activity and be prepared to defend, when directed, those networks and systems operated by non-DoD Defense Critical Infrastructure ... and Defense Industrial Base ... entities' (Department of Defence of the United States of America, 2018).

Another example of the strategies defining the way for cyber capabilities might be the National Cyber Security Strategy of the Republic of Lithuania, approved by the Government of the Republic of Lithuania on 13 August 2018. It stated that

‘...the Lithuanian Armed Forces have become the main cyber space defence entity of the Republic of Lithuania...To fulfil the objectives set for the Lithuanian Armed Forces, national cyber defence capabilities will be developed ensure reliable deterrence of aggressors in cyber space, and in case of failure to deter aggressors – to independently and in cooperation with the Allies – to defend the Republic of Lithuania making use of all cyber security measures’ (The Government of the Republic of Lithuania, 2018).

Provided examples show the tasks for the militaries related to civilian cyberspace part. On the other hand, there is very clear statement for the Nordic countries ‘The defence forces are not responsible for protecting countries from cyber threats in the Nordic countries’ (Rantapelkonen, et al., 2013). These examples show, that the involvement of armed forces or, let’s say, militaries in the state cyber issues differ among the countries. That statement might be proofed using works of other authors. For example, Klimburg presents similar finding (Klimburg, 2012, p.87), another interesting analysis of national involvement of armed forces in the civilian infrastructure defence is presented in Pernik latest work (Pernik, 2018). There are presented six nations (Estonia, Finland, Norway, Germany, Nederland and the US) armed forces involvement in the cyber defence of the civilian infrastructure and it is possible to see that national attitudes toward that situation are different. The involvement of the armed forces in civilian infrastructure defence tasks sometimes are seen as a special case ‘In case of large-scale cyber incidents, or upon the request of public authorities, the Dutch defence organisation will support the protection of public and private critical national infrastructure’ (Pernik, 2018). It again just proves statement, that each nation has their own vision in to what extent to use armed forces in civilian infrastructure cyber defence. As a result – the required resource to conduct the required cyber related activities would be different as well.

It is a challenge to build cyber capabilities in that situation because of couple of reasons. First, the national capabilities planers cannot directly use practice of other countries, which already have higher cyber capabilities maturity level. In other words, they are not able to use lessons learned or advices of more advance partners or allies

just because their regulation on the role of armed forces on cyber is different. It also means additional time and resources to build effective capabilities in that situation. However, more important is the second reason – multinational efforts on cyber arena. At this point it is important to emphasise again – the building of cyber capabilities is national responsibility, but the employment might be international. In that situation the common involvement of cyber capabilities in NATO, EU or multinational might have interoperability problems. For example, it was already mentioned that NATO Military Cyber Command Centre operations will rely on national cyber capabilities. However, those capabilities might be different with national limitations. That will require additional efforts to create coherence among allies during common involvement in cyber activities. For example, the creation of common cyberspace operational doctrine which is planned to be ready for approval in this year (NATO, 2019) also might be challenging.

In conclusion, the tasks for the armed forces in cyber related activities regarding civilian infrastructure are different. It leads to specific national way of building cyber capabilities. It is a result of the political decisions which leads to the appropriate strategies, policies, military doctrines and finally cyber capabilities building at Mod's or at armed forces level. It is important to emphasize, that the national level strategies and other documents just clarify the tasks for the national cyber capabilities building, but do not create coherence among multinational players.

Building cyber capabilities: international cooperation

The countries, as was already discussed, have their own national cyber capabilities building visions, which likely differently involve militaries in the countries' cyber tasks. The common practical activities at the international level, which bring national cyber players in to the executions of the common tasks, should help to eliminate the problem and lead to creation of at least some level of interoperability. The analysis of the various practical cooperation as a possible solution to achieve coherence among national cyber capabilities are presented in the chapter.

The cyber capabilities are very dependent on technology, which is changing very rapidly. The timeline of the development of cyber capabilities should be shorter than

conventional weaponry. It makes cyber capabilities building specific in terms of time, technological complexity. It is not so easy to buy necessary equipment in short time because of long and bureaucratic procurement procedures, which have place in many countries (Besch, 2018).

Multinational cooperation can be beneficial in that situation. The Multinational Cyber Defence Capability Development (MNCD2) project, which is one of NATO smart defence projects, helps nations to work more effectively on cyber capabilities building. MNCD2 helps nations to specify cyber requirements in terms of quality and timeliness, what allow avoiding delays in procurements, improve quality of technological solutions, even ‘...enables countries to work together to develop and maintain capabilities they could not afford to develop or procure alone...’ (Besch, 2018). Probably that form of cooperation is very valuable for smaller nations. Those not always have qualified personnel with necessary qualification and experience in various capabilities building areas.

Usually capability is built in several areas. For example in accordance with NATO capability model, which is introduced in many countries, these areas are: doctrine, organisation, training, material, leadership, personnel, facilities, interoperability (Bucur-Marcu, et al., 2009, p.81). Once MNCD2 addresses to capability as whole, other NATO cyber related smart defence projects are oriented towards particular parts of cyber capability. Malware Information Sharing Platform (MISP) is successful case of NATO smart defence concept implementation.

