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**Design editor:** Kitti PETREZSELYEM

**Proofreader:** Jolán APAGYINÉ GÁSPÁR

**Editorial secretary:** Júlia PÁSZTOR (pasztor.julia@hmzrinyi.hu)

**Contacts**

**Phone:** (+36)-1-459-5355 • **E-mail:** kiado@hmzrinyi.hu

**Address:** H-1087 Budapest, Kerepesi út 29/b

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*The Editorial Board of Hungarian Defence Review*

# Hungarian Defence Review

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# INNOVATION METHODOLOGIES FOR DEFENCE CHALLENGES

It is usually the job of the defence sector to make sense of the security environment, to assess its dynamics, and to build up the necessary capabilities. It is also our responsibility to convince society that they have to devote resources for their defence and that these resources would be used efficiently.

It sounds like an easy job, but if it were, then probably only successful armies would exist. Since it is not being the case, let us just agree, that we need the best brains around and the best concepts at hand to succeed...

Today the availability of necessary information is not the matter of probability anymore. Unlike in the Middle Ages, we literally swim in data and as a result, collectively we are becoming increasingly capable of making strategic decisions or responding to events in a range of dimensions from social and economic problems to biology. Thus, networks are becoming more important than individual knowledge and this development leads us, mankind, to a more connected and more complex world, than ever before.

What are the implications? Well, for one, time and distance cease to be a decisive factor. A traveller departing from Berlin and travelling one single day on horseback, could reach the North Sea in 1819, the French border in 1906 by train, and Moscow in 2015 by airplane. Distance and a relative cost of travel is vanishing in the globalization. Reducing the importance of time and distance is also ultimately necessary for maintaining the current extent of the global value chains, which in turn act as the fundament of the technological and economic development on a global scale.

Speaking of technologies, today, we observe an exponential, albeit slowing, rate of technological change in accordance with Moore's law, where humanity is increasing its computational ability by roughly 60% each year. This provides a solid basis for the growth of productivity which in turn, fuels economies.

As a net result, data are everywhere. According to IBM, 90% of the data available in 2017 was created in the matter of two years. We generate 2.5 quintillion bytes of data every year. In nominal terms this equals to the number of all ants on the planet multiplied by 100. According to some estimates, by 2020, every person had generated 1.7 megabytes of data every second.

What kind of consequences does all this have? For one, while our world is shrinking and our knowledge is growing, we are struggling to make sense of it. Thus, we face here a technologically induced paradox: we know more about the world, but that world is increasingly complex. In light of this complexity, we need to learn more, think more and act more.

On the one hand, in the realms of defence, traditional, linear approaches do not work anymore and the facets of strategy are changing. The dichotomy that we all were taught at school, like phalanxes versus legions, David versus Goliath, blue versus red does have increasingly limited validity today.

Adversaries of the global military hegemon, the United States, adapted well to the arithmetic of modern warfare (that is, any tier 1 army can defeat any tier 2 or 3 armies in the world if pitched against each other in a structured manner) and so they avoid choosing linear options and direct strategies. This has a strong impact on the possible employment of the

Hungarian Defence Forces, as an Allied Army, as well. The new *modus vivendi* has many names, from hybrid warfare to grey zone, but its most important attribute is its non-linear and asymmetric nature. It also operates in the vast and complex space between peace and war and so it severely stretches the ability of global arrangements, legislative systems, and alliances to adapt to this new reality, which in turn, could cripple our ability to cooperate with each other in the not so distant future. The bottom-line here is: if we do not understand it, we cannot tackle it together.

On the other hand, technological changes are altering the material landscape of war. We observe an accelerating cycle of innovation for many weapon systems, most prominently command and control and sensor systems, AI as well as autonomous systems and finally, drones. Rapid technological advancement can limit our ability to employ our existing weapon systems with the greatest possible effect if we do not follow the innovation race. But if we do, this may impose on us costs that we cannot endure. Does it pose an economy of scale problem? Do smaller nations have a chance to keep up with the furious tempo of innovation? How are our own efforts stacking up into collective result?

Thirdly, terrorism is changing as well. Today a terrorist or a terrorist organization can rely on the same set of technological achievements which are enabling the prosperity and welfare of our societies. The availability of such technology is a common good for all of us and it is impossible to deny it from people with harmful intentions. A drone which is for sale for any of us on eBay may easily be transformed into a kill chain weapon system through minor adjustments. New, dual-use technologies, if applied as weapons, possess increased lethality. The range and reliability of remote control technologies also increased exponentially. These tools are mostly concealable, portable, and easy to use. Conventional weapons, like explosives and fire-arms, are also easy to obtain, especially in those regions, where instability reigns. I shall add here, that the number of such regions is increasing steeply.

Finally, as time and distance are vanishing, interconnectedness creates new points of mutual vulnerabilities from pandemic diseases to the collapse of the current climate. This creates a strong interdependency between far away locations and globalizes local problems, thereby also complicates them even further. It also creates many new types of vulnerabilities.

So, here is the second paradox, which is induced by technology. As the welfare of mankind is increasing, it seems that several global variables, including war itself as the most prominent for us, are undergoing their own evolution. As war remains inseparable from its larger context, the global ecology, it is gaining complexity at least at the same speed. Accordingly, our job to understand it becomes more difficult as well.

I personally do not think that we really understand how wars develop, why we have so many of them, why not a big one, like a world war. Where is the threshold between war and peace? What can we do about it? How can we prepare our forces to a constantly changing landscape? How can we train highly rigid organizations to be flexible by design?

What I do exactly know, however, is that these are some of the questions which I am sure will be asked and answered through this special issue of the journal.

*Gergely Németh, PhD  
Deputy State Secretary for Defence Policy*

Pál Bak, Gergely Németh, Diána Szőke

## FOUNDATIONS OF HUNGARIAN DEFENCE POLICY

DOI: [10.35926/HDR.2020.2.1](https://doi.org/10.35926/HDR.2020.2.1)

**ABSTRACT:** *This article aims to outline the foundations of contemporary Hungarian defence policy thinking, highlighting the factors which have shaped it during the last years.*

*Hungary lies in a unique geostrategic position, at the crossroads of 'eastern' and 'southern' challenges. The study therefore begins by presenting an overview of Hungary's place in the global security environment, especially in light of the instability currently characterising certain regions on Europe's periphery. It then goes on to discuss the institutional framework of Hungarian security and defence policy, primarily concentrating on NATO and the EU CSDP. The newly adopted National Security Strategy, together with the National Military Strategy (currently under review) serve as the starting point for the analysis. Our study also pays particular attention to Hungary's large-scale military modernisation programme, the Zrínyi Programme.*

*Based on this, the authors identify three major challenges shaping the medium-term outlook for Hungarian defence policy. These are*

- (i) the pressures of illegal mass migration;*
- (ii) the challenges of transnational terrorism; along with*
- (iii) the activity and potential for conflict among regional and global powers.*

*In addition, the article briefly highlights the future challenges that Hungary must reckon with, including the security-related implications of global climate change, energy dependency, cyber defence, together with the proliferation of nuclear and conventional weapons.*

**KEYWORDS:** *Hungary, defence policy, defence planning, NATO, EU, terrorism, migration, geopolitics, emerging security challenges, NDPP*

## INTRODUCTION

It has become commonplace to remark upon global power shifts (such as the emerging multi-polar world order, or the role of great power aspirants), and the multifaceted threats to international security (be that transnational terrorism, cyberattacks, pandemics, weapons of mass destruction, or even climate change). It is also true that the changing nature of the complex security landscape of the 21<sup>st</sup> century continues to generate 'strategic shocks', in the form of unanticipated, high-impact events, like the illegal annexation of the Crimean Peninsula or the emergence of a state-like terrorist organisation with strategic offensive capabilities (such as Islamic State/Daesh).

In the face of these challenges, the defence policy of any given country must reflect upon their own geostrategic location, its vested national and allied interests, as well as be able to

prioritise courses of action in order to support a more stable security environment. Due to these reasons, while European nations' own defence policies may vary, they all should seek to pursue cooperation within the context of the North Atlantic Treaty Organisation and the European Union, respectively. In this framework, understanding the signals from the declarations and actions behind national defence policies remains key to facilitating united responsiveness in the face of modern security challenges.

This article aims to outline the foundations of the contemporary defence policy of Hungary. It begins by presenting an overview of Hungary's place in the global security environment, especially in light of the instability currently characterising certain regions on Europe's periphery. Then, it goes on to discuss the institutional framework of Hungarian defence thinking. Most importantly, Hungary is a member state of and highly committed to NATO and the European Union. These structures, beyond the national capabilities, are the most decisive frameworks and the essential multilateral pillars of Hungarian defence policy. In addition, Hungary's participation in the OSCE and the UN are also important factors of its standing in the global environment. The newly adopted National Security Strategy and the National Military Strategy (currently under review) serve as the basis for the analysis of Hungarian defence policy.

Based on the above, the authors identify three current challenges shaping the medium-term outlook for Hungarian security and defence policy. These are (i) the persistent pressures of illegal mass migration, (ii) the challenges of transnational terrorism, along with (iii) the activity of rising and great powers (and the potential for peer conflicts amongst them), which has longer-term geopolitical implications as well. In addition, the authors also briefly highlight the future challenges that Hungary must reckon with, including climate change, energy dependency, cyber defence, the proliferation of weapons and ammunition, and potential future calamities such as natural disasters and pandemics. All this should be interpreted in light of the fact that Hungary is in a unique geostrategic position, at the crossroads of the so-called 'eastern' and 'southern' challenges affecting the European continent.

An analysis of the defence policy's perspective on the major security challenges affecting the country should use the perception of its citizens as a fundamental starting point. As a most recent study published by the Institute for Strategic and Defence Studies (ISDS) based in Budapest points out, the concept of 'security' among the Hungarian public is primarily linked to concerns over personal material security and public safety, with a strong preference for governmental decision-making on national defence and security policy issues.<sup>1</sup> A survey conducted by Pew Research in 2019 found that Hungarians – in line with the general European consensus – considered global climate change to be the top security concern for their country. 66% of respondents cited this as a major challenge, followed by Islamic State militants (59%), North Korea's nuclear programme (51%), and cyberattacks from other countries (35%).<sup>2</sup>

<sup>1</sup> Tálas, P. and Etl, A. "The transformation of Hungarian security perception between 1999 and 2019". *ISDS Analyses* 4. 2020. [https://svkk.uni-nke.hu/document/svkk-uni-nke-hu-1506332684763/ISDS\\_Analyses\\_2020\\_4\\_The%20transformation%20of%20Hungarian%20security%20perception%20between%201999%20and%202019\\_\(Etl%20A.%20-%20T%C3%A1las%20P.\)%20\(1\).pdf](https://svkk.uni-nke.hu/document/svkk-uni-nke-hu-1506332684763/ISDS_Analyses_2020_4_The%20transformation%20of%20Hungarian%20security%20perception%20between%201999%20and%202019_(Etl%20A.%20-%20T%C3%A1las%20P.)%20(1).pdf), Accessed on 8 October 2020.

<sup>2</sup> "Climate change still seen as the top global threat, but cyberattacks a rising concern". Pew Research Center. 10 February 2019. <https://www.pewresearch.org/global/2019/02/10/climate-change-still-seen-as-the-top-global-threat-but-cyberattacks-a-rising-concern/>, Accessed on 16 July 2020.

It is, however, a natural phenomenon that the ‘defence policy-centric’ security approach and the ‘public-centric’ security approach differ, as the citizens and the defence policy practitioners often see different sets and layers of challenges, risks and threats to national security. Therefore, the drivers they perceive are also diverse, but there are, of course, similarities as well. In the case of Hungary, both experts and the public consider challenges of transnational terrorism (predominantly the emergence and activity of the Islamic State/Daesh) as a current and serious threat. (Notably, both place it in second place in the top list of threats.) To this end, this current publication predominantly summarises the state-centric thinking of the Hungarian security environment. It is important to note that while global climate change and cyberattacks are not on the authors’ list of the three main issues, in “Broader Challenges”, the authors also take stock of those topics.

As for the methodological processes used in writing this article, the sources analysed included:

- Geopolitical forecasts published by leading European and North American think tanks and policy centres (as referenced in the bibliography);
- Globally-focussed surveys on societal security perceptions (published by the Pew Global Research Centre between 2017-2020); as well as
- National-focussed studies on the changing security perceptions of the Hungarian public and the security policy community (published by the Institute for Strategic and Defence Studies based in Budapest in 2020).

The reason for choosing these sources lies in the fact that they simultaneously highlight current thinking on security trends while also providing quantified evidence of how society evaluated the associated risks. On the other hand, the potential drawbacks / limitations are that these sources fundamentally present a Western-oriented worldview, and are often state-centric in their analysis.

While myriad potential security challenges could be named given the rapidly shifting global geopolitical landscape, we aimed to select those upon which defence policy could have the greatest direct effect. As a result, our chosen topics strongly reflect the current thinking of the Defence Policy Department of the Hungarian MoD.

## THE STRATEGIC FRAMEWORK OF HUNGARIAN DEFENCE POLICY

### Crisis Zones on the Periphery of Europe

Europe, and by that Hungary as well, is currently surrounded by an ‘arc of instability’ (see *Figure 1*). Owing to its geostrategic position in the centre of the Eastern Flank as well as facing the Western Balkans, Hungary is affected by so-called ‘eastern’ and ‘southern’ challenges simultaneously. From an Alliance perspective, the annexation of Crimea and the destabilisation of parts of Ukraine present the major challenge on the eastern flank of NATO, whereas the civil wars of Libya, Syria (and to some extent Iraq) together with the instability of the Sahel Belt and its consequences are among the most pressing challenges from the southern direction.

Meanwhile, Hungary considers instability in the Western Balkans region as its most pressing security challenge due to its immediate geographic vicinity. At the same time, being aware of the region’s inherent dynamics, it is also clear that the Western Balkans is the only area on the periphery of the European Union where it is reasonable to hope that strong cooperation and a credible perspective for its countries could provide a solution for regional

difficulties. Hungary is interested in a stable region at its southern borders and it is well understood in Budapest that support for the countries in the region is key, as is the credible outlook for the Euro-Atlantic integration.

At the same time, looking at the wider southern neighbourhood of Europe, one can observe a complex landscape of serious instability, which is fundamentally challenging an older concept of security. With regard to the ‘southern’ challenges, the relevance of military interventions and therefore the effects of national force development programmes remain limited. Thus, there is a clear need to find adaptive and scalable answers through developing extended crisis management toolboxes composing all relevant sectors of the DIME(FIL) framework.<sup>3</sup> This is an area where the EU should excel even if European Allies, including Hungary, will continue to enhance their ability to respond to all contingencies on the basis of the ‘single set of forces’ principle,<sup>4</sup> complemented by the ‘360-degree approach’,<sup>5</sup> regardless of the origin of these challenges.

Over the past decade, relations between Russia and NATO/the EU have become increasingly strained,<sup>6</sup> thus once again highlighting the ‘eastern’ dimension of security challenges Central Europe is facing. Since 2014, NATO has essentially pursued a ‘dual-track approach’: it has strengthened its deterrence and defence posture, while simultaneously leaving the channels of political dialogue with Moscow open. Hungary supports the “dual-track” while acknowledges the need to develop deterrence and defence capabilities together with its Allies, and realises this through the fulfilment of commitments made within the frameworks of the NATO Defence Planning Process and PESCO.

In sum, the ongoing conflicts on Europe’s periphery are widespread, and oftentimes pose fundamental challenges to European unity. This is pointedly illustrated by the occasionally and invariably differing threat perceptions among member states of the European Union and NATO. To put it simply, it means that the so-called eastern and southern challenges have a different weight among the Allies and Member States. Hence, the respective security and defence communities need to adopt an integrated and comprehensive approach to understand and reduce potential risks. In parallel with that, Member States and Allies should also take a more innovative look into their inventories, including the exploration of further avenues for scaled-up efficiency gains through multinational capability development that support the abovementioned EU and NATO principles.

<sup>3</sup> DIME is an acronym for diplomatic, informational, military, and economic frameworks, while FIL additionally includes finance, intelligence and law enforcement.

<sup>4</sup> In the EU, the ‘single set of forces’ principle means that an EU Member State can use its capabilities within its national framework, or within a multilateral framework (EU, NATO, UN or other formations). Nonetheless, based on the given nation’s discretion, the capabilities can be used anywhere and anytime, thus these can strengthen other multilateral frameworks as enablers.

<sup>5</sup> NATO’s so-called ‘360-degree approach’ ensures that the Allies are capable of deterring threats from the ‘east’, while simultaneously countering challenges emerging from the ‘south’. For more information see: Morgan, A. “The Shadow NATO Summit IV: NATO’s 360-degree approach to deterrence and collective defence: Over-stretched and under-powered?”. 9 July 2018. <https://www.birmingham.ac.uk/Documents/college-socialsciences/government-society/iccs/news-events/2018/iccs-nato-shadow-summit-report-2018.pdf>, Accessed on 12 December 2020.

<sup>6</sup> “A Kormány 1163/2020. (IV. 21.) Korm. határozata Magyarország Nemzeti Biztonsági Stratégiájáról”. [Government Decree No. 1163/2020 on Hungary’s National Security Strategy].

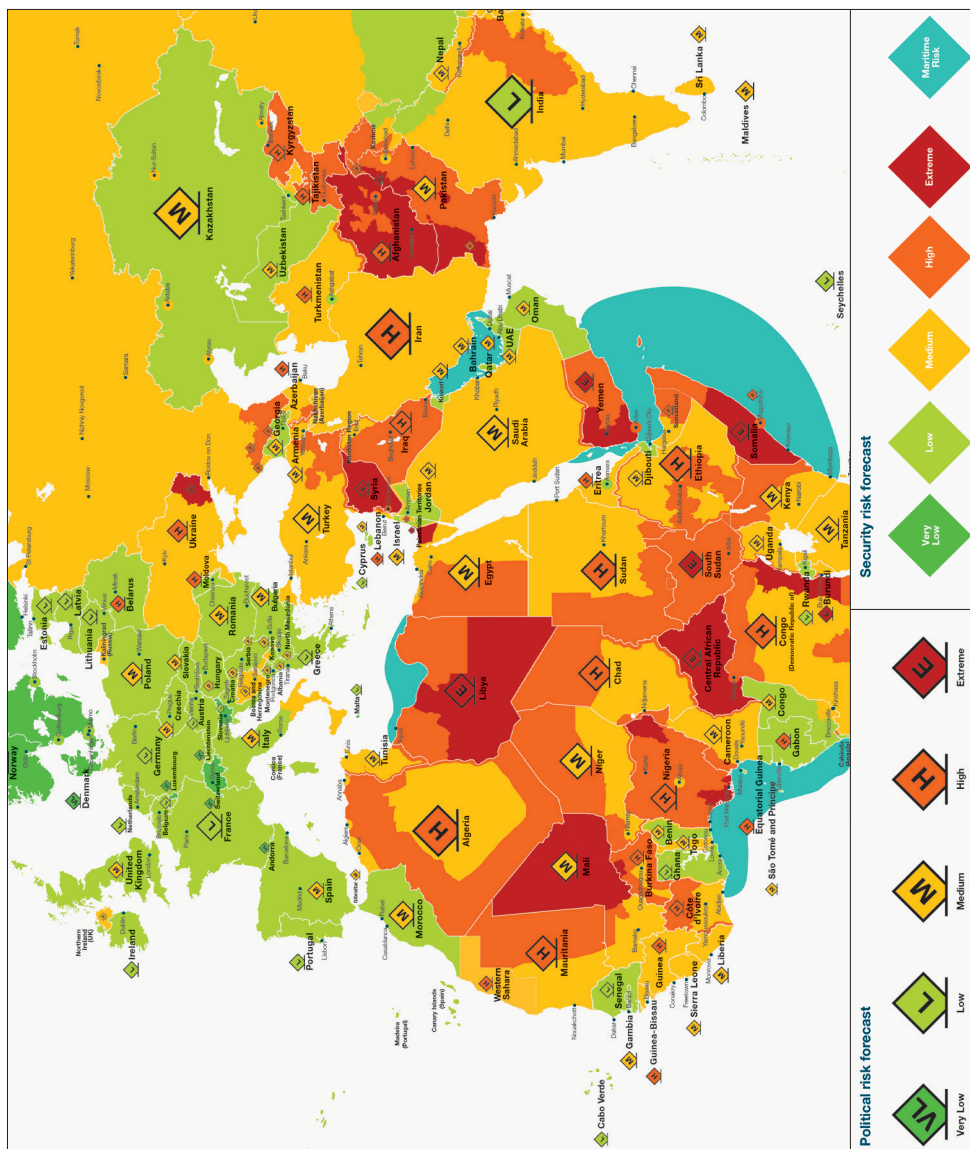


Figure 1 *Political and security risk forecast for Europe and its periphery*<sup>7</sup>

## The Place of Hungary in the Global Security Environment

First and foremost, it is important to lay down certain foundations of Hungary's national defence policy. As a mid-sized, land-locked Central European nation, Hungary has successfully integrated into the trans-Atlantic and European political and security institutions

<sup>7</sup> "Riskmap 2020". Control Risks. 2020. <https://www.controlrisks.com/-/media/corporate/files/riskmap/maps/riskmap-map-2020-a1-eng-web.pdf>, Accessed 16 July 2020.

following the end of the Cold War and the demise of the bipolar world order in 1989. Hungary joined NATO in 1999 and the European Union just five years later, in 2004. To this day, the Hungarian membership in these two organisations serves as the central point of orientation in Hungary's thinking, besides national considerations, on defence-related issues.

However, the aspiration for greater security is fundamentally shaped by the crises on Europe's periphery, for instance, trends in global terrorism, illegal mass migration, the activity of rising and already existing great powers, increasingly assertive use of state power, including military means, as well as peer conflicts – along with the emergence of non-state actors with both the willingness and ability to pursue aggressive actions, the militarisation of cyberspace, the issue of non-proliferation and several other challenges. There are also a myriad of dangers regarding emerging and disruptive technologies or anthropogenic climate change. As it has been mentioned, according to the Pew Research Centre's survey conducted in February 2019, climate change is an emerging top concern for the Hungarian public too,<sup>8</sup> one which can have wide-ranging potential implications for migration and terrorism as well. One must also consider how the behaviour and the activity of rising and already existing great powers influence the global world order. Besides, Hungary has to maintain and further develop its readiness to counter 'black swan events',<sup>9</sup> drawing upon, inter alia, the lessons learned during the COVID-19 pandemic.

Additionally, from a defence policy perspective the COVID crisis (as well as the illegal mass migration crisis in 2015 or the increased prevalence of transnational terrorism) have also provided a painful reminder of the fact that in a 'global village' security challenges can easily reach every country from even far away locations in a very short time. This observation has been clearly outlined in the Hungarian National Security Strategy as well.

The COVID crisis is also an acute reminder for the relevance and necessity of armed forces in non-military contingencies. Amidst the contemporary security challenges, the national defence forces are seamlessly proving their central value and pivotal role in the current global pandemic, through their support to the civilian authorities. The military still has a unique set of tools at hand, by default, which can enable and increase efficient countermeasures against unanticipated shocks (i.e. resilience), including those posed by traditionally non-security-related threats. In that regard, the potential emergence of these new security threats validates the use of military in all sectors of national security, predominantly in the area of the civil-military cooperation. Due to that, it may seem that national solutions can be used adequately to tackle crises. However, as one cannot find proper national solutions to mitigate or manage an international challenge, the logical conclusion should be the further reinforcement of those European, Allied, and global efforts which aim to prevent, tackle or remedy instabilities in the global landscape – even after the initial difficulties. In concert with that, Hungary will also continue to contribute to these efforts via a range of actions, which will be further elaborated in this article.

At the same time, understanding the origins and drivers of Hungarian defence policy serves an important introduction to the details of concrete actions. Thus, it is of value to discuss the strategic landscape as well as the national perceptions of the defence policy community on which the concrete courses of actions are born.

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<sup>8</sup> "Climate change still seen as..."

<sup>9</sup> Generally, the term 'black swan' refers to an event that cannot be predicted, but nonetheless has a major effect. These events are often rationalised with the benefit of hindsight. The founder of the theory was Nassim Nicholas Taleb in his book, *The black swan: The impact of the highly improbable* (2007).

As stated above, Hungary is affected by both ‘eastern’ and ‘southern’ challenges, so there is an inherent necessity for finding the right approach to mitigate those on the most sufficient and sustainable level. This is why Hungary, in accordance with its national interests, has for years held the position that these crises should be handled locally at their source of origin, and that remedying their root causes is indispensable. Approaches aimed at dealing with secondary problems, often ‘imported’ into Europe, are thus oftentimes superficial and inadequate. In this light, Hungary will continue to contribute to managing conflicts in the Western Balkans, the Middle East, Africa (especially the Sahel), Central Asia and other regions that have an influence on its security – either within the framework of international organisations (NATO, EU, OSCE, UN) or as a member of an ad-hoc coalition or regional cooperation framework. Hungary also intends to participate in post-conflict stabilisation and reconstruction efforts in affected parts of the world. Its goal is to facilitate national resilience and enhance state-building processes in these areas, and to bring help directly to those most in need.