‘...The aim is to speed up the detection of incidents and the production of defence countermeasures, especially for malware that is not blocked by anti-virus protection, or that is part of sophisticated targeted intrusion attempts’ (NATO Communications and Information Agency, 2019).

NATO Communications and Information (NCI) Agency supports this project with organisational and technical means. It is one of the projects when multinational organisation contributes towards effectiveness of the national cyber capabilities. It is important to mention that the project is open for any cyber defence institution (military or civilian) from NATO countries (NATO Communications and Information Agency, 2019). That statement shows that the project well adapted the national cyber organizational differences, which were analysed above.

Third NATO cyber defence related smart defence project is Multinational Cyber Defence Education & Training (MN CD E&T) project with Portugal as leading nation. The project is oriented towards nations and NATO. The objectives of that project are firstly, to fulfil CD E&T shortfalls in the certain cyber capabilities areas, secondly, to support Nations and NATO to implement Capability Targets (CTs) related to cyber area (Nunes, 2014). CTs are capabilities building requirements to each ally, which NATO assign through NATO Defence Planning Process (NDPP) (NATO, 2018). Important is the fact that these assignments might be different for each Nation. That can effectively be tailored to each Nation's cyber capabilities development situation.

Two important findings follow from that. First, NATO sets the tasks for the Nations in cyber capabilities building area and that definitely shapes national cyber capabilities building process for armed forces and contributes to the coherence among the national cyber capabilities. Secondly, course structure of MN CD E&T makes emphasis on functional areas but not on the tasks or dependency to certain institution. That allows involving participants from nations without dividing into militaries or civilians and well address the national differences in cyber domain, which was analysed in the first parts of the paper.

The NATO Cooperative Cyber Defence Centre of Excellence (CCDCE) in Tallinn also very important institution in cyber capabilities building process. Besides many important activities, which bring together specialists from the military, government, industry and academia, the institution is organizing cyber exercise such as Locked Shield and Crosses Sword (NATO CCDCOE, 2019). During such type of exercises, besides other important objectives, usually is practising to address threats towards objects of the critical civilian infrastructure. The one additional challenge, which exists on the way of the building cyber capabilities, especially in those cases when in accordance with national policy the cyber defence of the critical infrastructure is assigned to the militaries, should be mentioned. Despite the fact that militaries have to be ready to defend civilian critical infrastructure, some avoidance of the militarization of that function are evident (Skierka, 2016). For that reason probably tasks for militaries sounds like '...be prepared to defend, when directed...' (Department of Defence of the United States of America, 2018). It means that the involvement of armed forces into cyber defence of that objects is not on the daily bases and lead to the complicated relationship between the 'objects of defence' and 'the defenders'. The

knowledge of the specifics of the critical civilian infrastructure is necessary; it may differ in each case. In order to prepare for the cyber defence of that objects and be sure that the militaries' capabilities are sufficient for the fulfilling tasks of the defence of the critical infrastructure, the tests of those capabilities are necessary. The only way to do that is common exercises, which involve the owners of that infrastructure and the representatives of armed forces. The exercises help a lot in sense of building cyber capabilities even in more 'capabilities' areas. The challenge is to get qualified people to build the 'personnel' part of the cyber capabilities. The exercise Amber Mist, which the Lithuanian Armed forces conduct yearly together with U.S. and the representatives of the critical civilian infrastructure, tests the procedure of the incorporation of the civilian specialists into militaries cyber tasks through the army reserve system (The Baltic Word, 2018).

The practical implementation of the cyber solutions into the real multinational operational networks like, for example, into the enhanced Forward Presence (eFP) mission network, may contribute to cyber capabilities building providing lessons learned information. The eFP network is a practical implementation of the NATO Federated Mission Networking (FMN) framework (NCI Agency, 2017). FMN through Multinational CIS Security Management Authority are approving the security solutions for the future NATO operational networks (NATO, 2014). These solutions might be taken into the consideration during the cyber capabilities building process.

Cooperation among EU Member States also is very important in the context of the cyber capabilities building. It was already mentioned NIS Directive and its importance for the initiation of the National Cybersecurity Strategies of Member States. Permanent Structured Cooperation (PESCO) is another example of the practical cooperation, which contributes to cyber capabilities building for the armed forces. The objective is through the process of cooperation have '...coherent defence capabilities available to Member States for national and multinational (EU, NATO, UN, etc.) missions and operations' (European Defence Agency, 2018). Two cyber related projects are ongoing in that cooperation framework. First, Cyber Threats and Incident Response Information Sharing Platform, led by Greece. It probably has similarities with NATO MISP, but anyway it has clear '...aim of strengthening nations' cyber defence capabilities' (European Council, 2018). Second, Cyber Rapid Response Teams and Mutual Assistance in Cyber Security, led by Lithuania, oriented towards practical

cooperation through Cyber Rapid Response Teams (CRRTs). The integration of Member States expertise in cyber domain is one of the important tasks of the project (European Council, 2018). It is good solution to addressing national differences in cyber capabilities building.