## Multilateralism in Hungarian Defence Policy

The following section discusses the international portfolio of the Hungarian defence policy. Any defence policy in the 21<sup>st</sup> century is invariably doomed to failure if it is not dominated by a thorough understanding of the risks, challenges as well as opportunities in its multinational environment. Therefore, the recipe for a more successful Hungarian defence policy is more engagement with its international environment. The elements of this portfolio will be discussed in this chapter, beginning with the NATO, EU, OSCE and UN frameworks respectively, while also emphasising the ‘contributions’ part, namely participation in multinational capability development, formations, and operations. These activities should serve to strengthen strategic convergence through enhancing interoperability between the national defence actors and those of the NATO and EU as well as regional frameworks (primarily the Visegrad 4 initiative).

### NATO

NATO is the cornerstone of Euro-Atlantic security. Article 5 of the Washington Treaty and the concept of indivisible security are vital elements of the trans-Atlantic alliance. Hungary is a committed NATO member and stands ready to support its Allies in countering any threats and challenges they face. For instance, on the eastern flank Hungary contributes to the Baltic Air Policing mission. Furthermore, Hungary is increasingly able to contribute to the Alliance’s deterrence and defence posture through capability development via the NDPP and in the spirit of Article 3 of the Washington Treaty. At the same time, Hungary continues to pursue a dual-track approach *vis-à-vis* Russia as a potential channel for de-escalation within the framework of the Alliance.

In support of these objectives, Hungary remains strongly determined to implement the commitments of the Wales Summit through the realisation of the Zrínyi National Defence and Force Development Programme (hereinafter referred to as the Zrínyi Programme and elaborated upon later in this section). As a result of a series of high-value, high-end acquisitions, Hungarian military capabilities are being developed on a scale and in a quality unseen since the end of the Cold War. But this is not a stand-alone task, nor is it a solely national project. The main driver behind national capability development is the NATO Defence Planning Process, which determines the general ‘direction of travel’ for the transformation of national

armed forces. The development of these forces converges into the establishment of usable and responsive formations (national and multinational alike) in order to safeguard the security of the Alliance through deterrence and, if needed, credible collective defence. In line with the pledge made at the Wales Summit<sup>10</sup> Hungary has been taking serious measures to increase its defence expenditures in order to be able to deliver against the NATO Defence Planning Procedure (NDPP) requirements. Compared to the defence spending in 2014 (USD 1,032 m, or equivalent to 0.86% of the GDP), the 2020 budget has seen a remarkable 73.75% increase in real terms, reaching USD 1,793 m and 1.33% of the GDP.<sup>11</sup> According to official sources, defence spending will reach 2% of the GDP by 2024.<sup>12</sup>

The Hungarian Defence Forces is also substantially contributing to NATO operations and developing Hungarian military capabilities with a view to reach a higher level of interoperability with its European and trans-Atlantic partners. The major acquisitions accomplished since 2018 (main battle tanks, armoured infantry fighting vehicles, self-propelled howitzers, medium and light helicopters, surface-to-air missile systems and radars) have all helped to fulfil the Warsaw Resilience Pledge through gradually decommissioning obsolete Soviet-era weapon-systems and introducing state-of-the-art NATO interoperable assets. Thus, the Zrínyi programme is creating a modern interoperability with Allies in the Euro-Atlantic area on a scale which is clearly historical.

Apart from the strong commitment to support the ‘NATO 3C rules’,<sup>13</sup> Hungary is also ready to affiliate the Multinational Division Command for Central Europe (HQ-MND-C)<sup>14</sup> and the Regional Special Operations Component Command (R-SOCC)<sup>15</sup> into the wider NATO force structure. This will further enhance the stability of the Central European region, as a result of a multinational effort and will ultimately contribute to the security of Europe as a whole. Simply put, it is clearly in Hungary’s interest to strengthen regional and Alliance force structures, as a stronger NATO leads to a stronger Europe – and vice versa.

It is important to note here that, to date, the resources devoted to the NDPP-driven modernisation of the Hungarian Defence Forces overwhelmingly outnumber those allocated to tackle the so-called southern threats. While this is due to the fact that building a modern

<sup>10</sup> “Wales Summit Declaration”. *North Atlantic Treaty Organisation*. 5 September 2014. [https://www.nato.int/cps/ic/natohq/official\\_texts\\_112964.htm](https://www.nato.int/cps/ic/natohq/official_texts_112964.htm), Accessed on 18 November 2020.; Mesterházy, A. “Burden sharing: New commitments in a new era”. NATO Parliamentary Assembly, Defence and Security Committee, Sub-Committee on Transatlantic Defence and Security Cooperation. 17 November 2018. <https://www.nato-pa.int/download-file?filename=sites/default/files/2018-12/2018%20-%20BURDEN%20SHARING%20NEW%20COMMITMENTS%20IN%20A%20NEW%20ERA%20-%20MESTERHAZY%20REPORT%20-%202017%20DSCTC%2018%20E%20rev1%20fin.pdf>, Accessed on 19 November 2020.

<sup>11</sup> “Defence expenditure of NATO countries 2013-2020”. *North Atlantic Treaty Organisation*. 21 October 2020. [https://www.nato.int/cps/en/natohq/news\\_178975.htm](https://www.nato.int/cps/en/natohq/news_178975.htm), Accessed 30 December 2020.

<sup>12</sup> Baranyai, G. “Developments in the Hungarian military reaching global standards”. *Magyar Nemzet*, 26 December 2020. <https://magyarnemzet.hu/in-english/developments-in-the-hungarian-military-reaching-global-standards-9147227/>, Accessed on 30 December 2020.

<sup>13</sup> The so-called ‘3C rules’ are composed of cash, capabilities and contributions. “Press conference by NATO Secretary General Jens Stoltenberg after a meeting of NATO defence ministers”. *North Atlantic Treaty Organisation*. 14 February 2018. [https://www.nato.int/cps/en/natohq/opinions\\_151504.htm](https://www.nato.int/cps/en/natohq/opinions_151504.htm), Accessed on 23 July 2020.

<sup>14</sup> “New military commands to be established in Hungary”. *About Hungary*. 28 October 2019. <http://abouthungary.hu/news-in-brief/new-military-commands-to-be-established-in-hungary/>, Accessed on 22 July 2020.

<sup>15</sup> “Regional Special Operations Component Command (R-SOCC)”. *North Atlantic Treaty Organisation*. October 2019. [https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/pdf\\_2019\\_10/20191022\\_1910-factsheet-rsocc.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2019_10/20191022_1910-factsheet-rsocc.pdf), Accessed on 22 July 2020.

armed forces will always represent a most demanding effort, it also speaks about Allied and European solidarity on behalf of nations, such as Hungary. Despite the fact that Hungary considers the southern challenges more crucial to its own national security in the long run, it continues to allocate its greatest efforts into the Allied responses with regard to the eastern challenges.

From the viewpoint of the Hungarian defence policy thinking, there are marked differences in the nature of the eastern and southern threats and therefore, there is no ‘one size fits all’ solution to tackle both threat vectors at the same time. While having a modern, interoperable, and integrated force structure is necessary in itself, military deterrence and defence is far more valid in the eastern context. With regards to the challenges posed by Russia to NATO, robust armed forces development, increased frequency of training activities, and enhanced multinational cooperation through the NATO Force Structure (NFS) and NATO Command Structure (NCS) entities are of key importance. Additionally, enhanced and tailored forms of military presence have also proved to be successful, flexible and commensurate innovations within the wider toolbox of the Alliance.<sup>16</sup>

### *The European Union*

The security of Hungary is inextricably linked to that of Europe as a whole. With ongoing conflicts in the EU’s immediate vicinity (the Middle East and North Africa, the Sahel region, Ukraine), Hungary is committed to assisting the EU’s crisis management efforts. In line with the Global Strategy adopted in 2016,<sup>17</sup> Hungary is an active participant in the EU’s Common Security and Defence Policy (CSDP). The defence sector is deeply involved in a number of initiatives under the aegis of the CSDP, including Permanent Structured Cooperation (PESCO) projects, the European Defence Agency (EDA), the Coordinated Annual Review on Defence (CARD) process, along with the recent establishment of the European Peace Facility (EPF).

Hungary takes part in a wide variety of PESCO projects, including EUROSIM, which aims to establish a tactical training and simulation cloud-based network, or Military Mobility, which facilitates simplifying and standardising cross-border military transport procedures.<sup>18</sup> As for the Hungarian assessment of EDA and CARD, it is important to maintain coherence between the defence initiatives and the other tools related to capability development. Overall, Hungary’s intention is to both support European defence harmonisation efforts, as well as to streamline developments with its own modernisation programme (the Zrínyi Programme).

<sup>16</sup> “The enhanced Forward Presence: Innovating NATO’s deployment model for collective defence”. NATO Defence College. 30 October 2019. <https://www.ndc.nato.int/news/news.php?icode=1371>, Accessed on 19 November 2020.

<sup>17</sup> “Shared vision, common action: a stronger Europe, a global strategy for the European Union’s foreign and security policy”. June 2016. [https://eeas.europa.eu/archives/docs/top\\_stories/pdf/eugs\\_review\\_web.pdf](https://eeas.europa.eu/archives/docs/top_stories/pdf/eugs_review_web.pdf), Accessed on 22 July 2020.

<sup>18</sup> “Permanent Structured Cooperation (PESCO)’s projects – Overview”. European Union. 12 November 2019. <https://www.consilium.europa.eu/media/41333/pesco-projects-12-nov-2019.pdf>, Accessed on 29 July 2020.

Budapest supports efforts to enhance the Union's operational effectiveness, and to deepen defence industry partnerships between Member States.<sup>19</sup> The Zrínyi Programme might be considered as a foremost example for European cooperation (besides having also a strong transatlantic link) as it procured mainly products of the European industrial base. As a secondary result of the Zrínyi Programme, strong industrial synergies have also been created with European Member states, including Germany, France, Sweden, Austria and the Czech Republic.

Hungary believes cooperation could be further strengthened in the areas of illegal migration, hybrid and cyber warfare, together with the fight against violent extremism, terrorism, or disinformation campaigns.

Another fundamental priority of Hungarian foreign and defence policy vis-à-vis the EU is the Euro-Atlantic integration of the Western Balkans (as mentioned also in Crisis zones on the periphery of Europe). Hungary firmly believes that closing this final 'gap' of the European security architecture is a vital prerequisite for a peaceful and secure continent. To this end, we support the European integration of the Western Balkan states through diplomacy, military presence in certain stabilisation processes, as well as business engagement with the Western Balkan states.<sup>20</sup>

### OSCE

The Organisation for Security and Cooperation in Europe (OSCE) is the main platform of pan-European dialogue (in a wider extent, from Vancouver to Vladivostok) on persistent and acute issues. This framework also contributes to Hungarian security through several activities, including arms control, conflict prevention and monitoring, cyber/ICT security, and many other defence policy-related engagements. The OSCE's presence, especially its monitoring missions, covers 20 locations in Eastern and South-eastern Europe, as well as in Central Asia. Hungary currently contributes to the OSCE Missions in Bosnia and Herzegovina, North Macedonia, Moldova, along with Ukraine. It also has a head of mission in the Programme Office in Nur-Sultan, Kazakhstan, and a chief observer at the OSCE Observer Mission in the Russian checkpoints at Gukovo and Donetsk. The main Hungarian contribution focuses on Ukraine, since it is our immediate neighbour, and also home to one of the most pressing military conflicts in Europe of the past years.<sup>21</sup> In addition, Hungary actively supports the OSCE's wide-ranging non-proliferation efforts.

### United Nations

The United Nations is both a symbol of the current world order and one of the greatest facilitators of stabilisation efforts at a global level, which supports the fundamental principles of international peace and security across all horizontal and vertical spectrums. There are

<sup>19</sup> This approach is supported by the Zrínyi National Defence and Force Development Programme, underlined by our helicopter acquisitions from Airbus Company (France) or the Leopard 2A47+ main battle tanks and the PzH 2000 self-propelled howitzers from the German KMW. "Hungary takes delivery of its first two H145Ms". Airbus. 25 November 2019. <https://www.airbus.com/newsroom/press-releases/en/2019/11/hungary-takes-delivery-of-its-first-two-h145ms.html>, Accessed on 23 July 2020. Palowski, J. "Hungarian Leopard MBTs unveiled: What was the cost? Analysis". Defence24. 7 July 2020. <https://www.defence24.com/hungarian-leopard-mbts-unveiled-what-was-the-cost-analysis>, Accessed on 23 July 2020.

<sup>20</sup> "FM: Hungary is committed to working in support of EU enlargement". *About Hungary*. 25 October 2019. <http://abouthungary.hu/news-in-brief/fm-hungary-is-committed-to-working-in-support-of-eu-enlargement/>, Accessed on 19 November 2020.

<sup>21</sup> *Annual report 2019*. Vienna: Organisation for Security and Cooperation in Europe, 2020.

13 UN peacekeeping operations currently deployed worldwide, of which Hungary contributes to those in Western Sahara (MINURSO), Cyprus (UNFICYP), Lebanon (UNIFIL), and Kosovo (UNMIK).<sup>22</sup> Furthermore, we host many UN institutions in Hungary,<sup>23</sup> notably UNHCR, FAO, ILO, IOM, WHO, IMF, UNICEF, IFRC and UNOCT.<sup>24</sup>

### *Participation in Regional Defence Formats*

As for multinational frameworks – which is, in a comprehensive manner, connected to defence industry, defence planning and defence policy as well – Hungary takes part in many regional formations to increase regional cooperation with and support to its partners in crisis management (besides the abovementioned R-SOCC and MND-C).

In that regard, Visegrad 4 (or V4) is not just a longstanding multinational cooperation of the Visegrad states (Poland, Czechia, Slovakia and Hungary) formed in 1991, but a political alliance among the respective countries including military and defence, economic, cultural and energy matters. From a Hungarian point of view, the V4 ‘brand’ is an outstanding example of regional defence cooperation. V4 armies have already created battlegroups within the EU’s structure and a Joint Logistic Headquarters within the Allied framework. Thanks to the enhanced cooperation, the V4 has a number of expert subgroups, while meetings between defence ministers, Chiefs of Defence and policy directors take place on a regular basis, thereby fostering day-to-day communication as well as strategic dialogue.

In parallel with that, Hungary and Slovenia are part of the Multinational Land Force (MLF) led by Italy, which is another form of cooperation in the EU Battlegroup framework. On NATO’s side, participating in the German and Italian Framework Nation Concepts (FNCs) are also important pillars of Hungarian multinational cooperation. FNCs facilitate interoperability among participating states and support regional stability. Besides these, the Hungarian Defence Forces take part in other NATO initiatives, such as the NATO Readiness Initiative, the NATO Response Force, or Baltic Air Policing.

Last but not least, apart from collaboration within the NATO and EU structures, the Central European Defence Cooperation (CEDC) is a form of regional cooperation strictly based on geography. Since its establishment in 2010, CEDC’s joint objective is to enhance defence cooperation in all relevant fields, such as defence capabilities. However, since the strategic shock generated by illegal mass migration in 2015, CEDC is also focusing on handling this security challenge, too.

### *Hungary’s Presence in International Conflict Resolution*

As mentioned above, the Hungarian military actively contributes to missions and operations within the framework of both the European Union and NATO. Furthermore, Hungary firmly supports the Global Coalition against IS (often called Defeat ISIS or abbreviated as the D-ISIS

<sup>22</sup> “Summary of contribution to UN peacekeeping by country, mission and post: Police, UN military experts on mission, staff officers and troops 30/06/2020”. United Nations. 2020. [https://peacekeeping.un.org/sites/default/files/03\\_country\\_and\\_mission\\_26.pdf](https://peacekeeping.un.org/sites/default/files/03_country_and_mission_26.pdf), Accessed on 23 July 2020.

<sup>23</sup> “Hungary in the UN”. Permanent Mission of Hungary to United Nations New York. 2019. <https://ensz-newyork.mfa.gov.hu/page/hungary-in-the-un>, Accessed on 23 July 2020.

<sup>24</sup> UNHCR: United Nations High Commissioner for Refugees; FAO: Food and Agriculture Organisation of the United Nations; ILO: International Labour Organisation; IOM: International Organisation for Migration; WHO: World Health Organisation; IMF: International Monetary Fund; UNICEF: United Nations Children’s Fund; IFRC: International Federation of the Red Cross and Red Crescent; UNOCT: United Nations Office of Counter-Terrorism.

Coalition) and its Operation Inherent Resolve in the fight against the so-called ‘Islamic State’ terrorist group in Iraq. In our view, the comprehensive use of military and non-military instruments of power is crucial in the stabilisation of conflict or post-conflict areas. To this end, as of November 2020, approximately 800 Hungarian troops<sup>25</sup> are present abroad, in Europe, Central Asia/the former Soviet Union, Africa and the Middle East. The level of ambition of the Hungarian expeditionary forces was increased to 1,200 troops in 2019, which consists of all troops participating in missions and operations.<sup>26</sup> However, it is important to emphasise that the Hungarian Defence Forces take part in the abovementioned NATO and EU initiatives as well.

All this underscores that although Hungary is a mid-sized country with proportionately limited resources, it contributes to international stabilisation and conflict resolution efforts well beyond its means and constraints. Furthermore, the coming period will mark a major milestone in the Hungarian military commitments abroad, as Budapest has the ambition to assume the commander role in NATO’s KFOR operation in Kosovo for one year from November 2021 onwards. Notably, this would be the first occasion in the history of major NATO missions and operations – including the ISAF since 2001 (and later RSM since 2015) in Afghanistan; the KFOR in Kosovo since 1999; and the NTM-I and NMI in Iraq since 2004 and 2018, respectively – that a state which joined NATO after the dissolution of the Soviet Union will take a commanding role.<sup>27</sup> This opportunity underlines Hungary’s high commitment to NATO, but – perhaps even more importantly – it underscores its engagement with the stabilisation of the Western Balkans.

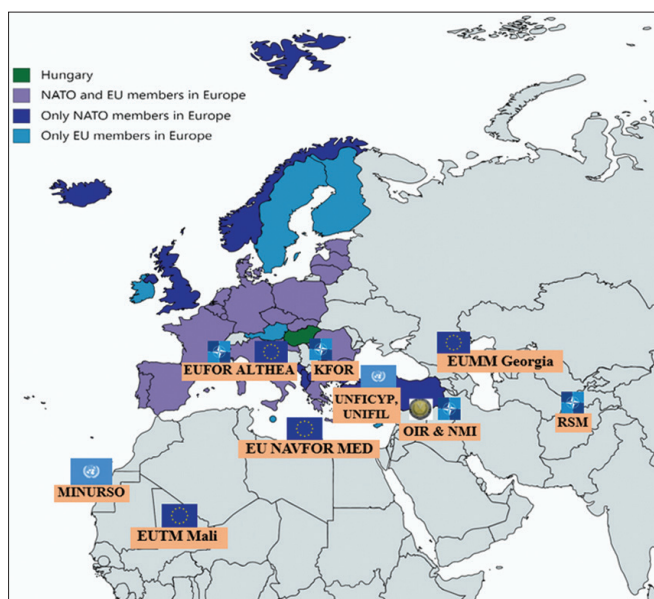


Figure 2 The international presence of the Hungarian military in missions and operations abroad<sup>28</sup>

<sup>25</sup> “Chapter four: Europe”. *The Military Balance* 120/1. 2020. 64-165. DOI: 10.1080/04597222.2020.1707964.

<sup>26</sup> “Hungary to increase number of peacekeeping troops”. *About Hungary*. 1 April 2019. <http://abouthungary.hu/news-in-brief/hungary-to-increase-number-of-peacekeeping-troops/>, Accessed on 23 July 2020.

<sup>27</sup> “KFOR commanders”. NATO AJFC Naples. <https://jfcnaples.nato.int/kfor/about-us/history/kfor-commanders>, Accessed on 12 October 2020.

<sup>28</sup> Made by the authors based on data from the Hungarian Ministry of Defence (as of November 2020).

## STRATEGIC SHOCKS HUNGARIAN DEFENCE POLICY IS FACING

Based on the global security situation outlined above, and in line with Hungary's membership of NATO, the European Union, the OSCE and the United Nations, the priorities of Hungarian security and defence policy can be narrowed down. In the authors' view, the three most pressing medium-term defence-policy related challenges Hungary is facing are the persistent pressures of illegal mass migration, the challenges of transnational terrorism, along with the activity of rising and great powers and the subsequent potential for peer conflicts. These challenges share several characteristics which make them especially demanding in the form of unanticipated strategic shocks. Firstly, due to their emerging and complex nature, they tend to form seamless variations, resulting in strategic shocks. Secondly, since distance in a globalised world ceases to be the most relevant factor, such challenges can easily reach the countries even from extremely far places and they tend to create impacts on the affected countries' security in a very short time, usually without sufficient advance warning. A further common factor in all these phenomena is that they have defence-related consequences, while at the same time these require a comprehensive solution. In each case below, the authors present (i) the general nature and trajectory of the threat, (ii) how it (may) affect(s) Hungary's security, and (iii) Hungary's position on the matter.

### Persistent Pressures of Illegal Mass Migration

Migration to (Western) Europe has generally been on an upward trajectory since the mid-20<sup>th</sup> century, and was generally considered a primarily economic phenomenon for many years. On the one hand, migration can be seen as a global trend as old as humanity itself. On the other hand, illegal or mass migration essentially challenges national security and supply systems, whereas illegal mass migration itself can be interpreted as a risk. This is why the year 2015 marked a strategic shock and turning point in Hungarian national defence policy thinking, as millions of illegal migrants from Africa, the Middle East, and Southeast Asia entered Europe. As a result, the security-related aspects of illegal mass migration took on a much more pronounced role. This was a wake-up call for Hungary as well, which, for instance, received the highest per capita number of asylum applications in 2015 (see *Figure 3*). This underlines the burden that a single country had to face during the crisis, albeit the number of illegal border crossings were definitely higher.

Hungary's response to the migrant crisis was firm and swift. A border fence system was constructed and 4,500 troops were deployed to halt the influx of migrants. The government remained steadfast in its commitment to upholding the inviolability of the Schengen area, and rejected any European quota for the redistribution of refugees/migrants – as the envisioned system would not facilitate proper crisis management and could easily lead to societal (including cultural and ethnic) tensions.

The pressure of illegal mass migration has somewhat eased since 2015-2016, but it remains a major security challenge for European countries. Over 140,000 illegal border crossings were detected in Europe in 2019 alone, with Afghans, Syrians and Moroccans accounting for the top nationalities. Although the number of migrants targeting Europe has somewhat decreased over the past few years compared to their peak in 2015-2016, none of the structural factors inducing migration from developing countries (such as poverty, ethnic/societal tensions, demographic pressures, environmental degradation) have fundamentally changed. As a result, we cannot rule out the possibility of another migratory shock to

Europe in the coming years. In fact, the ongoing COVID pandemic may further exacerbate migratory pressures or accelerate such inflows, since societal trends (i.e. economic hardship, unemployment, lack of healthcare) may serve as further ‘push factors’.

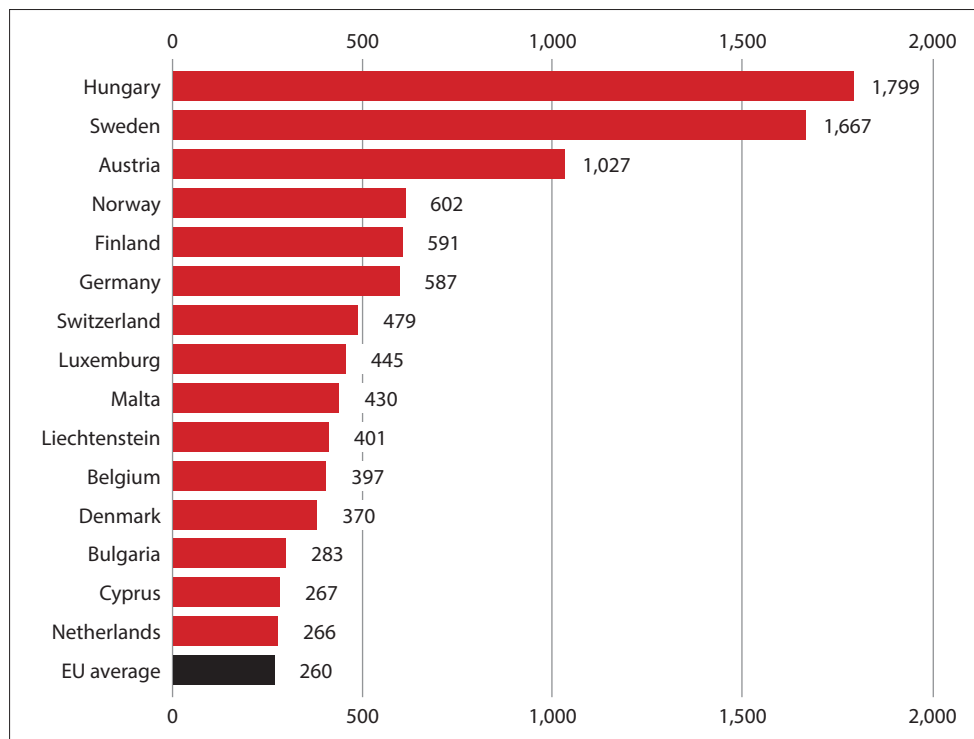


Figure 3 *Asylum applications per 100,000 local population in 2015*<sup>29</sup>

Migration is an incredibly multi-faceted question, and is closely intertwined with domestic and international politics alike, with economic performance, demographic trends, social cohesion – and security too. The security-related dangers posed by an erosion of state sovereignty through mass migration, or the potential threat of religious extremism, must also be taken into account. It is no wonder that the complexity of migration renders it one of the most sensitive and significant issues of the 21<sup>st</sup> century.

Migration is likely to remain high on the European agenda in the years to come, as a result of international demographic pressures – and the Hungarian agenda is no exception to this rule. Global population is expected to rise markedly over the next few decades, and Africa in particular will become the major motor of demographic expansion. To put migration into the perspective of global population, around 3-3.5% of the global population is currently classified as migrants. This proportion has proved fairly steady, but implies a gradual nominal growth in light of the medium-term population explosion.

<sup>29</sup> “Migrant crisis: Migration to Europe explained in seven charts”. *BBC News*. 4 March 2016. <https://www.bbc.com/news/world-europe-34131911>, Accessed 16 July 2020.

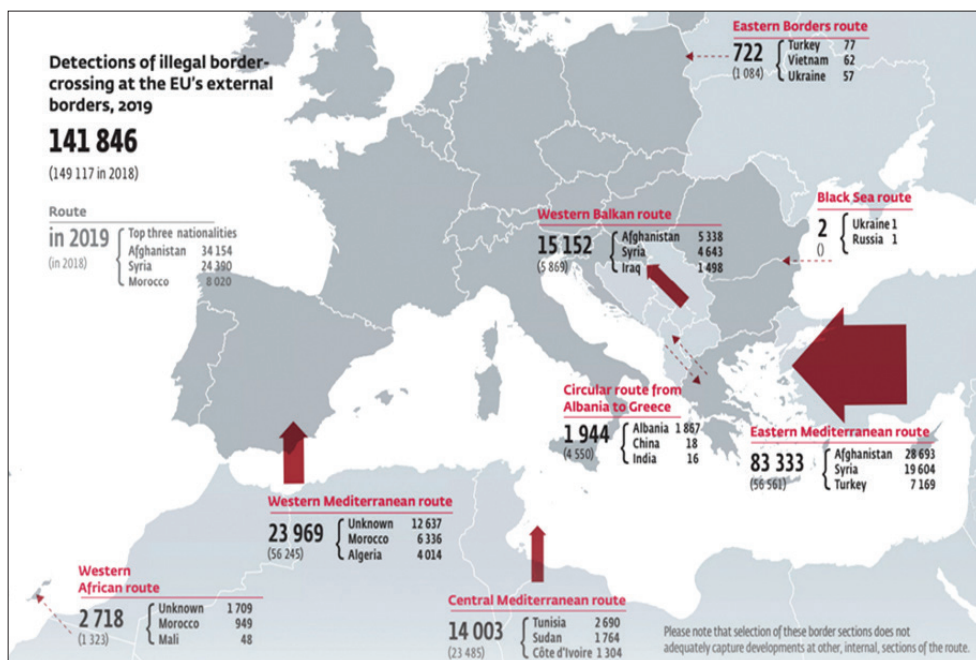


Figure 4 Detection of illegal border crossings at the EU's external borders in 2019<sup>30</sup>

Forced displacement remains a fundamental burden for the international community. Official figures from UNHCR clearly underscore this. There were some 79.5 m forcibly displaced people in 2019, among them 26 m refugees (including 5.6 m Palestinians), 45.7 m internally displaced persons (IDPs), 4.2 m asylum seekers, and 3.6 m Venezuelans displaced abroad.<sup>31</sup>

This tumult of both migrants and displaced persons all comes at a time when a large portion of (Western) European public opinion is increasingly sceptical of immigration. Another sudden influx of illegal migrants into Hungary (or any other European country for that matter) may entail serious security risks, place a strain on welfare systems, and potentially undermine social cohesion.

This means that at a time of mass global displacement and growing European disenchantment with migration, Hungary must find a policy that is forward-looking, humane and fair. All this comes at a time when any major instability from the 'south' (such as another public health crisis or an ethnic civil war) can trigger a massive influx of migrants over a relatively short period of time.

For this reason, Hungary pursues a policy of delivering local help to crisis-hit areas, as a means to both alleviate suffering and curb illegal migration. The Hungarian government is particularly dedicated to protecting endangered Christian minorities abroad, supporting them through the 'Hungary Helps' programme and the State Secretariat for the Aid of Persecuted Christians. Hungary is committed to the stabilisation of crisis zones on Europe's periphery, in coordination with its NATO Allies and EU Member States. Last, but not least,

<sup>30</sup> *Risk analysis for 2020*. Luxembourg: Publications Office of the European Union, 2020. DOI: 10.2819/450005

<sup>31</sup> "Global trends: Forced displacement in 2019". United Nations High Commissioner for Refugees. 2019. <https://www.unhcr.org/globaltrends2019/>, Accessed on 16 July 2020.

as outlined in the National Security Strategy, Hungary firmly believes in upholding its culture, its values, state sovereignty and the sanctity of international borders, with special regard to the Schengen Area.

## Challenges of Transnational Terrorism

The second medium-term challenge of Hungarian security and defence policy is that of extremist violence and terrorism. The 9/11 terrorist attacks against the United States brought the issue to the fore, but it was the rise of Islamic State (IS) during the 2010s that presented an even graver threat to Europe. The emergence of IS in 2014–2015 was a strategic shock to the international system: its state-like qualities and robust military capabilities fundamentally overwrote previous thinking on terrorist tactics. Although Hungary has fortunately been spared a terrorist attack to date, such an event cannot be ruled out as Hungary was already a transit country for some of the extremist fighters who attacked Europe in the mid-2010s.

To highlight the gravity of the issue, IS and its approximately 25 affiliated groups have conducted at least 6,500 attacks (including around 5,000 successful actions), which have claimed around 37,000 lives globally and have generated immense flows of migration since 2015 (see *Figure 5*). Currently there are almost 1.3 m<sup>32</sup> and approximately 6.2 m<sup>33</sup> internally displaced persons in Iraq and Syria, respectively. Thanks to international counter-terrorism efforts, including bilateral and multilateral formations, there has been a visible decrease in the numbers of successful attacks, suicide bombings, and loss of lives. However, the most recent terrorist attacks in Europe (i.e. those in Austria or France) show that international counter-terrorism and stabilisation efforts must continue, as IS and other terrorist organisations, as well as lone wolf perpetrators, can adapt to many different circumstances.

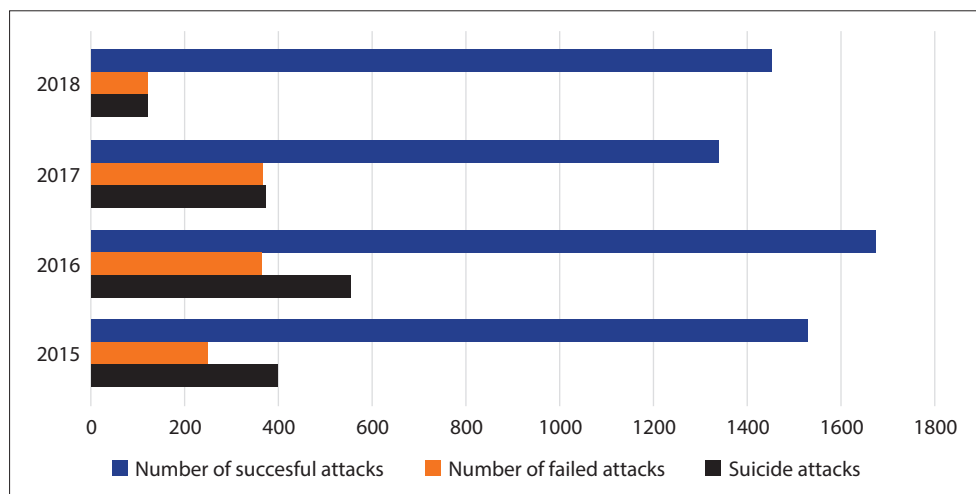


Figure 5 IS attacks worldwide (2015–2018)<sup>34</sup>

<sup>32</sup> “Displacement tracking matrix: Iraq”. *International Organisation for Migration*. 2020. <http://iraqdtm.iom.int/>. Accessed on 16 July 2020.

<sup>33</sup> “Internally displaced people: Syria”. United Nations High Commissioner for Refugees. <https://www.unhcr.org/sy/internally-displaced-people>. Accessed on 16 July 2020.

<sup>34</sup> Based on data from Global Terrorism Database. Chart made by the authors. “Global Terrorism Database”. <https://www.start.umd.edu/gtd/access/>. Accessed on 16 July 2020.

Although it seems that the operational focus of IS has shifted to the Sahel Belt, its presence has not ceased to exist in other crisis zones, such as Libya, Afghanistan or Yemen, even without its former strongholds and leaders. Apart from the MENA region, South Asia (and particularly Afghanistan) is within the comfort zone of both IS and Al Qaeda, where they can operate with ease (see *Figure 6*). These terrorist organisations are able to appear in any conflict zone to create a new safe haven for themselves, as a sort of ‘tumour’ of international security – thus their radius of operation clearly extends to Europe as well. This is particularly true in light of the growing proportion of home-grown terrorists in the West.

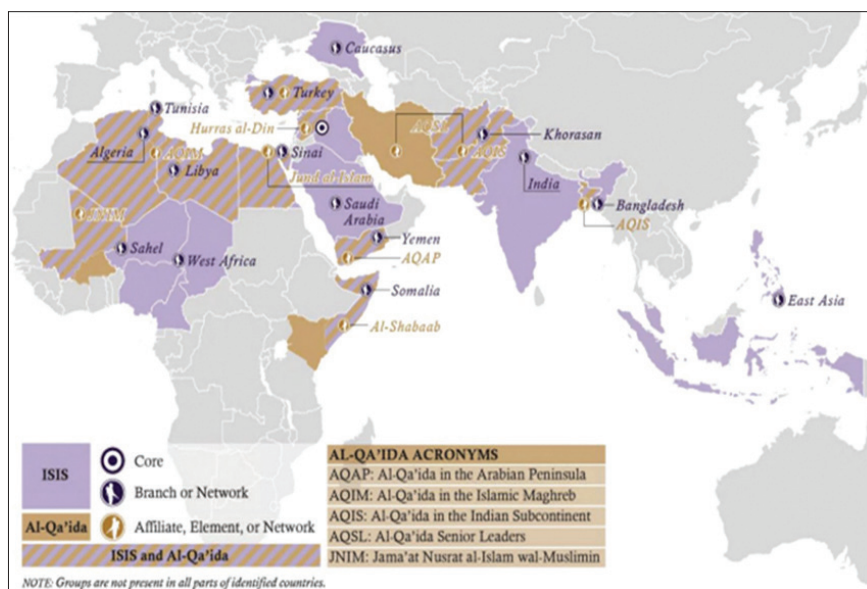


Figure 6 *The sphere of IS influence mapped*<sup>35</sup>

Europe is currently affected by terrorism on two fronts: first, as the potential victim of terrorist attacks, and second, as the point of origin of many foreign terrorist fighters (FTFs). While in 2014 IS and Al Qaeda were only perceived as potential threats, by 2015 there was clear evidence that IS and its affiliates were hidden in Europe – which led to the increase in terrorist attacks on the continent. The 2015 Terrorism Situation & Trend Report presented a correlation between migration and terrorism. In that year, cyberterrorism also appeared as a new platform for extremist actors to conduct assaults against their targets.

It is important to note that the Western Balkans has become a base of radicalised communities that IS exploits to recruit and mobilise for its different attacks. As long as the Western Balkans lacks the credible perspective of Euro-Atlantic integration, the region will remain a forward cluster of the challenges from the south, and on the mid- to long term, it can potentially become a launching pad for extremist actors to expand their influence in Europe.<sup>36</sup>

<sup>35</sup> “Worldwide threat assessment of the US intelligence community”. US Office of the Director of National Intelligence. 29 January 2019. <https://www.intelligence.senate.gov/sites/default/files/documents/os-dcoats-012919.pdf>, Accessed on 16 July 2020.

<sup>36</sup> “Worldwide threat assessment of the US intelligence community”.

The total number of foreign terrorist fighters (FTFs) is about 40,000, including around 5,500 fighters from Europe, who fight in the Middle East and North Africa, or even in the Sahel. Approximately 1,600 fighters returned to their home country, while an additional 1,500 were killed in combat or taken into custody. Up to 2017, many FTFs used Hungary as a transit route to reach Western Europe or the Western Balkans, the latter also has at least 1,000 FTFs on the ground. However, the inflow of FTFs has not yet stopped, and the potential emergence of a new illegal migration flow may facilitate their return in Europe in the future.<sup>37</sup>

Experience gained in the Middle East and in Afghanistan highlight that the required force ratio for the successful elimination of a terrorist organisation can prove quite high. In the case of IS, over the past years the D-IS Coalition conducted at least 34,000 air strikes against the group both in Iraq and Syria, and defeated a minimum of 80,000 terrorists. In spite of all these efforts, IS is still a threat and an overarching victory against the organisation has not yet been realised. This led the international community to switch to a more integrated and comprehensive approach during its engagements (covering the full spectrum of DIME), instead of relying solely on the military dimension of the issue. As local stabilisation and ownership are highly important in counter-terrorism efforts, international actors supported the affected areas through financial, material, and other immaterial donations, to facilitate the resilience-building of local societies.<sup>38</sup>

Due to the drivers mentioned previously, Budapest has taken a more determined approach to terrorism since 2015. One of the foundations of Hungary's international engagement is to manage crises at their roots, instead of importing problems to Europe – and by definition, to Hungary as well. This is the engine of Hungary's engagement in international counter-terrorism efforts. Since 2015 Hungary has been playing a greater role in the Council of Europe's counter-terrorism work strands. Budapest takes part in the Council of Europe Counter-Terrorism Committee (CDCT) (formerly: Committee of Experts on Terrorism, CODEXTER).<sup>39</sup> Moreover, since 2016 Hungary has been taking part in the Coalition's Operation Inherent Resolve to combat IS and it has also been involved in the NATO Mission in Iraq. Hungary joined the so-called Christchurch Call in September 2019 to enhance counter-terrorism efforts in online media and to help abolish extremist propaganda.<sup>40</sup> Furthermore, in November 2019 a decision was made that the regional programme support office of the United Nations' Office of Counter-Terrorism will be located in Budapest.

Hungary also supports states in need through project-based non-material assistance, to facilitate the return of people and support them in restarting their lives. The Hungarian authorities ensure basic conditions, for instance through the provision of housing, sanitation,

<sup>37</sup> "How many IS foreign fighters are left in Iraq and Syria?". BBC News. 20 February 2019. <https://www.bbc.com/news/world-middle-east-47286935>, Accessed on 16 July 2020.; Bergema, R. and Wijninga, P. "Coming home: Explaining the variance in jihadi foreign fighter returnees across Western Europe". Jihadology. 15 February 2018. <https://jihadology.net/2018/02/15/guest-post-coming-home-explaining-the-variance-in-jihadi-foreign-fighter-returnees-across-western-europe/>, Accessed on 16 July 2020.; "EU terrorism situation & trend report (TE-SAT)". EUROPOL. 2020. <https://www.europol.europa.eu/tesat-report>, Accessed on 16 July 2020.

<sup>38</sup> "Strike releases". Operation Inherent Resolve. 2020. <https://www.inherentresolve.mil/Releases/Strike-Releases/>, Accessed on 16 July 2020.

<sup>39</sup> "Council of Europe Committee on Counter-Terrorism (CDCT)". Council of Europe. 2020. <https://www.coe.int/en/web/counter-terrorism/cdct>, Accessed 23 July 2020.

<sup>40</sup> "Supporters". Christchurch Call. 2020. <https://www.christchurchcall.com/supporters.html>, Accessed 23 July 2020.

education, health care, financial support, etc. Besides bi- and multilateral cooperation, through Official Development Assistance Budapest donated more than USD 56 m to the Middle East states, including Iraq and Syria, and through the ‘Hungary Helps’ programme it also supports these states and their neighbourhood.<sup>41</sup> In Hungary’s view, it is only through a local and comprehensive approach that the threat of terrorism, and the spread of radical ideologies, can be curbed.

On a military front, the D-IS Coalition – and by that, the Iraqi Operation Inherent Resolve – is the centre of gravity of Hungary’s counter-terrorism efforts. To underline this, in 2015 the National Assembly of Hungary mandated the Hungarian Defence Forces to support the Coalition’s mission initially with 150 PAX for two years.<sup>42</sup> In 2017, that maximum number of personnel was expanded to 200 PAX and the national caveat regarding the area of operation was withdrawn. Notably, that expanded number of personnel is almost 17% of the national level of ambition of Hungary’s expeditionary forces. Furthermore, Hungary is contributing to other relevant missions and operations to facilitate local stabilisation and counter-terrorism efforts, including the NATO Resolute Support Mission in Afghanistan or the EU Training Mission in Mali. The contribution to missions is a highly important pillar of Hungary’s 3C activities in NATO.

### Activity of Rising and Great Powers, Potential for Peer Conflicts

The third, and final, challenge Hungarian security and defence policy are facing is much more fluid and therefore harder to pin down. It is a shift in global power dynamics, one that overwrites previous conventional thinking on military might and inter-state relations. This creates new realities that a mid-sized, land-locked Central European country such as Hungary must be able to adapt to. It is important to note that as a member of NATO and the EU, the Alliance’s and the Union’s threat perceptions shape Hungary’s assessment as well.

The US-dominated global world order seems to be in flux, but the outlines of any future power balance remain unclear. This transition period is marked by shifts in global confidence as well, as highlighted during the COVID-19 pandemic. Under the banner of ‘America First’, the trans-Atlantic relationship has been replaced by a more pragmatic approach that requires tangible achievements in partnerships; it is yet to be seen what changes in tone the incoming Biden administration will bring.

The activity of rising and great powers, as well as the proliferation of peer conflicts could easily lead to heightened tensions in our immediate security environment. Rising powers, such as China, often have significant geopolitical aspirations. It is important to note that China presents both challenges and opportunities, as it was elaborated on in the London Declaration by the Heads of States and Governments of NATO as well as by the EU’s ‘Strategic

<sup>41</sup> “Hungary’s Official Development Assistance in numbers”. Ministry of Foreign Affairs and Trade of Hungary, Department for International Development. 2019. <https://nefe.kormany.hu/hungary-s-official-development-assistance-in-numbers>, Accessed on 16 July 2020.

<sup>42</sup> „H/4027. számú országgyűlési határozati javaslat a Magyar Honvédségnek az Iszlám Állam elnevezésű terror-szervezet elleni nemzetközi fellépésben való részvételéről”. Government of Hungary. March 2015. <https://www.parlament.hu/irom40/04027/04027.pdf>, Accessed on 19 November 2020.

Outlook' in 2019<sup>43</sup> – and was also reflected in the National Security Strategy of Hungary. At the same time, these actors often have domestic-related issues (i.e. territorial disputes or legal issues) they must tackle. Other actors, such as Russia, take an assertive posture in Hungary's immediate and farther neighbourhood, i.e. in the post-Soviet area, the Middle East and North Africa or the Mediterranean. Such a stance allows these actors to influence the dynamics of key geographical regions and thereby affect the security of Hungary as well.

By the shifts in global power, the changing characteristics of warfare has led to an overall rise in defence expenditures. The trajectory of increased global military spending is illustrated in *Figure 7*, together with the defence expenditure of the major global military powers. According to the European Commission, global defence budgets have grown by approximately 75% over the past two decades. The top 5 spenders (the United States, China, Saudi Arabia, Russia and India) collectively account for 60% of all expenditure. Studies by the International Institute for Strategic Studies (IISS) suggest that military arsenals worldwide will double in terms of size between 2016 and 2030.<sup>44</sup> The role of innovation, IT and dual-use technologies will likely become even more pronounced in the coming years (see in *Broader Challenges*).

Inter-state war remains relatively rare in the global arena; internal conflicts and acts of terrorism are far more common. A number of smaller wars (particularly in the post-Soviet space) have effectively become frozen conflicts. The nature of war has undergone significant changes since the end of the Cold War. On the one hand, conflicts are now much more diffused through a proliferation of actors (such as states, mercenaries, corporations, civil society groups, etc.). On the other hand, they have become increasingly diverse in their means – be that military confrontation, economic coercion, cyberattacks or information warfare. All this comes at a time when major powers and regional actors alike are behaving in a more assertive manner, thus narrowing the room for manoeuvre of mid-sized states such as Hungary. This trend strengthens the need for developing national resilience within institutional and multinational frameworks, under the aegis of the Zrínyi Programme that comprehensively supports the Hungarian defence policy's vision of strategic convergence with key defence partners.

<sup>43</sup> "London Declaration". North Atlantic Treaty Organisation. 4 December 2019. [https://www.nato.int/cps/en/natohq/official\\_texts\\_171584.htm](https://www.nato.int/cps/en/natohq/official_texts_171584.htm), Accessed on 28 July 2020.; "EU-China: A strategic outlook". *European Commission*. 12 March 2019. <https://ec.europa.eu/info/sites/info/files/communication-eu-china-a-strategic-outlook.pdf>, Accessed on 28 July 2020.

<sup>44</sup> Béraud-Surdeau, L. "Global defence spending: The United States widens the gap". IISS Military Balance blog. 14 February 2020. <https://www.iiss.org/blogs/military-balance/2020/02/global-defence-spending>, Accessed on 16 July 2020.

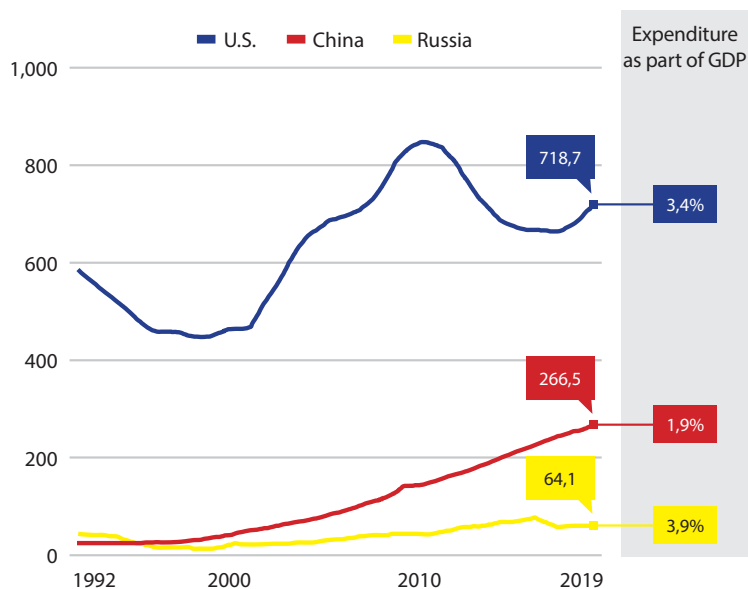
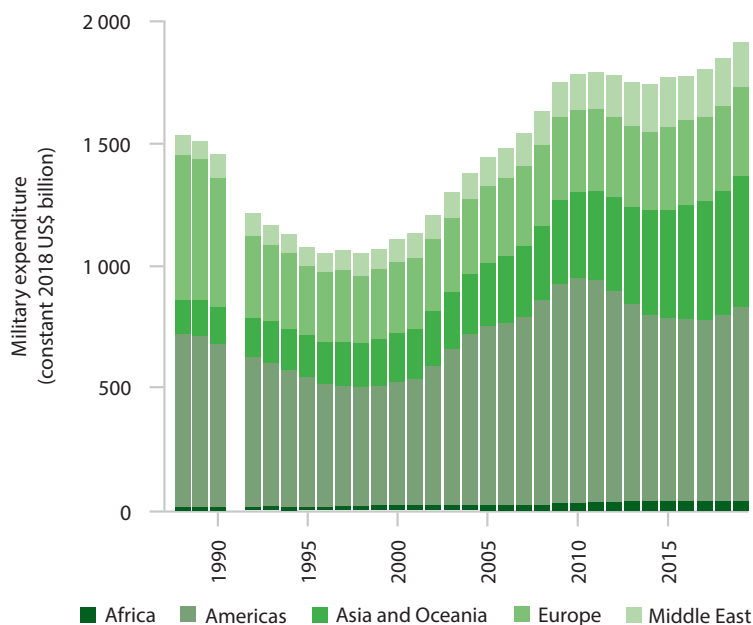


Figure 7 Global military expenditures and specific spending rates of the US, China and Russia, bn USD<sup>45</sup>

<sup>45</sup> Buchholz, K. "China steps up military spending". Statista. 5 June 2020. <https://www.statista.com/chart/16878/military-expenditure-by-the-us-china-and-russia/>. Accessed on 16 July 2020.; "Military expenditure." SIPRI. 2019. <https://www.sipri.org/research/armament-and-disarmament/arms-and-military-expenditure/military-expenditure>. Accessed on 16 July 2020.