At the end of this chapter is important to mention that many nations probably have been involved in bilateral and multilateral cooperation on cyber issues. The developments maybe less visible but still contribute very much towards each nation's cyber capabilities building process. For example, Lithuania is cooperating with Israel on cyber activities and in cooperation with U.S. is building a regional Cyber Security Centre in Kaunas (Government of the Republic of Lithuania, 2019). That kind of cooperation allows building national cyber capacities more effectively and practically adjusting national cyber capabilities in order to create bases for common activities.

In conclusion, after initial cyber capabilities building at the national level, which create certain different approaches in some developments, necessity to cooperate in effective way at international arena push nations to find common understanding in different cyber capabilities areas. This common understanding is built in different ways. Firstly, cooperation in different formats (EU, NATO, multinational, bilateral) is usually based on voluntary basis, so nations choose those projects where participating nations have similar cyber capabilities approach. Secondly, cyber capabilities as it was mentioned consist of several different areas like doctrine, organisation, training, etc. Therefore, concentration of the cooperation on certain capabilities area without attribution to the military or civilian, defence or other organization allow to involve nations with the different task organization. Finally, practical common activities allow exchange of information among nations, show which national developments are more effective and contribute to further cyber capabilities development at the national level. Probably the international cooperation is most effective or even only way to address national differences and create efficient cyber capabilities for national and multinational involvement.

Conclusion

The two different approaches in sense of relation between CIS and cyber capabilities have been analysed in the paper. It was shown that both of those approaches could be found among nations. The participants of the international cyber activities should consider those differences of the national attitude for couple of reasons. Firstly, it may make some misunderstanding when some third parties try to compare, for example, the investments of the different nations into cyber capabilities. The answers from nations might have different content but have the same name. It might misrepresent real investments; create difficulties during projects development etc. Secondly, nations can differently assigned tasks among defence institutions and the armed forces. There can be situation when national representatives from different countries are not able to start common action on the international level just because they have different tasks and prepared for different actions. Therefore, the clarification who is responsible for what at the national level would be a valuable first step before starting cooperation with other nations and organisations. That 'dual' approach challenge is important for the national capabilities planers, because they need to know how cyber capabilities development projects are structured: keep CIS and cyber together or separate those. The trend to put cyber capabilities for armed forces developments under control of one command probably should help better balance internal capability structure and effectively address mentioned problem of 'dual' understanding.

In accordance of the analyses, which has been made in the paper, it would be possible to recommend for the Lithuanian MoND to consider a possibility to unite all institutions which are dealing with CIS and cyber under one jointed command. It makes easier to coordinate many activities, which those institutions are involved in and the structure will be more understandable for international partners etc. Of course, it is necessary to conduct more deep analysis on the proposal, especially taking into account the limitations of this paper, which was mentioned in introduction.

The responsibility of armed forces regarding defence of the civilian infrastructure from cyber-attacks varies from nation to nation. The U.S., Germany or Lithuanian Armed forces have tasks in this regard. The Nordic nation's armed forces do not participate in civilian infrastructure cyber defence. It means that the different requirements for the cyber capabilities of armed forces exists, consequently, it leads to the different

capabilities developments. Because of that situation a challenge for the forces interoperability at the international level may occur. The national strategies and lower level regulations on cyber domain may help the national capabilities planners to understand what and in what extend should be developed. However, these documents just clarify national situation and do not contribute very much to the creation coherence among nation at international level.

A solution to achieve a better interoperability might be found just in one way – practically working together through common projects, exercises and other forms of cooperation. As it was mentioned, cyber domain is international by the essence; therefore, common efforts from nations to deal with cyber threats are very important. Many different examples of that endeavour have been analysed in the last chapter of the paper. NATO, EU, multinational or bilateral projects like Lithuanian-U.S. cooperation on cyber contribute towards coherence among nations, create basis for effective common actions in the cyberspace. Probably, the practical multinational or bilateral actions work very well for cyber domain capabilities development because, firstly, it allows to find a real way how to unify different national solutions, secondly, provide thought for the national consideration how to improve national developments on the basis of the best practice of other nations. It may considerably improve national developments, probably, even can create basis to make upgrades of the doctrinal documents or even the national strategies.

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List of Abbreviations

CCDCE: Cooperative Cyber Defence Centre of Excellence

CIS: Communications and Information Systems

CRRTTs: Cyber Rapid Response Teams

CTs: Capability Targets

DoD: Department of Defence

eFP: enhanced Forward Presence

EU: European Union

FMN: Federated Mission Networking

IT: Information Technology

ITU: International Telecommunication Union

LTU: Lithuania

MISP: Malware Information Sharing Platform

MN CD E&T: Multinational Cyber Defence Education & Training (project)

MNCD2: The Multinational Cyber Defence Capability Development (project)

MoND: Ministry of National Defence

NATO: North Atlantic Treaty Organization

NCI: NATO Communications and Information (Agency)

NDPP: NATO Defence Planning Process

NIS: Network and Information Systems

PESCO: Permanent Structured Cooperation

ToR: Terms of Reference

U.S.: United States

UK: United Kingdom

UN: United Nations