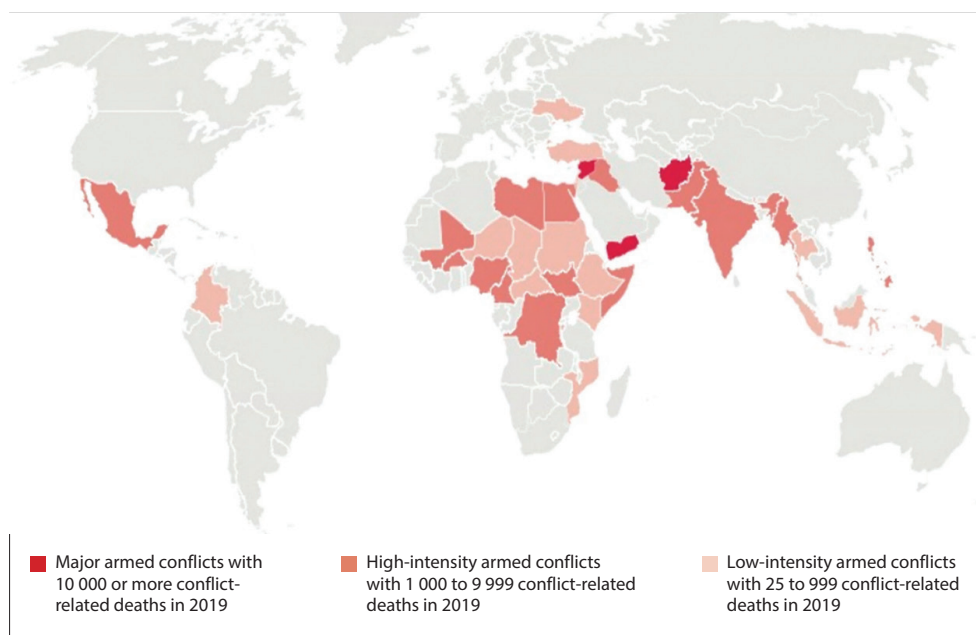


Figure 8 *Major armed conflicts in the world, 2019*<sup>46</sup>

## BROADER CHALLENGES

While the previous chapter highlighted the main challenges Hungarian defence policy is already reckoning with, certain wider security policy related issues cannot be overlooked either. These are questions that perhaps do not fundamentally determine the immediate defence landscape, but must be taken into consideration when developing Hungarian defence policy. The dangers posed by unilateral energy dependence, or the need to halt the proliferation of weapons of mass destruction, are by no means novel developments – nonetheless, they will continue to shape international security. In addition, anthropogenic climate change, cyber defence and the threat of other health crises are relatively new issues, where the international community as a whole is grappling with formulating an adequate and comprehensive response.

### Climate Change and Natural Disasters

In recent years, man-made climate change has emerged as one of the world's top long-term international security threats. This is a multi-faceted challenge, since it may result in more frequent extreme weather events, droughts, flooding, a loss of agricultural territory and biodiversity, etc. Consequently, global warming is often referred to as a 'threat multiplier': it does not cause security problems in itself, rather it exacerbates and amplifies existing socioeconomic and political vulnerabilities. The potential effects of climate change on

<sup>46</sup> "Global developments in armed conflicts, peace processes and peace operations". In *SIPRI Yearbook 2020*. Oxford: Oxford University Press, 2020.

human security are accordingly wide-ranging and difficult to predict. They include heightened competition over resources (especially freshwater), environmentally-induced migration, more frequent natural disasters, food insecurity, and the endangering of coastal areas by rising sea levels. (Not to mention that climate change and its potential consequences have serious effects on military operations and missions, for instance through extreme weather conditions that can cause damage to military equipment or personnel, regardless of the area of operation.) This challenge is of course not unique to Hungary; in fact, its environmental footprint is negligible in global terms. Nonetheless, national adherence to European and global environmental and climate policies remain key for all relevant nations.<sup>47</sup>

## Energy Policy

Energy policy strongly relates to both politics and economics. Conventional wisdom holds that a nation's energy policy must meet a 'holy trinity' of goals: affordability, security, along with environmental sustainability. Hungary has long been dependent on foreign hydrocarbon imports to meet its energy needs,<sup>48</sup> since the size of Budapest's domestic reserves is inadequate, and this is unlikely to change over the medium term.

For historical reasons, the issue of energy imports from Russia is a sensitive question in Central Europe. The gas crises of 2006 and 2009 brought the dangers of one-sided dependence into stark relief, and reinforced the EU's commitment to diversifying import sources and routes. Over the past years, significant steps were taken within the EU's Energy Union to ease this dependence (i.e. the construction of interconnectors linking Central European countries, the building of liquefied natural gas (LNG) terminals, or plans for additional imports from the Black Sea/Caspian/Eastern Mediterranean). On a domestic front, the expansion of the Paks nuclear power plant is currently underway, with the hope of providing a cheap and stable source of electricity. The LNG terminal at Krk, Croatia serves also to diversify the energy portfolio and reduce dependency. Meanwhile, the proportion of renewable sources within the Hungarian energy mix is steadily on the rise. Growing attention is also paid to new challenges in the energy sector, such as the cyber security of critical infrastructure.

## Cyber Defence and Resilience

In a globalised and information-based world, the challenges originating from the cyber dimension have gradually become paramount. NATO has recognised cyber space as a new operational domain, and later as a military domain.<sup>49</sup> Because of this, a cyberattack could potentially trigger the invocation of Article 5 of the Washington Treaty. In that regard, resilience, especially cyber resilience, is of crucial importance, as a cyberattack could paralyse (critical) national infrastructure. Attacks against Hungarian cyber networks, and a growing awareness of the scale of the potential threat, have led Hungary to make greater efforts at

<sup>47</sup> "A Kormány 1163/2020. (IV. 21.) Korm. határozata Magyarország Nemzeti Biztonsági Stratégiájáról". [Government Decree No.1163/2020. on Hungary's National Security Strategy]

<sup>48</sup> "A Kormány 1163/2020. (IV. 21.) Korm. határozata Magyarország Nemzeti Biztonsági Stratégiájáról". [Government Decree No.1163/2020. on Hungary's National Security Strategy]

<sup>49</sup> "Cyber defence". North Atlantic Treaty Organisation. 25 September 2020. [https://www.nato.int/cps/en/natohq/topics\\_78170.htm](https://www.nato.int/cps/en/natohq/topics_78170.htm), Accessed 19 November 2020.

strengthening national resilience, as outlined in the National Security Strategy.<sup>50</sup> To this end, for instance, Hungary is already part of the NATO Cooperative Cyber Defence Centre of Excellence in Tallinn, and joined the European Centre of Excellence for Countering Hybrid Threats in Helsinki in 2019.<sup>51</sup>

## Proliferation of Weapons and Ammunition

The challenge of non-proliferation and arms control has long been on the international security agenda but developments in recent years have adversely impacted the global progress made. According to the Stockholm International Peace Research Institute (SIPRI), the number of currently deployed warheads still exceeds 3,700, while the quantity of stored types reaches almost 10,000.<sup>52</sup> That amount is divided among nine countries in the world. Arms control, disarmament, and non-proliferation (ADN) activity is a pillar of Europe's strategic stability as a part of the Cold War legacy. ADN is also the cornerstone of crisis management processes, which helps protect civilians, strengthens state sovereignty, and reduces the chance of conflicts reigniting. To this end, Hungary actively supports non-proliferation programmes within the framework of the OSCE.<sup>53</sup>

## Pandemics and Health Care Crises

The ongoing coronavirus pandemic of 2019-2020 is often characterised as a 'black swan' event, even though the threat of a global disease has long been discussed. Compared to the death toll of previous historical pandemics, COVID-19 remains fairly contained, but the havoc it has wrought in a globalised world is unprecedented. At this point, it is important to note that the geopolitical impacts of COVID-19 are far from clear, and not yet over. Disruptions to global travel, business, supply chains and human contacts have led many to question the future of globalisation. In addition, some scientists claim that the encroachment of humans upon previously untouched natural habitats may accelerate the future spread of other diseases from animals to humans, thus one cannot rule out the possibility of other contagious diseases emerging over the coming years. That means that the international community must prepare for tackling these challenges in the future, and it has to focus on reducing the potential negative effects of any other short-notice or no-notice threat.

In politics, the pandemic has unveiled both a tendency for mutual cooperation (i.e. through international organisations) as well as for national isolation to combat the spread of

<sup>50</sup> "A Kormány 1163/2020. (IV. 21.) Korm. határozata Magyarország Nemzeti Biztonsági Stratégiájáról". [Government Decree No.1163/2020. on Hungary's National Security Strategy]

<sup>51</sup> "About us". *NATO Cooperative Cyber Defence Centre of Excellence*. <https://ccdcoe.org/about-us/>, Accessed on 23 July 2020; "Hungary joins Hybrid CoE". *European Centre of Excellence for Countering Hybrid Threats*. 10 December 2019. <https://www.hybridcoe.fi/news/hungary-joins-hybrid-coe/>, Accessed 23 July 2020.

<sup>52</sup> "Nuclear weapon modernisation continues but the outlook for arms control is bleak: new SIPRI Yearbook out now". SIPRI. 15 June 2020. <https://www.sipri.org/media/press-release/2020/nuclear-weapon-modernization-continues-outlook-arms-control-bleak-new-sipri-yearbook-out-now>, Accessed on 16 July 2020.; "World nuclear forces". *SIPRI. 2019*. <https://www.sipri.org/research/armament-and-disarmament/nuclear-disarmament-arms-control-and-non-proliferation/world-nuclear-forces>, Accessed on 16 July 2020.

<sup>53</sup> "OSCE's work on small arms and conventional ammunition". Organisation for Security and Cooperation in Europe. <https://www.osce.org/files/f/documents/5/4/359006.pdf>, Accessed on 19 November 2020.

the disease. The economic downturn expected in the wake of the virus may yet fuel further instability in the political and social spheres.

In the spirit of European solidarity, Hungary actively assisted other countries during the coronavirus outbreak. Most of this support was civilian (and not military) in nature, and was therefore coordinated by the Hungarian Ministry of Foreign Affairs and Trade. The Hungarian aid efforts were primarily conducted on a bilateral basis, but in close and frequent coordination with the European Union and NATO. Budapest also organised several repatriation flights that brought home foreign citizens stranded abroad. Hungary provided medical tools, personal protective equipment (PPE), COVID-19 testing kits along with disinfectant liquids to a dozen European countries (including its strategic focal point, the Western Balkans). In the domain of military operations, Hungary ensured the evacuation and aerial transport of Serbian nationals from the EU Training Mission in Mali.<sup>54</sup>

## CONCLUSIONS

The core purpose of this study was to present an overview of Hungary's modern defence policy. Its starting point has been the major strategic shocks that affected Europe's security environment in the past decade, such as the migration crisis, the armed conflict in Ukraine (with the assertive involvement of external actors), or the ever-looming threat of terrorist attacks on the European continent. Within this context, Hungary lies in a truly unique geo-strategic position, since it finds itself at the crossroads of both 'eastern' and 'southern' challenges. The three main direct challenges for Hungary in medium term were thus identified as illegal mass migration, transnational terrorism, along with growing competition between great and regional powers. These priorities have also been confirmed as being among top security priorities for the Hungarian public.

The study also presented the increasing multilateralism of national defence policy. This initiative is primarily rooted in the understanding that strategic convergence between Allies is required to tackle today's modern, complex challenges. The concept would however remain an empty shell without credible force development. In the case of Hungary, the Zrínyi Programme is bearing fruit already, and the multinational commands HQ-MND-C and R-SOCC serve as nests of cooperation to strengthen the capabilities of the Alliance and those of the Union at the same time. Thus, regional formations of defence cooperation are also gaining increasing prevalence in Hungarian defence policy. While the Visegrad 4 is invariably the primary formation, other frameworks are also important both for enhancing security and fostering military cooperation in the wider region of Hungary, which is facing the same set of challenges.

The authors are confident that the herein presented deliberations of the Hungarian defence policy will foster a better understanding on the overall direction of travel of the national defence sector. Nonetheless, as the security environment continues to show its emerging and increasingly complex nature, Hungarian defence policy shall also find its way to become an even more proactive – rather than reactive – member of the European and Euro-Atlantic defence community through, *inter alia*, continued conceptual development.

<sup>54</sup> "Honvédségi géppel Nyugat-Afrikából". 9 May 2020. <https://honvedelem.hu/media/honvedsegi-geppel-nyugat-afrikabol/>, Accessed on 23 July 2020.

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Philippe Beaulieu-Brossard, Philippe Dufort<sup>1</sup>

# ENHANCING CHALLENGE FRAMING IN DEFENCE ORGANISATIONS: TOWARDS REFLEXIVE METHODS

*“If I had only one hour to save the world,  
I would spend fifty-five minutes defining the problem,  
and only five minutes finding the solution.”*

*“We cannot solve our problems with the same thinking  
we used when we created them.”*

Attributed to Albert Einstein

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**ABSTRACT:** *This article contributes to problem solving, design, and planning in defence organisations by arguing that a ‘problem’ or a ‘challenge’ is never objective, natural or ready-made. Challenges are contingent to the conditions under which individuals perceive and formulate them. As a result, this article understands ‘challenges’ and ‘approaches’ to address them as co-dependent on one another. This article recommends that officers should attempt to generate the most interesting and, we hope, innovative problem-solution pair or challenge-approach pair in order to integrate this insight into practice when problem solving, designing, or planning. Leaders and their teams can learn to inhabit this mind-set by finding inspiration in three modes observed through practice: initial challenge framing, challenge curation and co-evolution. For each of these modes, the article proposes reflexive methods and tools for enhancing introspection in challenge framing and formulation namely the Five Whys, question-storming, and loyal opposition. The article supports these recommendations and methods through insights gleaned from philosophy of knowledge, design theory, and on design experiences with the North American Aerospace Defence Command (NORAD) in 2019.*

**KEYWORDS:** *Challenge framing, challenge formulation, problematization, problem solving, problem statement, problem structuring, design theory, design methods, critical theory, system theory, planning, philosophy of knowledge, critical thinking, creative thinking*

<sup>1</sup> We are thankful to Col Imre Porkolab for hosting the Innovation Methodologies for Defence Challenges (IMDC) Convention in Budapest in 2020 and for inviting us to run a workshop on challenge framing. Without Dr. Ofra Graicer’s recommendation and mentorship, we would not have turned this workshop into this written expression. Dr. Christian Bueger, Dr. Ofra Graicer, Dr. Therese Heltberg, Oliver Jones, Dr. Michele Mastroeni, and Dr. Ben Zweibelson provided valuable assistance on previous versions.

## INTRODUCTION

Countless confessions we received underline that an increasing number of senior leaders seem less and less satisfied by the solutions they develop with their teams. Worse, many of these senior leaders often reach the conclusion that they were addressing the wrong challenge all along. These senior leaders admit that, if they were to address the same challenge again, they would spend more time investigating the nature of the challenge in the first place. They may not be aware of it, but these leaders are echoing an intuition expressed in the Albert Einstein quotations above. They recognize that the challenges they are tasked to address should not be taken for granted. In this article, we concur with that intuition. We argue that a challenge is never objective, natural or ready-made. Challenges are contingent. They are often the visible tip of a much deeper iceberg, glimpsed from a specific perspective within an organisation. To modify the famous axiom from George Orwell's *Animal Farm*, all challenges are equal, but some challenges are more equal than others.<sup>2</sup> In other words, the specific circumstances (psychological, organisational, social, or cultural) embedding those framing and formulating challenges may contribute to making some challenges more important than others. The obverse of this is that these circumstantial particularities may lead an organisation to elevate certain challenges over others that are equally pressing or relevant, to the detriment of that organisation. For this reason, enhancing challenge framing and formulation skills is paramount and even more so in the complex environment of the 21<sup>st</sup> century.

If leaders and their teams come to acknowledge this intersubjective and fluid nature of the challenges they are facing, how might they address them? In this article, we suggest that they must respond by bringing the conditions of possibility of their 'challenge' to awareness from several perspectives. Only then, can leaders and their teams hope to address a challenge effectively, sustainably, and perhaps, innovatively. In other words, we recommend leaders and their teams take a reflexive approach and mobilize reflexive methods when addressing a challenge. Building on arguments we develop elsewhere, leveraging the reflexive tradition means continuously questioning "what is the challenge?", "why is this a challenge?", or better, "what makes this challenge a challenge from our specific perspective?".<sup>3</sup> In practice this means continuously reframing and reformulating the challenge. By reframing, we mean following design theorists Donald Schon and Martin Rein, deliberately changing our frame of reference, that are, "the underlying structures of belief, perception and appreciation" turning an issue into a challenge to deal with.<sup>4</sup> Or perhaps more simply, after design theorist Kees Dorst, reframing means changing or re-anchoring a way of seeing, thinking and acting in the world in its most basic and implicit expression.<sup>5</sup> Continuously reframing and reformulating challenges afford leaders and their teams the capacity for shifting their mindset over a challenge. This process – that we call reflexive practice – is of vital importance: The very

<sup>2</sup> Orwell, G., *Animal Farm: A Fairy Story*. London: Secker and Warburg, 1945.

<sup>3</sup> Beaulieu-Brossard, P. and Dufort, P. "Introduction: Reflexive Military Practitioners." *Journal of Military and Strategic Studies* 17/4. 2017. 6.

<sup>4</sup> Schon, D. and Rein, M. *Frame Reflection: Toward the Resolution of Intractable Policy Controversies*. New York: Basic Books, 1995. 36.

<sup>5</sup> Dorst, K. *Notes on Design: How Creative Practice Works*. Amsterdam: BIS Publisher, 2018, p.15. This definition is similar to the definition found in US army and US Marine Corps design doctrine focusing on a frame as a conceptual model of reality.

approaches leaders and their teams develop, we suggest, depend on the way they frame and formulate the challenge they seek to address.

Indeed, stressing the importance of challenge framing and its formulation is not new for defence professionals across NATO members and partners. This process can have several names such as ‘problem identification’, ‘problem definition’, or ‘problem structuration’.<sup>6</sup> This article contributes to existing processes by recommending a reflexive approach and detailing accessible methods for practitioners. Using the words “challenge” and “approaches” instead of “problems” and “solutions” goes with this reflexive approach. Language matters. Planning and design doctrine found across NATO members and partners generally assume that leaders and their teams have access to an objective understanding of the environment and of the “problems” within it. Doctrine tends to understand “problems” as obstacles or barriers hindering progress towards a goal or an end-state. From this perspective, planners can break problems into smaller parts of a larger problem set and suggest course of actions to solve them. In contrast, we assume that “problems” are intersubjective. Using the word ‘challenge’ is a tentative first step in shifting this perception to understanding “problems” as complex issues.<sup>7</sup> In sum, this article encourages a return to the self when framing and formulating challenges. This reflexive approach, we suggest, is more conducive to the mind-shift leaders and their teams require to better intervene in the complex realities of the 21<sup>st</sup> century.

Fostering an awareness that every challenge is contingent is necessary, but not enough in itself. For this reason, this article will develop an exposition of the philosophy behind this assumption, which we will reinforce by sharing three modes of challenge framing and formulation. These three modes follow the life cycle of challenges that we can observe in a typical chain of command: Initial challenge formulation, challenge curation, and challenge co-evolution. To make these modes more intelligible, we will share the challenge framing and formulation experience of the North American Aerospace Defence Command (NORAD) strategic deterrence project team, CFC’s lead design-informed curriculum team, and four student-led design teams in 2019. Overall, we believe that defence organisations can hope to preserve their relevance or, better, gain an advantage by adopting such a reflexive and intersubjective understanding of the challenges they are addressing in the complex environment of the 21<sup>st</sup> century.

## WHAT MAKES A CHALLENGE A CHALLENGE: PROBLEMATIZATION

Challenges are not objective. They are contingent to what is visible from the perspective of specific individuals within a specific community or organisation.<sup>8</sup> Researchers refer to the process of ‘*problematization*’ when they attempt to understand how a specific issue or situation became a problem or a challenge in a specific time and space. They also rely on ‘*problematization*’ to refer to an individual or group actively attempting to convince others

<sup>6</sup> Spurlin, D. “The Problem Statement: What’s the Problem?”. *Small Wars Journal*. 6 August 2017. <https://smallwarsjournal.com/jrnl/art/the-problem-statement-%E2%80%93-what%E2%80%99s-the-problem>, Accessed on 18 January 2021.

<sup>7</sup> Defence challenges are complex or wicked in the sense that formulation depends on perspective, they cannot be solved definitively, and intervention may likely set conditions for unforeseen problems to emerge to name a few of several characteristics. For more on this notion, see Rittel, H. & Webber, M. “Dilemmas in a General Theory of Planning”. *Policy Sciences* 4/2. 1973. 155-169.

<sup>8</sup> Bason, C. *Leading Public Sector Innovation: Co-Creating for a Better Society*. 2<sup>nd</sup> ed. Bristol: Policy Press, 2018.

that what is seen as a non-issue is a problem or a challenge in a specific time and space. For instance, research shows how climate change became a challenge for most societies and how the green movement contributed in making it not only a challenge, but a pressing one.<sup>9</sup> A key figure in the literature dedicated to this phenomenon, Sociologist Charles Wright Mills is among the seminal authors writing on how biases influence challenge framing.<sup>10</sup> Mills shows how individuals and organisations implicitly shape challenges, and more broadly, ideas and projects, in alignment with their personal trajectory of thought and that of the society they inhabit. Likewise, philosopher Michel Foucault paid particular attention to how challenges became visible and invisible in history and how new approaches to address them became imaginable and legitimate accordingly.<sup>11</sup> Towards the end of his life, Foucault suggested that individuals should aspire to speak truth to power, especially when they are convinced that their organisation or the wider society they inhabit should reconsider what is seen as a non-issue as a challenge.<sup>12</sup> In this section, we outline the underlying philosophy sustaining these principles and show how defence organisations also express them in practice. More specifically, we first explore the relationship between the perception and the visibility of a challenge. Then, we take a closer look at the relationship between the language we rely on to think about the challenge and the range of possibilities available to frame it and address it.

## Challenge Perception

Whether they are aware of it or not, each team member's perception of a given challenge is composed of tacitly assembled pieces of reality. In framing and formulating a challenge, leaders and their teams make some pieces more relevant than others based on attributes like shared values and interests, or, sometimes, on personal needs, frustrations, griefs and hopes.<sup>13</sup> In other words, what team members can perceive as a specific challenge is conditioned by their personal, organisational, social, or even biological constitution.

Biology offers a metaphor that we can extend to understand this principle. The anatomy enabling human perception actually shapes and biases this very perception. The retina is a key part of this anatomy and contains a blind spot. Nerves converge on the blind spot without photoreceptors to capture external light signals.<sup>14</sup> Yet, we never perceive this blind spot although we should perceive it constantly. The visual cortex of the brain actively compensates by filling the blind spot with colours and textures from the adjacent area. Our mind continuously compensates by filling a part of our field of vision, fudging an impression of consistency to shape how we perceive reality. In other words, our visual perception does not correspond to what is captured by the retina. The visual cortex alters the inputs and photoshops a few special effects to render our perception more consistent. Like the image

<sup>9</sup> Giddens, A. *Politics of Climate Change*. Cambridge: Polity Press, 2011.

<sup>10</sup> Mills, C. W. *The Sociological Imagination*. Oxford: Oxford University Press, 1959.

<sup>11</sup> Foucault, M. "Polemics, Politics and Problematizations: an interview with Michael Foucault". In Foucault, M., Rabinow, P. (ed.), *Ethics: Subjectivity and Truth*. New York: New Press, 1997. 118.

<sup>12</sup> Foucault, M. *Fearless Speech*. Los Angeles: Semiotext(e), 2001. 183.

<sup>13</sup> Inayatullah, N. *Autobiographical International Relations*. New York: Routledge. 2011. 6.

<sup>14</sup> The exercise is reproduced from Douglas Research Centre's Experiment Module at McGill University: [https://thebrain.mcgill.ca/flash/capsules/experience\\_jaune06.html](https://thebrain.mcgill.ca/flash/capsules/experience_jaune06.html).

processed by our visual cortex, each individual's perception is already altered by *special effects* generated by the mind. *Perceiving*, as a process, is biased by nature.

Likewise, each individual or community may experience the same challenge differently. Perception is socially or subjectively biased. In other words, members of different groups or communities produce a different appreciation of a specific challenge. For instance, asking a group of infantry officers and a group of gender studies experts to formulate the 'most important' challenge that a specific defence organisation is facing would lead to totally different answers. While we could expect that officers would focus on a challenge that concerns optimizing a specific capacity; gender studies experts would more likely focus on a challenge involving oppressive power relations within and beyond the organisation. These two challenges would reveal much about the way each group perceives the organisation and its complex reality of human interactions. The blind spots of one group will lead its members to perceive some significant aspects of the organisation, but also to paper over gaps in their own understanding.

These intrinsic biases of perception mean that a leader and their team can never take a challenge for granted. Challenges and their formulation are an opportunity to surface the unstated and implicit assumptions of leaders, their teams and the wider organisation. To this extent, framing and formulating challenges is an opportunity for cultivating self-awareness in a complex environment. Challenges reveal the perceptions leaders and their teams prioritize in a specific situation by simply focusing on them from the outset, such as by focusing on the capabilities and intentions of an adversary state instead of environmental conditions, such as poverty. In other words, challenge statements reveal assumptions by ignoring specific elements. As the next section will highlight, challenge perception also results from the very concepts and language we rely on. The key idea is that the words we use produce special effects in and of themselves.

## Challenge Conceptualisation

A second set of issues regarding reflexive challenge framing concerns conceptualisation, how do we implicitly or explicitly create, select and connect the concepts we use to frame and formulate challenges? In other words, how does framing operate to change not only the way we perceive a challenge, but also the way we think about the challenge? The language available to a leader and their team shapes how they categorise a complex environment and stratify it into discrete ideas, concepts and notions. Since all our intellectual grammar and vocabulary is tainted by our histories in some way, we can only seek to bring our biases into awareness, leverage them to think critically or to better work around them. In other words, language is constitutive of reality and the 'challenges' we perceive, instead of simply mirroring them.<sup>15</sup>

The way individuals observe and describe nature, for instance, reveals the importance of these questions. Could an individual describe any vegetation with a single word – say 'green-stuff' – and offer a satisfying description? A botanist would be right to view this exercise critically as an extremely limited way of discussing gardening and the complex tasks and challenges required. For instance, how would an individual distinguish between grass and dandelion, between lettuce and zucchinis with a single word? How would she

<sup>15</sup> Wittgenstein, L. *Philosophical Investigations*. Sussex: Blackwell, 2009.

or he perceive or conceptualise them as distinct flora? For any Canadian Armed Forces members deployed in Nunavik in Canada, this issue is not simply an exercise, but a reality. The Inuit dialect spoken in the region includes at least 53 words to describe snow.<sup>16</sup> This is obviously not limited to the way we name nature.

Colours, for instance, follow the same principle despite the fact that we can observe different wavelengths on the light spectrum. While the light spectrum contains an infinite quantity of possible variations as it is continuous, our language to describe colours is limited. Culture, in the end, shapes this language and in doing so, also shapes our perception of colours. Each culture breaks the light spectrum into discrete gradients of colour (blue, for an example in English) and subdivides its hues with names like navy, indigo, azure, or cyan, to name a few. This construction of categories influence how we perceive and think of colours, as Anna Franklin observes:

*Two people with different colour lexicons see the colours the same way but they think about colour differently: the difference is cognitive rather than visual. Language has not fundamentally altered how colours are seen, but it has changed what we do with the information. For example, Russian has two words for blue – it distinguishes the darker and lighter blues into separate categories. Russian speakers, because of this fundamental distinction, are more sensitive to colours in that region of the spectrum.*<sup>17</sup>

Likewise, cultural background knowledge informs distinguishing red from pink as two distinct colours. Language also makes a difference, as in some languages pink is light red. However, western societies perceive dressing up children in red or in pink as expressing a very different signification. Akin to colours, emphasising certain distinctions makes a significant difference in challenge framing and formulation.

The same principle finds echoes in societies, cultures, and indeed, in framing and formulating a challenge. What are the assumptions behind a challenge and its formulation? Each assumption — such as those related to justice, order, or legitimacy, are not objective or natural to human beings. We inherited these assumptions, as well as the language to describe them, from family members, friends, professors, and politicians to name but just a few. All the assumptions we hold have a specific meaning due to this contingent trajectory. The assumptions themselves also have a history: individuals defined and stratified them in given circumstances to delineate objects in the world. Reflexive methods invite us to think of those lines/boundaries as being artificial. This does not mean they are wrong but only that the very ideas we use could have been structured otherwise.

All these metaphors highlight that the concepts, notions, and ideas we use influence how we break up reality into categories that, in turn, shape the way we frame challenges. While researchers are just beginning to understand how culture is influencing this process, it has implications for framing challenges. For instance, measures of performance and effectiveness are never objective and ready-made for any operation. A leader and their team must usually design these measures. While designing these measures, teams rarely engage reflexively the frames they rely on to develop them. This often leads to measurements that are not relevant to understand operational progress, success, or failure, such as body counts.

<sup>16</sup> Robson, D. “Are There Really 50 Eskimo Words for Snow?”. *The New Scientist*. 18 December 2012. <https://www.newscientist.com/article/mg21628962-800-are-there-really-50-eskimo-words-for-snow/>, Accessed on 12 October 2020.

<sup>17</sup> Finnegan, G. “How we Perceive Colour Depends on Our Culture and Language – Prof. Anna Franklin”. *Horizon*, 15 November 2016, <https://horizon-magazine.eu/article/how-we-perceive-colour-depends-our-culture-and-language-prof-anna-franklin.html>.

For this reason and as an example, Gen. Stanley McChrystal developed a counterinsurgency mathematical model:

“From a conventional standpoint, the killing of two insurgents in a group of ten leaves eight remaining:  $10 - 2 = 8$ . From the insurgent standpoint, those who killed were likely related to many others who will want vengeance. If civilian casualties occurred, that number will be much higher. Therefore, the death of two creates more willing recruits: 10 minus 2 equals 20 (or more) rather than 8.”<sup>18</sup>

With this mathematical language, McChrystal reframed assumptions behind attrition-based measures of performance inherited from US Army military culture. And, by relying on ‘invalid’ mathematics, he signalled that ISAF members would have to fundamentally reframe the challenge of insurgency. In doing so, he opened up new approaches to address this challenge such as by focusing efforts on the will of the people. As we will see below in the challenge co-evolution mode, the language and concepts leaders and their teams rely on to frame and formulate a challenge shape the approaches that are imaginable to address it. This is why inquiring into what makes a challenge a challenge is so important, since even minor modifications in assumptions may open up alternatives.<sup>19</sup>

Overall, the intent of this section is not to invite leaders and their teams to bring to awareness the conditions of possibility – such as perceptual biases, language, or inherited concepts – behind formulating and framing challenges. The intent is to invite leaders and their teams to be continuously reflexive when it comes to framing, formulating and addressing challenges. This ensures that their contribution will be more effective, relevant and perhaps set conditions for game changes aligned with military professional excellence. To do so, leaders seeking to enhance challenge framing skills must first bring to awareness the elements – such as personal and organisational background, habits or culture – that shape how they perceive complex contexts and the ‘challenges’ within them. This approach fosters the expectation that there is always more than one perspective available to make sense of a challenge. The number of perspectives available is in fact infinite. This, however, does not mean that reflexive team members are entirely free to choose how to perceive a challenge. The reality is more complex since there is no way to know whether a team member is actually free to select a specific perspective over another! There is also no way to ensure that a leader and their team brought into awareness the full range of elements shaping challenge perception. As a result, there is never a ‘good’ or ‘unbiased’ way of framing and formulating a challenge or reading it – and its formulation always limits the range of imaginable approaches to address it. Taking the time to continuously reframe and reformulate a challenge, instead of simply taking it as ready, allows leaders and their teams to be more reflexive. This opens up more approaches, including innovative ones, to address the challenge. As we will see below, practitioners can rely on appropriate reflexive methods to gain this awareness of the effect of frames on the way they perceive a challenge.<sup>20</sup>

<sup>18</sup> Hall, M. and McChrystal, S. “International Security Assistance Force Commander’s Counterinsurgency Guidance”. ISAF Headquarters. February 2009. [https://www.nato.int/isaf/docu/official\\_texts/counterinsurgency\\_guidance.pdf](https://www.nato.int/isaf/docu/official_texts/counterinsurgency_guidance.pdf), Accessed on January 11, 2021.

<sup>19</sup> Webb, P. T. “Policy Problematization”. *International Journal of Qualitative Studies in Education* 27/3. 2014. 364-376.

<sup>20</sup> For an introduction to cognitive frames, how to disrupt them and design them through strategic design, see the following TEDtalk by one of the authors: Dufort, P. “What is Strategic Design?”. TedX Budapest. March 2020. <https://www.youtube.com/watch?v=s5LWJ2WEuKI>

## THREE MODES OF CHALLENGE (RE)FORMULATION IN PRACTICE

*“Innovation doesn’t start with an idea.  
It starts with thinking in a different way about the problem  
or by identifying a new opportunity.”<sup>21</sup>*  
Christian Bason

Following through on the argument developed above, challenge statements are not ready-made, but rather the implicit or explicit expressions of wider cultural, organisational or social dynamics. This often leads an organisation to address the wrong problem right, as system theorist Russell Ackoff put it.<sup>22</sup> Instead of moving on with the “wrong” pre-formulated challenge, we recommend three modes of challenge-framing and formulation: Initial challenge formulation, challenge curation, and challenge co-evolution. Familiarity with these modes, including the methods suggested below, is a key for leaders and their teams to assist their organisation in preserving relevance, if not gaining an advantage. Moreover, recent research also suggests that opening up challenge framing and formulation to the wider team contributes to ownership, motivation and team building.<sup>23</sup>

### Initial Challenge Formulation Mode

*“Underlying the approach is a broader recognition  
that fresh questions often beget novel – even transformative – insights.”*  
Hal Gregersen<sup>24</sup>

In this sub-section, we share reflexive methods for leaders (especially senior leaders) facing the demanding task of formulating a challenge and developing relevant tasks to address it. While this becomes harder if we accept that challenges are not objective, this task remains crucial to the success of leaders, their teams, and the organisations. This sub-section recommends the Five Whys and question-storming as key methods.

Higher levels of the chain of command are less likely to formulate challenges explicitly. While this might frustrate senior leaders, this provides unique opportunities to frame and formulate challenges, to make them as relevant as possible for the organisation, and to unleash the capabilities of teams to address them. A lack of clear guidance provides fertile soil for challenge framing and formulation. Unclear guidance also provides the flexibility required to deploy the full potential of reflexive methods like design, which is complementary with the two modes described below: challenge curation and challenge co-evolution. As design theorist and practitioner Ofra Graicer observed, ‘the deeper the confusion, the bet-

<sup>21</sup> Bason. *Leading Public Sector Innovation*. 222.

<sup>22</sup> Ackoff, R. *The Art of Problem Solving*. New York: Wiley, 1987.

<sup>23</sup> Burger, K. “Understanding Participant Engagement in Problem Structuring Interventions with Self-Determination Theory”. *Journal of the Operational Research Society* 2020. DOI: 10.1080/01605682.2020.1790307, Accessed on January 23 2020.

<sup>24</sup> Gregersen, H. “Better Brainstorming: Focus on Questions, not Answers, for Breakthrough Insights”. *Harvard Business Review* 96/2. 2018. 67.

ter the positioning for a meaningful inquiry.<sup>25</sup> As we will see, working from pre-formulated challenges already limits possibilities for reframing.

NORAD, for example, sponsored a defence challenge to Canadian Forces College (CFC) OF3 & OF4 interns in 2019. This challenge initially focused on deterring symmetric threats through the Arctic and Northern approaches by 2045. NORAD Commander, Gen. Terrence J. O'Shaughnessy, did not directly receive this challenge from higher levels in the chain of command, which is composed of the Chief of the Defence Staff in Canada and the Secretary of Defence and the Joint Chiefs of Staff in the US. The commander and his staff relied on strategic dialogue with the higher level of the chain of command, on extant defence policies and strategies,<sup>26</sup> and on NORAD's mission, in addition to the professional background of the commander.<sup>27</sup> The mandate to modernize NORAD combined with the explicit desire of the commander to mobilize the 'spirit of innovation' created favourable conditions for mobilizing reflexive methods.<sup>28</sup> This approach enabled a more open-ended and promising challenge framing and formulation by questioning what makes a challenge a challenge. This is what US Special Operations design theorist Ben Zweibelson calls moving from what- or how-centric questions to why-centric questions.<sup>29</sup> Why-centric questions are more likely to address the conditions of possibility of a problem rather than its effects, symptoms or expressions. To do so, large organisations, including some defence organisations, often rely on the Five Whys, developed and implemented by Toyota's Sakichi Toyoda, and the question-storming method, developed by Hal Gregersen, to unlock the full potential of a well-framed and formulated challenge.<sup>30</sup>

The Five Whys invite leaders and their teams to uncover the nature of a challenge by asking "why?" five times when they stumble on an apparent challenge they would like to invest resources in addressing. This method enables participants to distinguish the expression of a challenge from the environmental conditions which make the challenge possible. Indeed, asking "why?" five times is arbitrary as team members might bring forward a promising insight after the 3<sup>rd</sup> time or, sometimes, the 6<sup>th</sup> or 7<sup>th</sup> time. Several military designers such as Ofra Graicer, Ben Zweibelson and Jeff Goble would agree with Olivier Serrat and his observation that "when a problem appears, the temptation is strong to blame others or external events. Yet, the root cause of problems often lies closer to home."<sup>31</sup> Reflexive methods supporting challenge framing often lead to reverse the direction of the inquiry inward, that is, from the external environment toward the organisations, institutions, and professions they inhabit. For instance, while the challenge might seem related to a specific enemy

<sup>25</sup> Graicer, O. "Self disruption: Seizing the High Ground of Systemic Operational Design (SOD)." Special Issue: Reflexive Military Practitioners: Design Thinking and Beyond. *Journal of Military and Strategic Studies* 17/4. 2017. 36.

<sup>26</sup> For example, the US National Security Strategy (NSS), the National Defence Strategy (NDS), the National Military Strategy (NMS) and the Canadian Defence Policy Strong, Secure and Engaged (SSE).

<sup>27</sup> O'Shaughnessy, T. "NORAD and USNORTHCOM Commander's Perspective: Rethinking How We Think About Homeland Defence". 2019.

<sup>28</sup> The literature also refers to Triple loop learning to express this process, see: Beaulieu-Brossard and Dufort. "Introduction..."

<sup>29</sup> Zweibelson, B. "The Military Design Movement: Postmodern comedians of war". PhD Thesis. Lancaster: Lancaster University, 2021. DOI: 10.17635/lancaster/thesis/1176.

<sup>30</sup> Gregersen, H. *Questions are the Answer*. New York: Harper Business, 2018.

<sup>31</sup> Serrat, O. "The Five Whys Technique". In Serrat, O., *Knowledge Solutions: Tools, Methods, and Approaches to Drive Organizational Performance*. Singapore: Springer, 2017. 308.

hindering specific goals at first glance; asking “why?” several times often brings to awareness important challenges connected to deeper institutional, organisational, or social issues. Organisational challenges brought to awareness in this process are often a promising starting point. Addressing these organisational challenges might lead to transformational outcomes, eventually creating an organisation better suited to thrive in its environment.

Building on Serrat and the philosophy-informed section above, we advise senior leaders and their staffs willing to mobilize the Five Whys:

- *Diversity*: Assemble a team with the widest variety of mindsets and professional backgrounds possible, and position one member as an acting facilitator.
- *Provisional formulation*: Drawing upon communications from the chain of command, formulate an initial challenge statement that appears clear in its focus and intent.
- *First level*: Ask, “what makes this challenge a challenge?” Or “Why is this a challenge?” in sub-groups of 3 or 4 members. Collect the answers and cluster those that are similar.
- *Second level*: Divide these answers among sub-groups and ask the same question again, but direct them at the previous sets of answers. Collect answers, cluster similar ones and connect them to their parent answer.
- Repeat until the team no longer generates novel answers or reaches exhaustion.
- Reformulate the initial challenge based on systemic condition(s) brought to awareness during this process. Focus on aspects that would motivate the team to inquire further, depending on their degree of ambition.

Question-storming offers a competitive alternative to the Five Whys. Following Graicer, ‘asking the right questions will be the driving force of an inquiry’ as well as understanding why addressing the challenge is required in the first place.<sup>32</sup> Question-storming may provide a method to do so as it targets deeply held assumptions preventing the team from reframing the challenge. For question-storming to open up new pathways, we expand from Gregersen by articulating 10 principles for team members engaged in challenge framing and formulation:

- *Motivation*: Members should storm questions on a topic that they care about deeply. Motivation is a key driver in launching inquiry and ensuring both seriousness and success.
- *Reflexivity*: Throughout the process, remind team members to be as reflexive as possible by continuously asking themselves what makes this challenge a challenge.
- *Background knowledge*: Provide minimum background knowledge about the challenge to avoid directing questions towards a particular formulation or conclusion.
- *Questions only*: Participants must focus entirely on generating questions. The facilitator must discard any answer generated.
- *Open-ended*: Invite members to formulate open-ended questions. Open-ended questions are productive in that they invite multiple potentially lengthy and well-developed answers. The more open-ended a question, the more pathways to answer them. For instance, the open-ended question “Why NORAD would need to deter systemic threats by 2045?” opens several pathways to answer. In contrast, a question like “What is NORAD’s concept of deterrence?” closes upon a single pathway.

<sup>32</sup> Graicer. “Self-Disruption”. 36.

- *Short*: Likewise, questions that are short and simple tend to open more novel pathways than long-winded and complex questions.
- *Speculative*: Speculative questions should be encouraged as they orient teams towards multiple future possibilities instead of assuming continuity with the present. Questions beginning with “What if?” or “How might we?” must be encouraged.
- *Counter-Intuition*: Encourage team members to connect elements counter-intuitively, if not randomly. For instance, asking “What is the relationship between NORAD and Canadian political culture?” would not be directly related to the initial challenge submitted by NORAD staffers. Yet, attempting to answer this question would provide hints about NORAD as an important symbol in Canadian political culture.
- *Outsourcing*: Once each sub-team reached a satisfying challenge, they can outsource the challenge to another sub-team to receive feedback. Then, each sub-team attempts to answer the challenge in no more than 3 hours with the sole intent of providing feedback on challenge framing and formulation to the parent team, not solutions.<sup>33</sup>

The Five Whys and question-storming are not silver bullets. Their success in setting the conditions for reframing and reformulating a challenge depends both on motivation and a basic understanding of the philosophy behind these methods outlined above. They imply a serious intellectual commitment from participants in order to be fruitful.

## Challenge Curation Mode

In most instances, leaders and their teams do not start addressing a challenge by developing one from scratch. They must address a challenge already formulated by higher levels of the chain of command. In most defence organisations, leaders and their teams accept the challenges formulated by the higher level and directly move on with addressing them. Doing so, however, would likely lead to ineffectiveness, at best, and at worst, to addressing the ‘wrong problem right’ as presented above. To prevent this, and to remain consistent with the principle of understanding a challenge as contingent, leaders and their teams must speak truth to power by acting as a ‘loyal opposition’.<sup>34</sup> They must turn to dialogue with the higher level, or, more precisely, to a *challenge curation mode*. In return, leaders must provide the psychological safety required for their teams to become a genuine loyal opposition and reward continuous, including critical, feedback on the challenge. Only then can they hope to address a challenge that is closer to a disease than its symptoms.

For design practitioner Christian Bason, challenging the initial formulation of a challenge remains an essential step of any design driven process.<sup>35</sup> While this might run contrary to military culture, challenging the challenge in a curation mode through dialogue with the higher level is only logical. After all, the higher organisational level of the chain of command would not submit the challenge to a lower level organisation if their knowledge were optimal in the first place. As Bason put it, due to its high degree of uncertainty and complexity the initial challenge formulated is always “fuzzy” until a more grounded inquiry enables a better formulation.<sup>36</sup> In other words, the organisations tasked with addressing a challenge should

<sup>33</sup> Wróbel, A. E., Cash, P. and Lomberg, C. “Pro-active Neutrality: The Key to Understanding Creative Facilitation”. *Creativity and Innovation Management* 29/3. 2020. 424-437. DOI: 10.1111/caim.12372.

<sup>34</sup> Bason. *Leading Public Sector Innovation*. 222.

<sup>35</sup> Bason. *Leading Public Sector Innovation*. 222.

<sup>36</sup> Bason. *Leading Public Sector Innovation*. 222.

aim to become the highest knowledge authority over this specific challenge. To this effect, this organisation eventually gets in a better position to reframe and reformulate the challenge back to the sponsoring organisation. Both organisations must understand that the challenge submitted initially is provisional and merely serves as a point of departure.

While challenge curation might seem to work seamlessly in theory, reality rarely works as seamlessly. For this reason, we recommend finding inspiration in this challenge curation method for a fruitful experience with sponsors:

- *Set the stage*: The personal disposition of the challenge sponsor makes all the difference to challenge curation. Leaders already having some background knowledge in any innovation or change management methodology that relies heavily on dialogue and feedback with team members will likely inhabit the ideal disposition for challenge curation.<sup>37</sup> For instance, CFC OF3-OF4 interns never encountered resistance in challenging the NORAD challenge submitted to them. The NORAD commander, Gen O'Shaughnessy and NORAD Deputy Commander, Lt Gen Christopher Coates, provided the psychological safety to do so grounded by committing to a wider 'spirit of innovation'. Only with this tacit approval could CFC's design module become a safe space for challenge curation. Without this element, leaders and their teams must try to convince the higher level of the importance of challenge curation. If this avenue does not prove successful, the leader and their team can still curate the challenge themselves to set conditions for better results, although we recommend initial sponsors support.
- *Challenge the challenge*: a leader and their team should continuously challenge the challenge. In dialogue with the sponsors, the team leader can build on the philosophy and the two methods presented above. Asking what may seem like obvious questions is always a good place to start to challenge assumptions sustaining the challenge. For instance, the team leader can ask the sponsor:<sup>38</sup>
  - "Why is this a challenge?" or "What makes this a challenge?"
  - "Why is it important?", and to "Whom?"
  - "Who benefits from not addressing the challenge (implicitly or explicitly, inside and outside the organisation)? Who would benefit if we addressed this challenge?"
  - Likewise, "who is suffering from this challenge?" And, "who would suffer if we were to address this challenge?"

The team leader is more likely to be successful if they collect feedback from different stakeholders inside and outside the organisation before entering into a dialogue over challenge curation with the sponsor.

- If the "curated" challenge does not fall under the responsibility of the organisation, advise the commander to communicate with higher levels of the chain of command and the potential 'owners' of this "curated challenge". If relocating the challenge to a more relevant internal or external organisation is not feasible, carry on, but with the clear understanding that the organisation is addressing expressions of a much deeper challenge.

<sup>37</sup> Pettit, S.L. and Toczec, D. M. "Like Hugging Grandma: Introducing Design into a Military Organisation". Special Issue: Reflexive Military Practitioners: Design Thinking and Beyond. *Journal of Military and Strategic Studies* 17/4. 2017. 166-173.

<sup>38</sup> Bason. *Leading Public Sector Innovation*. 223-224.

To go back to our example, the NORAD team already did their homework by submitting a challenge formulated with a high potential: “In what capabilities/warfighting functions should Canada invest most heavily to increase NORAD’s ability to deter symmetric threats through the Arctic and Northern Approaches by 2045?”. While some aspects such as ‘capabilities’, ‘deter’, ‘symmetric threats’ and regional specificities like the ‘Arctic’ closed certain answering possibilities, asking where to ‘invest’ combined with the “25 years” timeline encouraged reflection on potential futures inviting a wide range of insights including potentially radically innovative ones. Following challenge curation dialogue with the CFC design team, the NORAD team moved to this iteration: “How might NORAD deter symmetric threats effectively without relying on a nuclear deterrent through the Arctic and Northern approaches over the next 25 years?”. By using the auxiliary verb “might”, the NORAD team opened possibilities beyond investment in capabilities/warfighting functions, for instance. The second challenge curation process led by CFC design teams composed of JCSP AJWS 44 interns took place implicitly throughout design activities. Design teams delved further into the nature of the challenge by questioning each assumption sustaining the challenge statement without having clear guidance for doing so: “Why deterrence?”, “Why NORAD?”, “Why through the Arctic and Northern approaches?” and “Why in the next 25 years?”. This continuous curation process evolved into the co-evolution mode below.

## Challenge Co-evolution mode

*“A design problem keeps changing while it is treated,  
because the understanding of what ought to be accomplished,  
and how it might be accomplished is continually shifting.  
Learning what is the problem IS the problem.  
Whatever [we] learn about the problem  
becomes a feature of its resolution.”*  
Horst Rittel<sup>39</sup>

As organisation theorist Karl Weick observes, leaders and their teams rarely confront a blank slate.<sup>40</sup> They are usually thrown into an ongoing challenging situation inherited from a previous team or into an emerging situation the organisation failed to anticipate. Likewise, working on this challenging situation leads to the generation of new knowledge about it. This new knowledge will not only set the conditions for reframing and reformulating the challenge, but will also open up new possibilities to address it. For this reason, framing and formulating a challenge and generating approaches to address it are always co-dependent, non-linear, and incremental until the team and their sponsor reach a level of satisfaction... or run out of time. We call this the “co-evolution mode”, building on design theorists Kees Dorst and Nigel Cross.<sup>41</sup>

<sup>39</sup> Rittel, H. “The Reasoning of Designers.” In Protzen, J-P. and Harris, D. J., *The Universe of Design: Horst Rittel’s Theories of Design and Planning*. London: Taylor & Francis, 2010. 188.

<sup>40</sup> Weick, K. E. “Designing for Thrownness”. In Boland, R. J. jr. and Collopy, F., *Managing as Designing*. Stanford: Stanford Business Books, 2004. 74.

<sup>41</sup> Dorst, K. and Cross, N. “Creativity in the Design Process: Co-Evolution of the Problem-Solution”. *Design Studies* 22/5. 2001. 425-437.

In this mode, *the goal is to reach the most promising challenge-approach pair*.<sup>42</sup> The idea is that the former and the latter expand as they bounce against one another.

The co-evolution mode also calls for non-linearity, that is, continuously moving back and forth between ‘steps’, in any problem-solving process including design driven or planning driven models. This back-and-forth movement also means that teams must ‘kill their darlings’, that is, they must be able to remove older understandings of the challenge or provisional approaches in order to move on to a more refined challenge-approach pair. Likewise, as Bason observes, team members can accomplish tremendous things if they are able to let go of their ego and are willing to take career risks in this process.<sup>43</sup> In this back-and-forth movement, we recommend focusing on elements that seem interesting and especially surprising for the team as well as preserving the wildest thoughts or ideas. The feeling of surprise or wildness signals that the team is breaking from routine behaviour and knowledge. In other words, surprise means that the team is approaching or even breaching the limits of what they initially conceived as possible before undertaking the inquiry, thus setting the conditions for a more promising challenge-approach pair. For example, the CFC design teams implicitly and continuously sought a better challenge-approach pair when undertaking the NORAD challenge. Without being at the centre of the process, this co-evolution mode was implicitly ongoing during design activities. CFC interns enhanced the potential of co-evolution by experimenting with one design school of thought to the next, a feature of CFC’s agnostic approach to design education.<sup>44</sup> This was especially so since the only baggage that interns carried from one school of thought to the next was what they learned about the challenge. This co-evolution must continue during the conduct of the operation or the strategy since intervening to address a challenge will, most likely, transform the conditions sustaining the challenge in a particular form.

Beyond the CFC’s design education philosophy, generating robust challenge-approach pairs was an approach that bore fruit, with the NORAD team welcoming it and contributing to the dialogue. The NORAD team did so even where approaches generated by the interns eventually diverged from the ‘strategic shaping’ approach publicly advocated by the NORAD commander.<sup>45</sup> In other words, the openness of the NORAD team allowed the CFC interns to ignore the approaches already advocated by the commander. As a result, rather than confirming the expectations of NORAD, several CFC design teams developed the insight that the “real” challenge for NORAD over the next 25 years would not be deterrence in itself. From their perspective, the “real” challenge would be organisational survival in the form of preserving relevance including operational and even political relevance. Generating approaches to a challenge formulated around this insight opened new pathways for unlocking related insights and approaches that were unanticipated by the sponsors, such as on the importance of public relations for NORAD. While the challenge addressed was

<sup>42</sup> Dorst and Cross. “Creativity in the Design Process...”

<sup>43</sup> Bason. *Leading Public Sector Innovation*.

<sup>44</sup> For a brief overview on the agnostic approach to design education, see: Beaulieu-Brossard, P. and Mitchell, P. “Challenge-Driven: Canadian Forces College’s Agnostic Approach to Design Thinking Education”. *The Archipelago of Design: Reflexive Military Practices*. 13 January 2019. <http://militaryepistemology.com/challenge-driven/>.

<sup>45</sup> Gen. O’Shaughnessy and his co-authors supported strategic shaping as an approach at the time of the exercise. They define this approach as targeting the cognition of the adversary, and more specifically the “incentive structures” making an aggression possible or potentially effective. O’Shaughnessy, T., Strohmeier, M. and Forrest, C. “Strategic Shaping: Expanding the Competitive Space”. *Joint Force Quarterly* 90/3. 2018. 12.

limited to the context of an exercise, ultimately the NORAD team gained valuable perspectives and insights for NORAD modernization and transformation in general, and especially for nurturing a new Command and Control construct, called NORAD Combined Force Air Component Commander (CFACC).

## CONCLUSION

Defence organisations must address several pressing challenges. For this reason, investing time and resources in questioning these very challenges instead of directly developing approaches might seem counter-productive. Echoing the Einstein quotations, which prefaced these recommendations, and building on philosophy and reflexive methods, we argued the opposite. Familiarity with, if not proficiency in, challenge framing and formulation is essential for mid- and senior-level officers. Challenges are never ready-made, natural or objective. This is especially so in the complex security environments of the 21<sup>st</sup> century. Challenges are not only contingent to specific circumstances, they are contingent to the community framing and formulating them. In contrast, addressing a challenge head-on does not take into consideration that our very way of thinking about a challenge might be hindering the discovery of optimal or innovative approaches to address it. Most importantly, the range and quality of the very approaches generated to address a challenge are co-dependent with the way teams are framing, formulating, and curating them. As team members learn more about the situation they are facing, their understanding of the challenge evolves. Reframing and reformulating the challenge enables team members to open up possibilities that were unthinkable before addressing it. This is why team members must continuously challenge the challenge statement by questioning and reformulating it.

Thinking reflexively – that is, the capacity to make explicit the implicit references and processes team members and their organisation use to perceive, conceive, and act in the world – offers a game-changing advantage to personnel in organisations intervening in complex environments. Challenging challenge statements and reformulating them continuously is a vital expression of this way of 21<sup>st</sup> century thinking. Only by treating challenges reflexively will an organisation acquire the capability to create and implement radical innovations. Although leaders and team members that are more inclined to criticism, scepticism or cynicism are more predisposed to think reflexively and challenge the challenge, this article sought to provide intelligible and methodical ways of making reflexive thinking accessible. We introduced the philosophical background supporting this concept since we believe that there is no shortcut for developing advanced capabilities in challenge framing and formulation. To continue developing skills in challenge framing and formulation, we invite readers to further explore the philosophical tradition behind this process, as well as the reflexive methods, including design. As NATO is currently revising the Comprehensive Operational Planning Directive (COPD), we highly recommend that NATO, its members and partners take challenge framing and formulation seriously in future revisions of training, doctrine and professional military education.

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Col Zoltán Jobbágy

# INNOVATION METHODOLOGIES FOR DEFENCE CHALLENGES: ON DESIGN THINKING AND ORGANIC APPROACHES

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*ABSTRACT: It is a commonplace to state that the operational environment is inherently complex. In such a volatile, uncertain, complex and ambiguous, or in short VUCA, environment traditional approaches to plan, prepare and execute missions are no longer applicable. VUCA environment features challenges and problems that can be either tame or wicked. A tame problem is linear in nature and yield to engineering approaches. It is decomposable into parts and solvable through a chain of causal assumptions. The bulk of problems, however, posed by the VUCA environment is wicked and not amenable to linear solutions. These problems require design thinking that is a novel approach. Design thinking is a conceptual tool to deliver non-linear solutions by taking advantage of right-brain creative thinking and left-brain analytical thinking. If applied properly, design thinking can make the best of both worlds.*

*KEYWORDS: design thinking, wicked problems, Clausewitz, complexity, tame problems*

The Modernization Institute of the Hungarian Defence Forces and the National University of Public Service organized an International Military Design Thinking (IMDC) Conference-Workshop in Budapest on 3-4 March 2020. The author of this article had the chance to present in the lecture series part of the event. This article is an extended version of that presentation and serves the purpose of clarifying the need to solve wicked problems by applying a design thinking approach, linking design thinking with the proverbial friction of war and providing the IMDC community with a structural approach to better understand the underlying complex and non-linear attributes of the operating environment.

The term *design* has many definitions. The author of this article, who is a non-native speaker of English language, understands it as a creative process. *Design thinking*, the driving force behind is present in each stage of the process: from problem definition to problem solution, including iterations. A problem solution is a viable result that can differ widely in terms of applicability from other similarly good enough solutions delivered by other designers. Design as a creative process stands for a way of thinking that is messy and painful. High degree of creativity and originality must be controlled and directed in order to channel many early approaches towards few practical solutions from which in the end, one is selected. Design is thus a process full of tensions including unclear causality. It is

characterised by the constant need to balance between planning and adapting, knowing and sensing, executing and coping.<sup>1</sup>

## WICKED PROBLEMS

The statement that at the dawn of the 21<sup>st</sup> century the operational environment is inherently complex is not new. The dramatic increase in the number of actors and the connections among them make it impossible to rely on linear approaches featuring causality, deduction, and analysis. The accelerating trend of technology development, the explosion in the number of information exchanges result in the simultaneous existence of a broad range of threats. In such a volatile, uncertain, complex and ambiguous, or short VUCA environment, traditional approaches to the planning, preparation and execution of missions are no longer applicable.<sup>2</sup>

Design thinking is a novel, non-linear, non-traditional approach that takes advantage of right-brain creative thinking and left-brain analytical thinking. Design thinking, if applied properly, can make the best of both worlds. The contemporary operations environment, in their extreme, features challenges manifest in a broad range of various problems that can be either tame or wicked. A tame problem is linear in nature and yields to engineering approaches. It is decomposable into parts and solvable through a chain of causal assumptions. Unfortunately, the bulk of problems posed by a VUCA environment is wicked and not amenable to linear solutions.<sup>3</sup> Wicked problems are open ended, which makes the formulation of any outcome extremely difficult. As a result, approaches emphasising reasoning, rationality, and analysis must yield to approaches that emphasise feeling, sensing, engagement, action, and overcoming.<sup>4</sup>

Wicked problems are ill-defined and inseparable by nature. Lack of clarifying traits allows for resolution rather than solution over-and-over again. They cannot be formulated definitively and exhaustively since formulating a wicked problem is a problem in itself. Setting up and constraining the solution space, constructing meaningful measures of performance are at the heart of the problem's wickedness. Another feature of wicked problems is that they are infinite with no criteria on how to find solutions. Terminating works are due to external reasons such as running out of resources rather than to internal ones coming from the logic of the problem. Wicked problems do not allow for objective criteria to define the correctness or falseness of solutions as they can never be true or false. They are only bad or good. Wicked problems posed by the operating environment come as the result of the interplay of many not immediate or ultimate social, cultural, religious and other factors.

<sup>1</sup> Ambrose, G. and Harris, P. *Design Thinking, the Act or Practice of Using your Mind to Consider Design*. Lausanne: AVA Book, 2010. 6-8.; Anderson, W. R., Husain, A. and Rosner, M. "The OODA Loop: Why Timing is Everything". *Cognitive Times*, December 2017, 28-29. [https://www.europarl.europa.eu/cmsdata/155280/WendyRAnderson\\_CognitiveTimes\\_OODA%20LoopArticle.pdf](https://www.europarl.europa.eu/cmsdata/155280/WendyRAnderson_CognitiveTimes_OODA%20LoopArticle.pdf), Accessed on 2 April 2020.

<sup>2</sup> Porkoláb, I. and Zweibelson, B. "Designing a NATO that Thinks Differently for 21<sup>st</sup> Century Challenges". *Defence Review* 146/S1. 2018. 196-212. <https://kiadvany.magyarhonvedseg.hu/index.php/honvyszemle/article/view/235>, Accessed on 2 April 2020.

<sup>3</sup> Liedtka, J. *The Essential Guide to Design Thinking*. Charlottesville: Darden Executive Education, 2015. 3-6.

<sup>4</sup> Rittel, H. W. and Webber, M. M. "Dilemmas in a General Theory of Planning". *Policy Sciences* 4/2. 1973. 157-158., 160-167. DOI: 10.1007/BF01405730.

Whatever the solution, it always generates unintended and undesired events, which often outperform the ones originally intended to achieve.<sup>5</sup>

History does matter for such problems since every solution implemented results in events that leave irreversible traces. Attempts to undo or reset past actions pose a significant challenge and represent further sets of wicked problems. Wicked problems do not have an enumerable set of potential solutions. Sometimes no solution can be found, or the selected solution is just as good as any other solution. What should be pursued, implemented, and enlarged is a matter of subjective judgement as wicked problems are essentially unique and exist only in the eye of the beholder. They always yield a distinguishing property of importance since there are no classes that allow for principles of solutions fitting to all members of a class. Despite obvious similarities there is no certainty about the particulars of any given problem.<sup>6</sup>

Wicked problems are always a symptom of other problems. Addressing the problem at any given level can never be logically approached as there is no natural level of wicked problems. Even systemic approaches and incrementalism can often make things worse and not better. Wicked problems are explainable in numerous ways since there is no rule that determines which explanation is correct. The choice of explanation is arbitrary and guided by attitudinal criteria that are most plausible. Wicked problems stand for ambiguity of causal webs in which solutions always point towards further sets of dilemmas. Actions always generate consequences and the events regardless whether desired, undesired, intended, unintended, good or bad matter a great deal to those who are affected.<sup>7</sup>

## PROVERBIAL FRICTION

For the military wicked problems come as a result of friction in war. Clausewitz, who introduced friction to military terminology, regarded war as the realm of uncertainty in which three-quarters of the factors are hidden to various degrees. Chance played a great role for him in war as it interferes with the assumed regular course of events. In order to handle uncertainty he also referred to the military genius and called it *coup d'oeil*. It is manifest in a quick recognition that the mind would normally miss or perceive only after a long delay. No science or analysis, but *coup d'oeil* makes it possible to overcome fundamental elements of war such as danger, exertion, uncertainty and chance. According to Clausewitz, the single concept of friction expresses best the restrictive nature of war that can turn apparently easy phenomena difficult. He argued that friction is neither reducible to comprehensible elements nor measurable.<sup>8</sup>

Clausewitz warned that things do not turn out according to expectations. Friction always overwhelms the participants with various disturbing and encouraging effects. It is such a powerful constituent of war that even surprise, which Clausewitz thought to be the key element of victory, can be held up by its force. War displays both human strength and weakness and due to the multitude of factors, no causal concept is definable with any accuracy.<sup>9</sup> Friction reflects the limitation of human insight and the occurrence of unforeseeable accidents

<sup>5</sup> Rittel and Webber. "Dilemmas in a General Theory of Planning". 160-162.

<sup>6</sup> Rittel and Webber. "Dilemmas in a General Theory of Planning". 163-164.

<sup>7</sup> Rittel and Webber. "Dilemmas in a General Theory of Planning". 165-167.

<sup>8</sup> Clausewitz, C.: *On War*. London: Everyman's Library, 1993. 101., 102-114., 115., 138-142.

<sup>9</sup> Clausewitz. *On War*. 227., 233., 304.

that do not allow for the elaboration and selection of meaningful options even under favourable circumstances. It stands for catastrophes, accidents and missed opportunities. All these indicate that war is more than an act of reason and reasoning is not its foremost activity. The means applied are neither absolutely necessary nor the only ones possible.<sup>10</sup>

War was for Clausewitz to a great extent a guesswork with numerous possibilities and wrong turns in which great results come by limited means. War has its natural inertia and friction goes together with various human failures such as inconsistency, imprecision and timidity. Friction reflects possibilities, probabilities, and luck all indicating conditions without logical reasoning. It is difficult to gauge the resistance as there is always impossible to pair the ends, ways, and means perfectly. Due to friction, causality, exact sciences, and mathematical logic are of little help since waging war was for Clausewitz an art in the fullest meaning of the term. Due to the vast variety of factors, methodological examinations are rarely possible and conclusions reached reflect the intuitive comparison and the qualities of the individual mind. War is shaped by character of men who take and execute decisions rather than by general and universally applicable causal rules.<sup>11</sup> Friction is manifest in inexplicable or random events that fuel the human desire for causality and, at the same time, makes its meaning for war irrelevant.<sup>12</sup>

Thus Clausewitz understood war as a complex web of interconnected constituents with circular causation and feedback loops. In such an environment there is always chance of escalation as tiny differences between causes can lead to completely different effects that indicate the impossibility to predict future time paths.<sup>13</sup> Friction produces wicked problems and stand for the sort of resistance that is responsible for feedback effects, constant novelty and the fact that things in war never go as planned. It is the noise in the system of war and expresses how information distortion and overload can produce uncertainty regarding the actual state of affairs. Friction indicates that it is not possible to calculate in advance exactly in what sequence events will follow and to predict which effect will turn out to be critical and decisive.<sup>14</sup>

## CAUSAL RELATIONSHIPS

In order to better understand the properties of wicked problems and the way friction unfolds in war the author suggests a structural analysis that depicts the operational environment as a continuum characterised by an ends/means relationship as seen in *Figure 1*. Whereas ends are placed on the vertical axis characterised by the combination of physical and psychological effects, the means are located along the horizontal axis ranging from destruction to influence. According to the figure effects occur on a spectrum characterised both by tangible and intangible attributes. In a similar way Clausewitz also indicated the existence of a material

<sup>10</sup> Clausewitz. *On War*. 607-617, 623-626.

<sup>11</sup> Clausewitz. *On War*. 692-693, 702-708.

<sup>12</sup> Clausewitz. *On War*. 406.

<sup>13</sup> Stacey, R. D. *Strategic Management & Organisational Dynamics*. London: Pitman Publishing, 1996. 177-179.; Salmon, W. C. "Causation". In Gale, R. M. *Blackwell Guide to Metaphysics*. Oxford: Blackwell, 2002. 35-42.

<sup>14</sup> Beyerchen, A. D. "Clausewitz, Nonlinearity and the Unpredictability of War". [www.clausewitz.com/CWZHOME/Beyerchen/CWZandNonlinearity.htm](http://www.clausewitz.com/CWZHOME/Beyerchen/CWZandNonlinearity.htm), Accessed on 2 August 2015.

and a non-material domain in war. He emphasised that war is “a trial of moral and physical forces through the medium of the latter” in which “psychological forces exert a decisive influence on the elements involved”.<sup>15</sup>

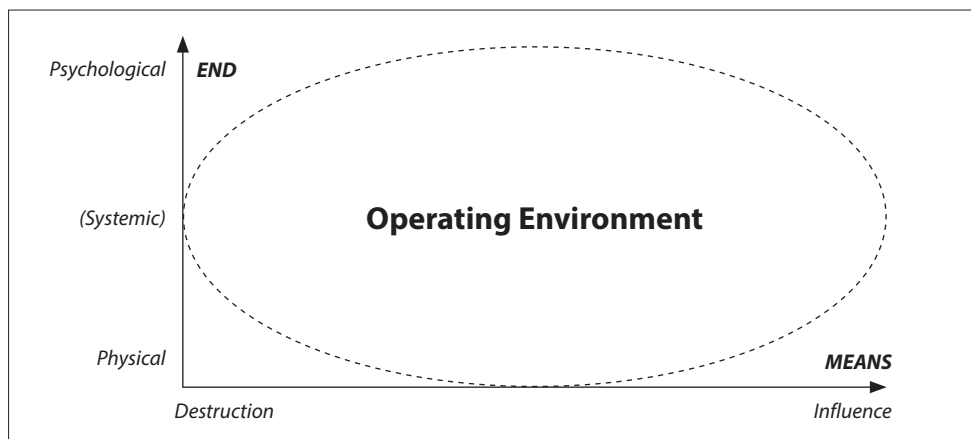


Figure 1 *The operating environment in terms of causal relationships*<sup>16</sup>

The material domain represents categories such as physical strengths and stamina. They describe the space the military tries to influence through combat and manoeuvre. Consequently, the material domain deals with tangible items the enemy usually needs to wage war such as physical platforms and communications networks. This domain is the traditional basis for measuring combat power that has to be rendered useless. The material domain can be defined as a sort of reality proper or ground truth. Attempts to achieve effects in this domain aim at physical ability and serve the purpose of changing functions. The non-material domain is characterised by psychological factors, such as moral strength and stamina. It represents the mind and attributes that generally influence the will in the form of perception, awareness, understanding, belief, and values. Effects in this domain stand for influencing intangibles the enemy needs to wage war. Consequently, effects in the non-material domain aim at changing behaviour.<sup>17</sup>

Despite the difference between the two domains the author assumes a strong correlation between them as physical and psychological factors form an organic whole. In a similar way Clausewitz regarded the physical the “*wooden hilt*”, and the psychological was for him “*the real weapon, the finely honed blade.*”<sup>18</sup>

<sup>15</sup> Quotations in Clausewitz. *On War*. 145.

<sup>16</sup> All figures are the author's own and can be found in his doctoral thesis. See Jobbagy, Z. “From Effects-based Operations to Effects-based Force: On Causality, Complex Adaptive System and the Biology of War”. PhD Thesis. Leiden: Leiden University, 2009. 275. <https://openaccess.leidenuniv.nl/handle/1887/14044>, Accessed on 12 January 2020.

<sup>17</sup> Alberts, D. S. et al. *Understanding Information Age Warfare*. Washington DC: CCRP, 2001. 12-14.; Huss, J. “Exploiting the Psychological Effects of Air Power, A Guide for the Operational Commander”. *Aerospace Power Journal* 13/4. 1999. 23.; McNicoll, I. “Effects-Based Operations: Air Command and Control and the Nature of the Emerging Battlespace”. *RUSI Journal* 148/3. 2003. 39.

<sup>18</sup> Quotations in Clausewitz. *On War*. 217.

## SEMANTIC ISSUES

Although detailing the cause-and-effect-based systemic approach as depicted above to better understand the underlying complex and non-linear properties of the VUCA environment forms the backbone of this article, it is equally important to properly understand what the term ‘effect’ stands for. Regardless if someone is a native or non-native speaker of English, in normal usage an effect indicates a result or outcome, something that is produced by an agent or a cause. It follows immediately the antecedent as a resultant condition and implies something that necessarily and directly follows a cause. Terms, such as ‘result’, ‘consequence’, ‘upshot’, ‘after-effect’, ‘aftermath’, ‘sequel’, ‘issue’, ‘outcome’ and ‘event’ are all regarded synonymous with effect and generally signify a condition that is ascribable to a cause or a combination of causes. Any further skim onto the dictionary makes it clear that effect refers to so many meanings that it might not obviously promote precision and clarity of military language. As one critical observer ironically remarked, if the proponents of the effects-based approach “*were aware of the many different meanings and usages of the term effect, it is doubtful that they would have made it the first choice among the words they wanted to use.*”<sup>19</sup>

The second and probably bigger problem arises from the fact that although an effect follows an antecedent directly, the ultimate military focus is traditionally on achieving strategic, hence higher order, follow-on effects mostly in the psychological domain. Unfortunately, in semantic terms any reference to indirect or higher order effects becomes questionable at best and empty at worst. Semantically these effects should rather be named as ‘consequences’, ‘outcomes’ or ‘events’. Thus the more one moves towards psychological effects aimed at influencing enemy’s behaviour, the more meaningless a causality-based approach becomes as even Clausewitz pointed out that whatever soldiers do “*consequences of some kind [would] always follow.*”<sup>20</sup> Even proponents who claim that a causality-based focus is meaningful, state that detecting such relationships is extraordinarily difficult and requires hard thinking. A single action can produce more than one effect, which requires the consideration of all potential consequences of the actions taken. Effects also have a dual nature as they ripple and cascade through the enemy’s system. The effect of a given action may induce further changes with the result that it becomes increasingly difficult to predict indirect or higher-order effects.<sup>21</sup> As a rule of thumb it is possible to state that the more the focus moves towards higher order psychological effects the more difficult it becomes to identify causal linkages. Effects are complex phenomena and cause-and-effect relationships are of intricate nature. In order to better understand the mechanism of causality the author suggests examining it along two dimensions such as coupling and interaction as depicted in *Figure 2*. Although the dimensions were introduced originally to understand and study

<sup>19</sup> Webster’s Third New International Dictionary of the English Language. Unabridged. Springfield: Merriam-Webster Inc., 1981. 724.; Van Riper, P. K. “Precision and Clarity in Military Language”. Manuscript. 5 September 2006.; Van Riper, P. K. *Planning for and Applying Military Force: An Examination of Terms*. Carlisle: US Army War College, Strategic Studies Institute, 2006. 5-6., 13-15.

<sup>20</sup> Quotations in Clausewitz. *On War*. 212.

<sup>21</sup> Among others see Gleeson, D. J. et al. *New Perspectives on Effects-Based Operations: Annotated Briefing*, Alexandria: Institute for Defense Analyses, Joint Advance Warfighting Program, 2001. 13-15.; *A Concept Framework for Effects-Based Operations: White Paper Version 1.0*. Suffolk: JFCOM, 2001. 8-15.; Mann, E., Endersby, G. and Searle, T. *Thinking Effects, Effects-Based Methodology for Joint Operations*. Maxwell AFB: Air University Press, 2002. 25-34.

the way accidents happen, in a slightly modified form they equally explain various causal mechanisms in simple terms. Their combinations indicate four rough areas representing different sorts of causality as interaction can be linear or complex, and coupling tight or loose.<sup>22</sup>

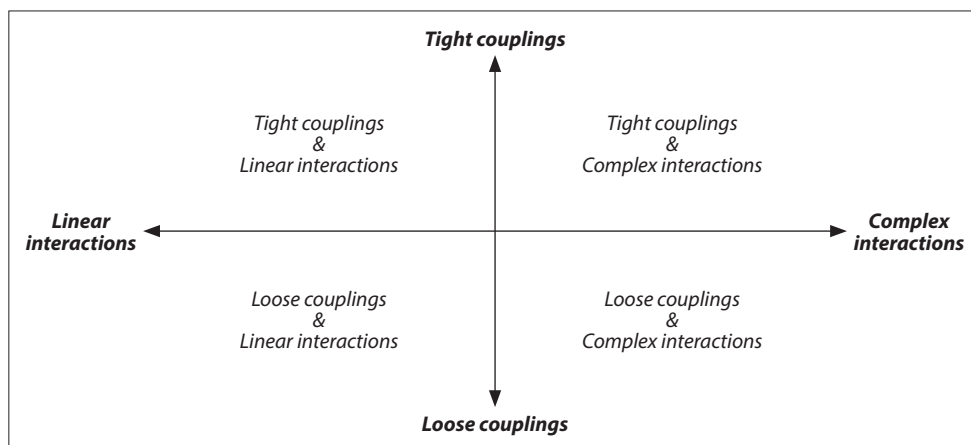


Figure 2 *Perrow's quadrant*

The first dimension that will be explored is interaction. Due to their simplicity and comprehensibility linear interactions allow for visible and simple relationships between causes and effects. Linearity can be anticipated since the underlying sequence of causality is directly comprehensible. Complex interactions indicate branching paths, feedback loops, and jumps from one sequence to another. Here connections multiply in unexpected ways often revealing unintended and unfamiliar effects. Causal relationships are outside the normal and assumed sequence of events as they are either invisible or not immediately comprehensible.<sup>23</sup> Linear interactions can also display invisible cause-and-effect strains but they occur mostly in a well-defined segment and sequence. Complex interactions do not stand for a well-defined segment or sequence as causes and effects can be linked differently and may interact in unexpected ways. Causal processes are more indirect and inferential, with a result that in the case of complex interactions often not even the top of an iceberg is visible. Thus one has to expect a wide array of misunderstood or missed signals and faulty information regarding causes and their likely effects. Whereas linear interactions have minimal feedback-loops and are generally clear and concise, complex interactions are more likely to display unanticipated or unintended relationships.<sup>24</sup> The second dimension is coupling, which refers to slack or buffer in cause-and-effect relationships. Tight couplings do not contain slack or buffer. It refers to direct causality since an effect is directly coupled to a cause. Loose coupling can best be characterised by ambiguity and flexibility in which the absence of intended connections can remain unobserved. Whereas loose couplings make possible to display own logic and interest in terms of causality, tight couplings restrict such attitudes. Unlike loose couplings, which are more stable since they can accommodate shocks

<sup>22</sup> Perrow, C. *Normal Accidents, Living with High-Risk Technologies*. New York: Basic Books, 1984. 63.

<sup>23</sup> Perrow. *Normal Accidents...* 75-78.

<sup>24</sup> Perrow. *Normal Accidents...* 79-85.

without destabilisation, tight couplings generally respond in a quicker and more disastrous fashion to perturbations.<sup>25</sup>

To wrap-up the preceding structural analysis the author states that linear interactions indicate spatial segregation and dedicated connections. They refer to attributes such as easy substitution with only a few feedback loops and allow for single purposed and segregated control since the emphasis is on direct information that makes an extensive understanding possible. Complex interactions are based on proximity and common mode connections. They display interconnectedness, which means limited substitution and many feedback loops, and require multiple and interacting control standing for indirect information and limited understanding. Tight couplings do not make delays possible. Due to the underlying invariance of sequences there is only a small amount of slack. Should buffers and redundancies exist, they are mostly built-in features that allow only for limited substitution. There is hardly any spatial and temporal separation between a cause and an effect. Loose couplings allow for delays due to the changeable order of sequences. The result is extended and often unanticipated sets of alternative methods, slack and buffers in which substitutions are fortuitously available.<sup>26</sup>

## DIFFERENT AREAS

The examination of coupling and interaction in the form of a structural analysis makes it possible to subdivide the operating environment into four interrelated areas. Linear interactions refer to highly structured, logical, sequential, and predictable cause-and-effect relationships. In contrast, complex interactions offer less predictability due to the presence of unplanned and unforeseen relationships. Tight couplings can be described by high centralisation and rigidity that allow for a close monitoring and a certain tolerance. Loose couplings mean decentralised operations and allow for a wide variety of outcomes in terms of effects.<sup>27</sup> The four areas with different characteristics can be projected on the operating environment as depicted in *Figure 3*.

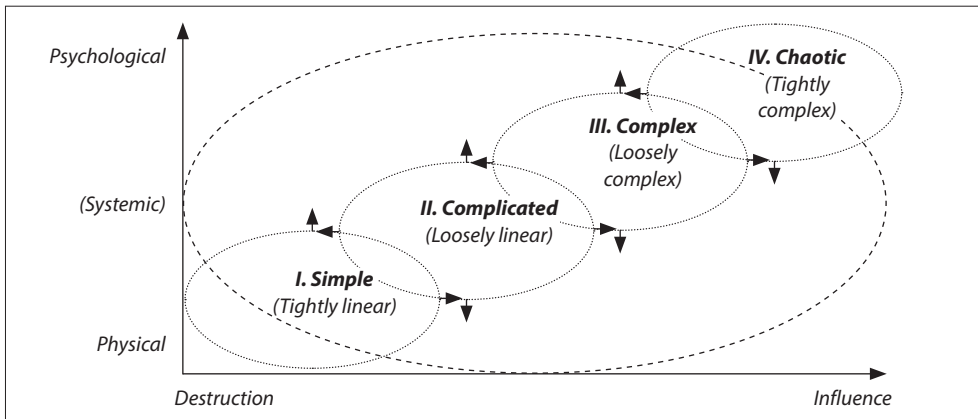


Figure 3 Four different areas of the operating environment

<sup>25</sup> Perrow. *Normal Accidents*... 86-92.

<sup>26</sup> Perrow. *Normal Accidents*... 93-97.

<sup>27</sup> Czerwinski, T. *Coping with the Bounds, Speculations on Nonlinearity in Military Affairs*. Washington DC: CCRP, 1998. 89-92., 96-98.; Perrow. *Normal Accidents*... 332.

The four areas stand for different sorts of causal relationships and are based on structural analysis, they can be named as ‘simple’, ‘complicated’, ‘complex’, and ‘chaotic’.<sup>28</sup> In general one can say that the more one moves from the first area to the last, from tightly linear to tightly complex, the more the level of causality decreases and in the case of the latter it can disappear entirely. Even if it is possible to discern causality in terms of physical effects, due to the underlying mechanism it is mostly impossible to see which way a particular effect relates to subsequent and desired indirect or higher order psychological effects. The growing instability of couplings and interactions points towards difficult-to-decode causal relationships. Area I can be described as simple and stands for linear causality indicating known causes and effects. One can discern clear and visible cause-and-effect relationships that allow for prediction. Due to their empirical nature, causal relationships are not open to dispute and planning for effects makes sense. This area can be characterised by the predominance of centralised causes and centralised effects. Area II can be described as complicated and refers to knowable causes and effects. Although causal relationships exist, due to spatial and temporal separations they might not become fully known. The relationship between causes and effects are generally difficult to comprehend, which indicates limitations in terms of prediction. Planning for effects still makes sense but one must take into account that centralised causes increasingly yield to decentralised and unexpected effects. Area III can be described as complex. In this area cause-and-effect relationships still exist but they defy most attempts at categorisation or other analytical techniques. Effects can be perceived but not predicted as their relationship is not open to any inspection. Both interactions and couplings indicate that causes and effects are mostly decentralised and appear coherent only retrospectively but even then causality is subject to debates. Area IV can be described as chaotic. In this area no visible cause-and-effect relationships exist, which indicates that causality is not really perceivable. The amount of factors together with spatial and temporal separations make prediction either impossible or allow only for very general terms. In this area it is not possible to plan for effects or discern causal relationships in a meaningful way.<sup>29</sup>

In tightly linear systems anyone can detect causality. In loosely linear systems only experts might detect causality, in loosely complex systems causality often becomes clear only retrospectively. In tightly complex systems there is no discernible causality that can guide actions in a meaningful way.<sup>30</sup> The more the focus shifts towards tightly complex attributes the more unpredictability takes hold. It seems that the ultimate military focus on indirect or higher order psychological effects stands for an area where it is very difficult if not impossible to detect and exploit causality. Even the area in which it is possible to discern direct causality interacts with areas that are rather unpredictable. Consequently, one must expect novelty everywhere in war. Thus the Clausewitzian assumption that in war everything is simple but even the simplest thing can become difficult generally takes hold. The four areas reflect that if there is no firm basis for comprehending the initial state with all the factors that must be considered, there is no basis to judge which of the possibilities should be regarded

<sup>28</sup> Jobbagy, Z. “Wars, Waves and the West: Putting Effects-Based Operations into Context: TNO report DV1 2004 B077”. Hague: TNO, 2005. 47-57.

<sup>29</sup> Kurtz, C. F. and Snowden, D. J. “The new dynamics of strategy: Sense-making in a complex and complicated world”. *IBM Systems Journal* 42/3. 2003. 468-469.; Snowden, D. and Stanbridge, P. “The Landscape of Management: Creating the context for understanding social complexity”. *ECO Special Double Issue* 6/1-2. 2004. 144-145.

<sup>30</sup> Kurtz and Snowden. “The new dynamics of strategy...” 472.

as desired effects. In general even if the causality-based approaches worked, they would offer considerable promise only for physical effects. In the case of psychological effects they appear to be pretty hopeless. Unfortunately, this is the area of the ultimate military focus. In the case of systemic effects the concept touches the borderline that separates prediction from pure guesswork. Focusing on causality is generally good for creating desired physical effects and might occasionally be good for generating desired systemic effects. However, in the case of psychological effects the causality-based approach does not work well but on occasion it might contain a useful set of information.<sup>31</sup>

## DESIGN THINKING

Analysing the continuum of war along the four areas makes it possible to see the way structures form and dissolve. The areas make it clear that the operating environment stands for a general unpredictability and explain why a novel approach such as design thinking is needed. Moving towards the end-pole characterised by ‘physical/destruction’ indicates direct causality and prediction, but the value of the effects achieved is seen by the military as low. Although effects achieved around the ‘psychological/influence’ end-pole have high values, they increasingly prohibit predictions in causal terms. The operating environment stands for a place in which chaos meets order constantly in a disorderly way: pre-order meets order in disorder as occurrences move continuously back and forth through the areas. Due to such attributes the operating environment can best be described by the term ‘complexity’ as it denies the primacy of order and causality, and the drive for efficiency and constant affirmation. Tackling this complexity requires design thinking promoting freedom and openness, action and possibility.<sup>32</sup>

Design thinking demands that the various interdependences of the operating environment should be better taken into account. Links between causes and effects can become distant in time and space and in the case one proceeds as if “*simple linear links exist even if we do not know what they are, then we are likely to undertake actions that yield unintended and surprising results.*”<sup>33</sup> Complexity displays a bewildering array of effects that spans over several scales. This complexity of the operating environment features emergent properties that come from the constant interplay of chaotic and non-chaotic forces. The result is continuous evolution and adaptation that contain a network of various alternatives. Design thinking as an approach offers more than analytical reasoning and focusing on causality since the combination of interactions and couplings often produce unforeseeable results. It helps to deliver at least an explanatory framework to better understand the consequences of actions,

<sup>31</sup> Lorenz, E. N. *The Essence of Chaos*. London: UCL Press, 1993. 102-110.

<sup>32</sup> Lefebvre, E. and Letiche, H. “Managing Complexity from Chaos: Uncertainty, Knowledge and Skills”. *Emergence* 1/3. 1999. 7-15.; Axelrod, R. and Cohen, M. D. *Harnessing Complexity, Organizational Implications of a Scientific Frontier*. New York: The Free Press, 1999. 28-31.; Lissack, M. R. “Complexity: the Science, its Vocabulary, and its Relation to Organizations”. *Emergence* 1/1. 1999. 110-125.

<sup>33</sup> Stacey. *Strategic Management...* 273-276. (quotation p. 275); Tasaka, H. “Twenty-first-century Management and the Complexity Paradigm”. *Emergence* 1/4. 1999. 115-123.

and the spatial and temporal effects they generate.<sup>34</sup> The operating environment reveals both deterministic outcomes and random fluctuations. This constant shuffling between stability and instability explains why war can display “growth and decay, capture and domination, periods of opportunity for alternative developments followed by solidification of the existing domination structures.”<sup>35</sup>

The four combinations allow for establishing generalised areas in the operating environment as depicted in *Figure 4*. In these areas different characteristics overlap and constantly influence each other. Linearity goes together with non-linearity, and stability always co-exists with complexity and chaos. Whereas stability stands for simplicity and linearity reflecting a tight and linear relationship between causes and effects, non-linearity points toward chaos that can be described by extreme sensitivity to initial conditions. The biggest area within the continuum of war is complexity proper, which stands for non-linearity, far-from-equilibrium conditions and emergence. The figure clearly shows that although war contains linear properties, its mechanism is mostly defined by non-linear attributes. Consequently, there must be a rethinking and reconsideration regarding the basic mechanism that drives the causality-based approach and a shift in the reasoning away from prediction aimed at identifying desired effects.<sup>36</sup>

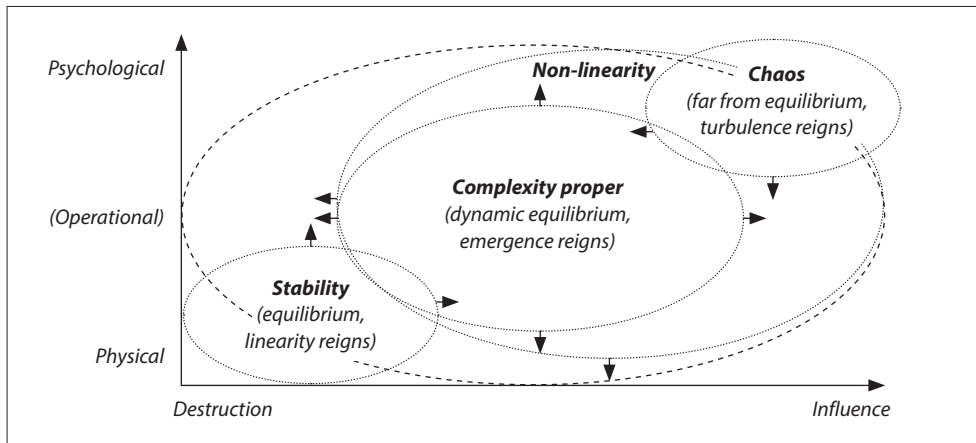


Figure 4 Overlapping characteristics of the operating environment

The operating environment displays emergent and interactive attributes that come as a result of unstructured or structured but non-additive interactions. Its complex and non-linear attributes are more than the sum of the constituents and feature a general unpredictability

<sup>34</sup> Levin, S. A. “Complex Adaptive Systems: Exploring the Known, the Unknown and the Unknowable”. *Bulletin of the American Mathematical Society* 40/1. 2003. 3-19.; Baranger, M. “Chaos, Complexity, and Entropy: A physics talk for non-physicists”. 9-11. <http://necsi.org/projects/baranger/ccce.pdf>, Accessed on 24 November 2015.; Cilliers, P. *Complexity and postmodernism: Understanding complex systems*. London: Routledge, 1998. 2-5.; Nicolis, G. and Prigogine, I. *Exploring Complexity: an introduction*. New York: W. H. Freeman and Company, 1989. 5-8., 31-32.; Prigogine, I. and Stengers, I. *Order out of Chaos: Man's New Dialogue with Nature*. London: Heinemann, 1984. 131-137.

<sup>35</sup> Stacey. *Strategic Management...* 324-329. (quotation p. 324)

<sup>36</sup> Czerwinski. *Coping with the Bounds...* 39-60.; Briggs, J. and Peat, D. F. *Turbulent Mirror: An Illustrated Guide to Chaos Theory and the Science of Wholeness*. New York: Harper & Row, 1989. 174-180.

in relation to the input. The constant adjustments and adaptations result in multiple and often unexpected paths.<sup>37</sup> Exploiting VUCA attributes of the operating environment requires an approach that makes everything-affects-everything-else mode possible to get a grip on the entire web of various connections. The messiness of the operating environment cannot be examined through conceptual elegance reflecting rational thinking, deductive logic and analytical categorisation. It contains novelty that often comes from simple properties producing emergent and unpredictable effects. VUCA attributes contain structures to which different laws, concepts, and generalisations apply. In the operating environment there is an infinite variety of possibilities and a general unpredictability regarding causes and their likely effects.<sup>38</sup>

## CONCLUSION

The causality-approach emphasises deductive reductionism and causal laws in order to help predict desired effects. The supporting assumption is that the operating environment displays order and equilibrium, the possibility for rational choice, and the ability to steer and control events. The VUCA attributes of the operating environment stand for variety and novelty in which certain properties remain inherently unknowable to the human mind. The preceding short analysis revealed that although the operating environment can be described in general terms using causal relationships, effects that go beyond the immediate spatial and temporal horizon cannot be predicted with any accuracy and require a different approach. Design thinking as a novel tool indicates something very different than the fundamental assumption of the causality-based approach, namely that it is possible to comprehend only some things especially those that are localized both in space and time. Everything in the operational environment is interrelated and all we can attain is nothing more than a temporary and partial interpretation. Complexity reminds us of the fact that the military often confuse causation with correlation and simulation with prediction. Whereas the former refers to the preference for creating retrospective validation to identify best practices, the latter points to the fact that even if it is possible to simulate something, it does not obviously mean that it is possible to equally predict its future.<sup>39</sup>

The operating environment is full of discontinuities and uncertainty. All indicate a general unpredictability that makes both individuals and organisations disoriented. The international arena has been a messy place since the demise of the bipolar world-order. During turbulent times in which orientation becomes difficult, humans increasingly turn to panaceas for advice. In the case people do not understand or cannot cope with challenges they often

<sup>37</sup> Russ, M. and Bacon, J. "Organizational Extinction and Complex Systems". *Emergence* 1/4. 1999. 75-79.; Griffin, D., Shaw, P. and Stacey, R. "Knowing and Acting in Conditions of Uncertainty: A Complexity Perspective". *Systemic Practice and Action Research* 12/3. 1999. 302-304. DOI: 10.1023/A:102240380230.

<sup>38</sup> Waldrop, M. M. *Complexity, The Emerging Science at the Edge of Order and Chaos*. London: Viking, 1992. 38-39., 60-63., 81-83.

<sup>39</sup> Flood, R. L. "Knowing the Unknowable". *Systemic Practice and Action Research* 12/3. 1999. 247-252. DOI: 10.1023/A:1022447617323.; Kurtz and Snowden. "The new dynamics of strategy...". 462-463.; Snowden and Stanbridge. "The Landscape of Management...". 146.; Stacey. *Strategic Management...* 346-347.

look for simple or simplistic solutions that promise quick help.<sup>40</sup> Design thinking is very different from that. It stands for a creative process balancing with several different possible futures where there is not always time for mechanical, deductive systemic analyses aimed at detecting causality. The most important message of design thinking is that instead of focusing on certain desired effects, emphasis should be on the ability to respond consistently to unpredictability. War cannot be waged based on single and prescriptive models but it requires that we adapt and evolve rapidly in order to handle dynamic and changing situations similar to the biological evolution of species.<sup>41</sup> The serious contradiction between the basic assumptions of the causality-based approach and the complex nature of the operating environment naturally raises the demand for a better conceptualisation. Unpredictability indicates that even with design thinking one must be satisfied with understanding certain general features in terms of correlation rather than attempting to discover a mechanism that directly links causes with effects. Consequently, the unpredictable nature of the operating environment should be regarded as an opportunity that can explain qualitative behaviour instead of inaccurately predicting futures in terms of desired effects.<sup>42</sup> And exactly here comes the power of design thinking fully to the fore...

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Col (Ret) Ladislav Pásztor

# THE EFFECTS OF THE CURRENT SECURITY SYSTEM'S TRANSFORMATION ON THE SECURITY OF THE CENTRAL EUROPEAN NATION STATES

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*ABSTRACT: The end of the bipolar world order at the end of the 20<sup>th</sup> century, which has had a strong impact on the global security system and particularly affected the Central European states to this day, gave rise to an analytical-evaluative approach to the security threats in the region. The topic of this doctoral research ('An Analysis- and Evaluation-based Approach to the Security Threats in Central Europe') is primarily the analysis and evaluation of the risk factors to the V-4 states, especially Slovakia and Hungary. The article analyses the external security challenges, risks, and threats identified on the basis author's objective perception and can be primarily classified as ones within political and military dimensions. Of course, this does not dismiss the possibility that the threats not discussed in this study are non-existent. With the use of National Security and Defence Strategies and annual Security Assessment Reports the article presents the risk factors identified by Slovakia and the Czech Republic.*

*KEYWORDS: Slovak Republic, Czech Republic, Russia, Ukraine, ISIL, security challenges, hybrid war, cyberspace*

## INTRODUCTION

In the states of the Central European region, the end of the bipolar world order was accompanied by a political regime change. The transition from a socialist type of government and planned economy to a market economy was not smooth. This process affected not only the Central European states (Czechoslovakia, Hungary, and Poland), but also other countries of the Soviet Bloc and some successor states of the former superpower. The unification of the German Democratic Republic and the Federal Republic of Germany, or the "bloody" disintegration of Yugoslavia, also significantly contributed to the transformation of the security environment in Central Europe. The independence of the Baltic States (Lithuania, Latvia and Estonia) and Ukraine, which broke away from the former Soviet Union, further complicated the European security environment. In 2014, the "reunification" of the Crimean Peninsula to Russia and the proclamation of the breakaway Luhansk and Donetsk People's Republics by the local Russian population and Russian "volunteers" led to a civil war that continues to this day, making relations between Ukraine and the Russian Federation extremely tense. The conflict takes place on the territory of a country neighbouring Hungary,

Slovakia, Poland and Romania; therefore it has a significant – negative – impact on the immediate security environment of Central Europe.

In the Arab World, bordering Europe, civil wars, violent changes of government and weak states emerged as a result of the 2011 “Arab Spring”<sup>1</sup>. Poverty, unemployment, and poor living conditions, culminating in hopelessness, had led to a power vacuum in many countries, and generated a trend of the strengthening of various radical groups. The so-called “Islamic State”<sup>2</sup>, which is essentially the successor to the Al-Qaeda terrorist organization,<sup>3</sup> was established in Iraq and Syria. As a consequence of the “Arab Spring” and the overpopulation of so-called Sub-Saharan Africa, migration to Western Europe intensified. This trend should clearly be considered a threat as one of the migration routes to the west goes through the Balkans and through Central Europe.

## AN ASSESSMENT OF THE SECURITY SITUATION IN THE SLOVAK REPUBLIC

On 4<sup>th</sup> October 2017, at its 72<sup>nd</sup> meeting of the year, the Government of the Slovak Republic adopted the new Security Strategy, which would have replaced the Security Strategy in force since 2005. However, the new document has not yet come into force, due to certain political reasons,<sup>4</sup> it has not been submitted to the National Council of the Slovak Republic. Nevertheless, the strategy indicates very well how Slovakia’s then political leadership<sup>5</sup> approached the current security environment and the relating security risks. To maintain objectivity, government approved Security Reports of Slovak Republic for 2017<sup>6</sup> 2018<sup>7</sup> and 2019<sup>8</sup> were analysed in this article. After the establishment of the new government of the Slovak Republic the document approved by the previous government but not submitted to the National Council of the Slovak Republic was revised. The revision is executed by the interministerial committee set up by the experts of the Ministry of Defence and the Ministry

<sup>1</sup> Arab Spring, a wave of pro-democracy protests and uprisings that took place in the Middle East and North Africa from in 2010 and 2011. See: “Arab Spring”. *Encyclopaedia Britannica*. 23 August 2019. <https://www.britannica.com/event/Arab-Spring>, Accessed on 13 December 2020.

<sup>2</sup> ISIL – Islamic State of Iraq and the Levant.

<sup>3</sup> “Counter Terrorism guide: Islamic State of Iraq and the Levant (ISIL)”. National Counterterrorism Center. <https://www.dni.gov/nctc/groups/isil.html>, Accessed on 7 December 2020.

<sup>4</sup> “Otvorený list premiérovi a poslancom: Výzva na podporu Bezpečnostnej a Obrannej stratégie SR”. O mediach. com. 5 December 2018. <https://www.omeiach.com/tlacove-spravy/14489-otvoreny-list-premierovi-a-poslancom-vyzva-na-podporu-bezpecnostnej-a-obrannej-strategie-sr>, Accessed on 7 December 2020.

<sup>5</sup> On 29<sup>th</sup> February 2020 parliamentary elections were held in Slovakia. Subsequently, on 21<sup>st</sup> March 2020 a new government was set up with opposition party representatives, replacing the previous cabinet led by DIREC-TION – Social Democracy (Slovakian: “SMER – sociálna demokracia”) party. The new government consists of the Slovak National Party (Slovakian: Slovenská Národná strana), inter-ethnic political party MOST-HÍD (Slovakian: MOST-HÍD) and until 10<sup>th</sup> September 2016 #NETWORK (Slovakian: #SIET’).

<sup>6</sup> “Správa o bezpečnosti Slovenskej republiky za rok 2017”. [Report on the Security of the Slovak Republic for 2017] Slov-lex. <https://www.slov-lex.sk/legislativne-procesy/-/SK/dokumenty/LP-2018-556>, Accessed on 7 December 2020. (hereafter SOB SVK 2017)

<sup>7</sup> “Správa o bezpečnosti Slovenskej republiky za rok 2018”. [Report on the Security of the Slovak Republic for 2018] Úrad Vlády Slovenskej Republiky. 3 September 2019. <https://rokovania.gov.sk/RVL/Material/24131/1>, Accessed on 7 December 2020. (hereafter SOB SVK 2018)

<sup>8</sup> “Správa o bezpečnosti Slovenskej republiky za rok 2019”. [Report on the Security of the Slovak Republic for 2019] Slov-lex. <https://www.slov-lex.sk/legislativne-procesy/-/SK/dokumenty/LP-2020-202>, Accessed on 7 December 2020. (Hereafter SOB SVK 2019.)

of Foreign and European Affairs.<sup>9</sup> The new Security Strategy of the Slovak Republic and the final version of the new Defence Strategy of the Slovak Republic were completed on 8<sup>th</sup> December 2020.<sup>10</sup> After their approval by the government the documents will be submitted to the National Council of the Slovak Republic in early 2021.

The security policy of the Slovak Republic is determined by the Security Strategy. For the security of the state and its population, it is the Slovak Republic itself that is primarily responsible. At the same time, global competition, the technological and information revolution, and changes in the security environment necessitate the addressing of security challenges, risks, and threats in the context of international cooperation. This is the reason why the Security Strategy emphasizes the importance of the active membership of the Slovak Republic in international organizations, in particular the European Union (EU) and the North Atlantic Treaty Organization (NATO), which are the cornerstones of security and those of the implementation of security policy.<sup>11</sup>

The security strategy of the Slovak Republic is in line with the EU Global Strategy on Foreign and Security Policy (EU Global Strategy<sup>12</sup>) and the Strategic Concept of the North Atlantic Treaty Organization (NATO Strategic Concept<sup>13</sup>).

The security environment in which the Slovak Republic pursues its security interests has significantly deteriorated. As a consequence of the impact of internal and external factors, which are closely intertwined with their borderlines becoming increasingly blurred, the security environment is changing rapidly, often in an unpredictable way. Crises can surface without any warning, and the reaction of the international community is not necessarily immediate.<sup>14</sup>

## The Security Strategy of the Slovak Republic Identifies, Inter Alia, the Following Security Threats:

### *In the International Security System:*

The crisis and conflict prevention capabilities of the United Nations (UN) and the Organization for Security and Cooperation in Europe (OSCE) have weakened and are unlikely to

<sup>9</sup> “Rezorty obrany a diplomacie už začali s prípravou nových strategických dokumentov, na rokovanie vlády ich chcú predložiť do konca tohto roka”. Ministerstvo obrany Slovenskej Republiky. 8 July 2020. <https://www.mosr.sk/47390-sk/rezorty-obrany-a-diplomacie-uz-zacali-s-pripravou-novych-strategickych-dokumentov-na-rokovanie-vlady-ich-chcu-predlozit-do-konca-tohto-roka/>, Accessed on 7 December 2020.

<sup>10</sup> “Ivan Korčok a Jaroslav Naď predstavili nové strategické dokumenty”. [Ivan Korčok and Jaroslav Naď presented a new strategic documents] DennikN.sk. 8 December 2020. <https://dennikn.sk/minuta/2177892/?ref=list>, Accessed on 12 December 2020.

<sup>11</sup> “Bezpečnostná stratégia Slovenskej republiky 2017”. [The Security Strategy of the Slovak Republic – 2017]. Úrad Vlády Slovenskej Republiky. 2 October 2017. <https://rokovania.gov.sk/RVL/Material/22364/1>, Accessed on 7 December 2020. (hereafter BS SVK 2017)

<sup>12</sup> For further details see: “Shared Vision, Common Action: A Stronger Europe: A Global Strategy for the European Union’s Foreign And Security Policy”. European Union. June 2016. [https://eeas.europa.eu/sites/eeas/files/eugs\\_review\\_web\\_0.pdf](https://eeas.europa.eu/sites/eeas/files/eugs_review_web_0.pdf), Accessed on 12 December 2020.

<sup>13</sup> For further details see: “Strategic Concept 2010”. North Atlantic Treaty Organization. 3 February 2012. [https://www.nato.int/cps/en/natohq/topics\\_82705.html](https://www.nato.int/cps/en/natohq/topics_82705.html), Accessed on 12 December 2020.

<sup>14</sup> BS SVK 2017: 5., article 7.

strengthen in the near future. New zones of tension and long-term conflicts are emerging, as well as failed states that do not guarantee the security and stability of their own citizens.<sup>15</sup>

From the aspect of protection of the security interests of the Slovak Republic it is of particular concern and is regarded as a violation of international rules and principles that in 2014 a part of Ukraine came under the rule of the Russian Federation under an illegal and unlawful referendum, presumably with the support of the Russian armed forces. The Slovak Republic considers this event as a serious violation of international law. In the neighbourhood of the Slovak Republic an armed conflict broke out and has been in progress to this day, affecting the security and stability of the entire region.<sup>16</sup>

Following these events, the relations of the EU and NATO member states with the Russian Federation deteriorated significantly, reciprocal sanctions were introduced, and the strength, capabilities, and activities of Moscow's armed forces increased in the vicinity of the EU and NATO member states, necessitating the military reinforcement of the eastern wing of NATO. At the same time, ongoing efforts are being made in order to deepen the dialogue with Russia, primarily on security issues. These talks are conducted in the framework of the NATO-Russia Council and the OSCE.<sup>17</sup>

The proliferation of weapons of mass destruction and their means of delivery poses a security threat, including the existence of dysfunctional states that are not always able to ensure effective control and disarmament of such weapons systems. Hazardous materials, including chemical, biological, radioactive, or nuclear materials, may fall into the hands of state and non-state actors, including terrorist groups, thus presenting a threat to the territory and population of the Slovak Republic and its allies. The deterioration of the security situation was also reflected by the negative developments in the situation of the international arms control system. A fundamental challenge is posed by the scientific and technological progress and the rapid proliferation of technologies across various disciplines, allowing non-state actors and terrorist organizations to evade existing control mechanisms.<sup>18</sup>

#### *In the Euro-Atlantic Area:*

The trust and confidence of the population of the EU and NATO member states in these organizations is dwindling. The spread of negative tendencies and political processes, coupled with negative sentiments towards the existence and values of the EU and NATO, may potentially weaken or even deteriorate the functioning of these organizations, have an influence on integration processes, and thus damage the security interests of the Slovak Republic. An important factor in this regard is the propaganda, information, and disinformation activities of external and internal actors.<sup>19</sup>

The Euro-Atlantic area has been hit by a number of terrorist attacks, which have essentially grown into a permanent threat. These terrorist attacks may present indirect threat to democratic society through urging the state administration to introduce extreme measures or special legal order. Such restrictive regulations may decrease the trust of population in the organs of state administration.<sup>20</sup>

<sup>15</sup> BS SVK 2017: 6., article 9.

<sup>16</sup> BS SVK 2017: 6., article 10.

<sup>17</sup> BS SVK 2017: 6., article 11.

<sup>18</sup> BS SVK 2017: 6., article 12.

<sup>19</sup> BS SVK 2017: 7., articles 13-14.

<sup>20</sup> BS SVK 2017: 7., article 15.

The significant increase in illegal, uncontrolled migration from the Middle East, Asia and Africa into Europe has a significant impact on the security of the Euro-Atlantic region. The risk of further illegal and uncontrolled migration is aggravated by the poor social and economic conditions, population growth, ongoing conflicts, instability, and climate change affecting those regions. In this context, illegal, uncontrolled migration is not only a serious humanitarian challenge, but it also presents a serious security threat to the Slovak Republic, to the cohesion and stability of the European Union, and to the functioning of the Schengen border control system. Illegal migration promotes the activation of domestic extremist groups, increases populism and intolerance, facilitates political communication of extremist movements, increases the profits of organized criminal groups involved in human trafficking. Moreover, it generates contradictions among the EU Member States and jeopardizes the functioning of the Schengen system.<sup>21</sup>

#### *In the Context of Europe:*

In many regions of the world, the security situation, the failure of certain states, rapid demographic growth, and the effects of global problems, such as poverty, epidemics and climate change, destruction of the natural environment, shortages of food and drinking water contribute to crises and conflicts, which ultimately lead to migration to the regions of the more developed world. Such processes are accelerated by the emergence of modern technologies that easily overcome both physical and psychological barriers. Failed states are the sources of instability, conflicts, and forced migration, moreover, they even provide safe haven for terrorists.<sup>22</sup>

The security situation in the eastern regions of Ukraine indicates the emergence of a long-lasting conflict that will create potential sources of tension and affect the security situation throughout Ukraine, the Black Sea region and Central and Eastern Europe. Ukraine's instability, in parallel with a possible escalation of tensions, poses a security threat to the Slovak Republic.<sup>23</sup>

The Middle East remains a source of instability. The major destabilizing factors are: armed military conflicts, regional powers and radical religious factions, territorial disputes, the popularity of ideologies that promote terrorism, religious extremism, social and economic stagnation and even decline, migration, energy shortages, water scarcity and related food shortages, population growth and the proliferation of conventional and non-conventional weapons. The international cooperation and effective actions against the Islamic State in Libya, Iraq and Syria have induced asymmetric threats from the Islamic State, which launched attacks on European targets.

In its partial summary the new Security Strategy<sup>24</sup> states that in the changed security environment an armed attack poses a serious and potential security threat to Slovakia. This threat cannot be completely ruled out due to the deepening instability and the escalation of current conflicts in regions neighbouring NATO and EU Member States. At the same time, the document warns that the present security situation in the southern and eastern regions of Ukraine could lead to an armed conflict in Europe not only as a direct military conflict of states, but it may also take the form of multi-spectrum hybrid warfare. Security is not just a dimension

<sup>21</sup> BS SVK 2017: 7., articles 16-17.

<sup>22</sup> BS SVK 2017: 8., article 22.

<sup>23</sup> BS SVK 2017: 8., article 23.

<sup>24</sup> BS SVK 2017: 8., article 24.

of the physical world – the unprecedented development in information and communication technologies offer a range of possibilities, and new vulnerabilities as well. State and non-state actors have the potential to make cyber-attacks more complex, sophisticated, and dynamic.<sup>25</sup>

The security threats posed by the activities of foreign intelligence services are high in the long run, and the growing IT capabilities have been contributing to their further increase. In addition to inciting extremists and foreign secret services, one of their main activities is the criticism of state institutions and international organizations of which the Slovak Republic is a regular member. In this regard the spread of propaganda against the interests of the Slovak Republic and its allies within the Euro-Atlantic structures plays an important role.<sup>26</sup>

Terrorist threat is presented first and foremost by the violent activities of radicalized individuals or minor cells inspired or directed by globally operating jihadist terrorist organizations. A new security threat is posed by foreign (terrorist) fighters, i.e. citizens of EU Member States (including those of the Slovak Republic) who have fought abroad and then return to their home country or third countries. The latter threats are fuelling an increase in organized crime, which poses a security threat to the Slovak Republic.<sup>27</sup>

The threats identified above by the Security Strategy were fully confirmed and detailed by the 2017, 2018, and 2019 Security Reports of the Slovak Republic, which identified the following security threats, risks and challenges:

The security environment of the Slovak Republic continued to be significantly affected between 2017 and 2019 by the security situation in the regions on the eastern and southern flanks of the EU and NATO. Armed conflicts in Ukraine, Syria, Iraq, Libya, Afghanistan, Yemen and the activities of terrorist groups in these countries, as well as in many countries in North and Sub-Saharan Africa, were identified as significant factors in the security environment. All this is a support for extremist groups opposing the Slovak Republic's EU and NATO membership. The situation in the Western Balkans, in particular the deteriorating relations between Pristina and Belgrade, continues to have a significant impact on the security environment in the Slovak Republic. The European security situation is determined by the tense relationships of NATO and the EU to the Russian Federation due to the continuous support to the East-Ukrainian separatists and the illegal actions against Ukraine of Moscow.<sup>28</sup>

At the same time, positive changes also took place in the Balkans: what needs mentioning is the agreement to adopt the name "North Macedonia", which settled the relations between the "Former Yugoslav Republic of Macedonia" and Greece, or the invitation of North Macedonia to join NATO.<sup>29</sup>

The Russian Federation further increased its military capabilities and preparedness near NATO's borders (e.g., Kaliningrad, Crimean Peninsula), where it conducted significant military exercises, including practicing conflicts with NATO member states. Targeted operations against individual EU and NATO member states continued, seeking to influence domestic politics and election processes and to increase the internal instability of the target country. In the case of Slovakia, these activities were mainly manifested in the well-targeted dissemination of propaganda and disinformation aimed at the values and democracy of the Slovak Republic.<sup>30</sup>

<sup>25</sup> BS SVK 2017: 9-10., articles 26-28.

<sup>26</sup> BS SVK 2017: 10., articles 29-34.

<sup>27</sup> BS SVK 2017: 10-11., articles 35-37.

<sup>28</sup> SOB SVK 2017: 5.

<sup>29</sup> SOB SVK 2018: 5.

<sup>30</sup> SOB SVK 2018: 4-5.

The security report of 2018 mentions the state of war in Ukraine as a specific security risk; however, this state of war did not affect or have any influence on the security of Slovakia.<sup>31</sup> The state of war was declared after the military incident between Russia and Ukraine at the Kerch Strait on 25th November 2018.<sup>32</sup>

However, the protracted armed conflict along the eastern border of Ukraine, the activities of radical nationalists, the proliferation of small arms among the Ukrainian population raise national security concerns, since these may spill over into Slovakian territory through increased migration and growing crime rate.<sup>33</sup>

The security risks arising from illegal immigration were also present in 2017, despite the fact that the intensity of migration decreased compared to 2016. Illegal immigration continues to divide the EU Member States, in particular the debates on forms of solidarity called for by the countries most affected by illegal migration.<sup>34</sup> In 2018, illegal migration comprised mainly illegal border crossing and illegal stay in the country. Permanent efforts were detected when persons from high-risk countries requested temporary permission to stay in order to conduct economic activities. Such persons would have used their residence permit provided in Slovakia, for free travel all over the European Union.<sup>35</sup> 2019 saw the appearance of a brand new security risk: the return of European-born, often radicalized terrorist and jihadist fighters and their relatives to their European home countries.<sup>36</sup>

2017 was characterized by an increase in threats in cyberspace aimed at private and state actors in Slovakia, and at the infrastructure – similarly to allied and neighbouring countries (Ukraine). Hostile activities of state and non-state actors in cyberspace, in particular economic espionage, continued to present a significant threat.<sup>37</sup> Fast, exponential technological development (Artificial Intelligence, 5G network) brought along the increase and extension of cyberspace security risks aimed at gaining strategic advantage or interference with existing infrastructure in the field of critical digital and telecommunication infrastructures. Competition and confrontation engulfed not only cyberspace but airspace, outer space, and international waters as well.<sup>38</sup>

In line with this, the UN and OSCE capabilities were significantly weakened in the field of crisis- and conflict-prevention. The weakening of the UN and OSCE capabilities is the consequence of the stormy process on the global scene, characterised by the establishment and rivalry of new power centres, parallel with economic protectionism, unilateralism, and the weakening of international institutions.<sup>39</sup>

In 2019, simultaneously with the weakening of the UN and OSCE capabilities the member states of NATO and the EU were faced with security challenges from all strategic directions, which included the Russian Federation, the People's Republic of China, growing increasingly assertive, Islamic terrorism, and hybrid warfare.<sup>40</sup>

<sup>31</sup> SOB SVK 2018: 4.

<sup>32</sup> “Указ Президента України Про введення воєнного стану в Україні”. [Decree of the President of Ukraine on the imposition of martial law in Ukraine] Верховна Рада України. [Verkhovna Rada of Ukraine] 26 November 2018. <https://zakon.rada.gov.ua/laws/show/393/2018#Text>, Accessed on 7 December 2020.

<sup>33</sup> SOB SVK 2019: 4.

<sup>34</sup> SOB SVK 2017: 6.

<sup>35</sup> SOB SVK 2018: 5-6.

<sup>36</sup> SOB SVK 2019: 5.

<sup>37</sup> SOB SVK 2017: 6.

<sup>38</sup> SOB SVK 2019: 4.

<sup>39</sup> SOB SVK 2018: 4.

<sup>40</sup> SOB SVK 2019: 4.

The Security Report of 2019 states that the erosion of the arms control system continued. The most significant element of this process was the violation and then termination of the Intermediate-Range Nuclear Forces Treaty (INF) between the United States and the Soviet Union on the elimination of ground-based intermediate-range ballistic missiles and cruise missiles with conventional and nuclear warheads. There is lasting uncertainty about the future of the USA-Russia Strategic Arms Reduction Treaty (STARTIII) as well. The increasing tensions between Russia and the USA generate further concerns, encouraging the monitoring of compliance with the provisions of the international Treaty on Open Skies.<sup>41</sup> Unfortunately, the USA officially withdrew from the Treaty on 22<sup>nd</sup> November 2020.<sup>42</sup>

On the basis of the analysis of the security environment, the author identified the security challenges, risks, and threats from the military perspective of the security strategy of Slovakia, adopted by the government, in parallel with the annual Security Reports, from the aspect of Slovakia:

- The weakening of the UN and OSCE capabilities in crisis and conflict prevention as well as their subsequent stabilization, is a matter of concern.
- The “reunification” of a part of Ukraine with the Russian Federation is a violation of the principles and norms of international law, which affects the security and stability of the entire region.
- As a consequence, the relations of the EU and NATO countries with the Russian Federation deteriorated significantly, mutual sanctions were imposed, and the Russian Federation’s military strength and presence/activities in regions close to the EU and NATO member states increased, which led to the military reinforcement of the eastern flank of NATO. At the same time, the dialogue with Russia on security issues continues, in particular in the framework of the NATO-Russia Council and the OSCE.
- Gradual deterioration of bilateral political and military-political relations between the USA and Russia.
- The proliferation of the weapons of mass destruction and their means of delivery, especially in the case of “failing states”, which may be unable to ensure the control and destruction of their weapons.
- Terrorist attacks in the Euro-Atlantic region, which became a constant threat and significantly reduced the citizens’ sense of security.
- The sudden increase in illegal, uncontrolled migration from the Middle East, Asia and Africa to Europe, which presents not only a serious humanitarian challenge but also a threat to the security of the Slovak Republic, the cohesion and stability of the European Union, and the functioning of the Schengen border control system. It activates domestic extremist groups, increases populism and intolerance. It promotes human trafficking, supports organized crime, induces contradictions between EU Member States, and jeopardizes the functioning of the Schengen system.
- State and non-state actors are able to carry out cyber-attacks in a more complex, sophisticated and dynamic way not only against Slovakia but also against the allied nations and neighbouring countries (Ukraine). Such cyberattacks against the neighbouring countries and NATO allies may present indirect threat to the Slovak

<sup>41</sup> SOB SVK 2019: 5.

<sup>42</sup> “United States formally withdraws from Open Skies treaty”. 22 November 2020. Al-Jazeera. <https://www.aljazeera.com/news/2020/11/22/united-states-formally-withdraws-from-open-skies-treaty>, Accessed on 7 December 2020.

Republic. Security risks may appear not only in cyberspace, but in airspace, outer space, and international waters as well.

- The increasingly assertive actions of the People's Republic of China on the global scene, demonstrated by economic and R&D<sup>43</sup> espionage.

## AN ASSESSMENT OF THE SECURITY SITUATION IN THE CZECH REPUBLIC

The Security Strategy of the Czech Republic was adopted on 4<sup>th</sup> February 2015 by the Prague government. The Defence Strategy of the Czech Republic, adopted by the Czech government in March 2017, is based on this Security Strategy.<sup>44</sup>

The fundamental security policy document of the Czech Republic is the Security Strategy of the Czech Republic, on which the rest of the lower-level strategic state concepts are built. This fundamental national security strategy follows the provisions of the Universal Declaration of Human Rights as well as the international obligations to the EU, NATO, and OSCE.<sup>45</sup>

The Security Strategy of the Czech Republic states that it is the responsibility of the Czech government and the organs of state administration to provide the security of the population, the territorial integrity of the country, and the preservation of the democratic system. Such objective may only be achieved through a nationwide unity, the proactive attitude of the entire citizenry, public administration, and government agencies, while the political and economic stability of the EU also plays an important role. The proactive policy of prevention includes the early recognition and analysis of national security risk factors, while the subsequent appropriate decision making and preventive diplomacy may be followed by defensive actions in force. The security of the Czech Republic is ensured primarily with own power, and secondarily through the active participation in the NATO alliance and EU capability development in the field of crisis management and cooperation.<sup>46</sup>

The security interests of the Czech Republic fall into three distinct categories: vital interests, strategic interests, and further key interests.<sup>47</sup> From military aspects, the author regards vital interests and strategic interests as high priority, in particular:

- Ensuring the sovereignty, territorial integrity and political independence of the Czech Republic, preserving all essential elements of the democratic rule of law, including guaranteeing and protecting the fundamental human rights and freedoms of the population (vital interest).<sup>48</sup>
- The fulfillment of strategic interests promotes the realization of vital interests. From a military point of view, the author considers it important to prevent local and regional

<sup>43</sup> Research and Development

<sup>44</sup> “Zpráva vlády Bohuslava Sobotky k plnění programového prohlášení 2014–2017”. [Report of the Government of Bohuslav Sobotka on the Implementation of the Program Statement 2014–2017] Vláda České republiky [The Government of the Czech Republic]. 29 September 2017. [https://www.vlada.cz/cz/media-centrum/aktualne/zprava-vlady-bohuslava-sobotky-k-plneni-programoveho-prohlaseni-2014\\_2017-160113/](https://www.vlada.cz/cz/media-centrum/aktualne/zprava-vlady-bohuslava-sobotky-k-plneni-programoveho-prohlaseni-2014_2017-160113/), Accessed on 7 December 2020

<sup>45</sup> *Bezpečnostní strategie České republiky 2015*. [The Security Strategy of the Czech Republic – 2015]. Praha: Ministerstvo zahraničních věcí České republiky, 2015. 5., articles 1-2. hereafter (BS CZE 2015)

<sup>46</sup> BS CZE 2015: 6., articles 5-11.

<sup>47</sup> BS CZE 2015: 7., article 12.

<sup>48</sup> BS CZE 2015: 7., article 13.

conflicts, to increase the efficiency of the United Nations, to develop the role of the OSCE and, in this connection, to control conventional armaments in Europe. It is no less important to implement a NATO-EU strategic partnership while maintaining the transatlantic relations in a functional and credible manner. The Czech Republic would promote the preservation of international stability through regional and partner cooperation.<sup>49</sup> The government of the Czech Republic considers the countries of Eastern Europe and the Western Balkans as partner countries in line with NATO and the EU's enlargement policy, as well as the countries of North Africa, the Sahel, and the Middle East.<sup>50</sup> In the transatlantic region, in addition to international obligations, the Czech Republic is focusing on strengthening and developing bilateral relations with the US.<sup>51</sup>

On the basis of the analysis of the security environment, the Czech Security Strategy identified security risks, threats, and challenges from a military perspective. According to the document, cooperation security mechanisms, and political and international legal obligations identified the weakening of security guarantees. Some states are making efforts to transform current international agreements and are ready to use hybrid warfare to achieve their power goals – combining traditional and non-conventional military means with non-military tools. Such arsenal includes the dissemination of propaganda through traditional and online media, spread of intelligence disinformation, cyber-attacks, political and economic pressure, and deployment of “unmarked” armed forces in foreign countries). These countries develop their military capabilities and seek to build exclusive spheres of influence by destabilizing neighbouring countries and exploiting local conflicts and disputes.

Instability and regional conflicts in and around the Euro-Atlantic region are stemming from unresolved conflicts, and their negative consequences may have a direct and indirect impact on the security of the Czech Republic. Ethnic, territorial, political, or economic disputes may generate armed conflicts.

The threat of terrorism as a way of enforcing political goals has long been high.

Proliferation of weapons of mass destruction and their means of delivery is also a threat. Certain state and non-state actors either openly or covertly seek to acquire weapons of mass destruction and their means of delivery. The range of such assets makes it possible to reach the territory of the Czech Republic or its allies, which necessitates a great deal of efforts in terms of active and passive countermeasures.

The number and level of sophistication of cyber-attacks against both the public and private sectors is constantly increasing. These attacks may, in particular, disrupt communications, energy and transport networks, and maintenance processes, industrial and financial systems, ultimately inflicting significant material injury. The dependence of the state's armed forces on information and communication systems may affect the country's Defence. At the same time, political and economic intelligence is in close connection with cyber-attacks.

Negative aspects of (illegal) international migration. The number of local armed conflicts is on the rise, increasing the rate of illegal immigration, which may be a source or catalyst for a lot of security risks. At the same time, the lack of integration of legal immigrants

<sup>49</sup> BS CZE 2015: 7., article 14.

<sup>50</sup> BS CZE 2015: 15., article 51.

<sup>51</sup> BS CZE 2015: 21., article 94.

can also generate social tensions and lead to undesirable radicalization of some members of the immigrant communities.<sup>52</sup>

The military security threats mentioned above are closely linked to the manifestation of extremism, growing interethnic social tensions, the spread of organized crime (economic and financial, corruption, human and drug trafficking) and, last but not least, threats to critical infrastructure.<sup>53</sup>

The Security Strategy of the Czech Republic concludes that the security of the Czech Republic is affected by the dynamically changing environment of the country, which is difficult to predict, and asymmetric in nature. Security threats in geographically remote regions have a major impact on the security environment in the Czech Republic, as do security threats in closer regions or in country. A traditional armed attack against the Czech Republic is currently rather unlikely. The security situation and stability are deteriorating on the peripheries of Europe and in Europe's immediate neighborhood, with the consequence of a potential direct military or non-military (hybrid) threat against a NATO or EU member state. The main sources of risk factors include the threat to the values of the democratic rule of law, the denial of fundamental human rights and freedoms, as well as the efforts of great powers that disregard international law. These threats are not only presented by state actors, but also by non-state actors and various interest groups and advocates.<sup>54</sup>

The Security Strategy of the Czech Republic identifies, *inter alia*, the following security threats:

- The steady decline in political and legal commitments to European security is accompanied by unilateral attempts made by some states to build spheres of influence through a combination of political, economic, and military pressure and intelligence activities. Such pressures and activities are also applied in cyberspace.<sup>55</sup>
- Security threats largely originate in weak or failed states whose governments are unable to provide their own defenses, the security of their citizens, and the rule of law. The potential cause of destabilization and subsequent conflicts in such failed states pose serious human rights violations from political, social, environmental, or other points of view.<sup>56</sup>
- The deteriorating security situation in areas immediately adjacent to NATO and EU Member States and the growing severity of non-military threats necessitate the development of Europe's independent response capabilities. Such non-military security threats include, e.g. energy and raw material dependence, migration (caused by Europe's aging population, widespread poverty, and negative environmental changes, social and economic backwardness in large areas or entire regions of the Third World), cyber-attacks, financial vulnerabilities, abuse of information and communication technologies; uneven economic growth, proliferation of extremist political and religious trends. Preference for the national interest over the common, federal (NATO, EU) interest and underfunding of defense projects weaken the position of Europe and the USA in the global security environment. It is worrying that the UN's capacities to

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<sup>52</sup> BS CZE 2015: 11.

<sup>53</sup> BS CZE 2015: 12.

<sup>54</sup> BS CZE 2015: 8., articles 16-18.

<sup>55</sup> BS CZE 2015: 8., article 19.

<sup>56</sup> BS CZE 2015: 8., article 20.

prevent crises and conflicts are weakening. Consequently, non-state actors are much more flexible in responding to the control of business, transport, information and communication infrastructure.<sup>57</sup>

The impacts of the transformation of the current security policy environment on the security of the Czech Republic are – in the author’s opinion – best summarized in the Czech Defence Strategy, which states: “In Eastern Europe, the Russian Federation openly implements its power-related ambitions, including even the use of military force, and the violations of the territorial integrity of neighbouring countries. A number of hybrid tools are used against NATO and EU member states, including targeted disinformation activities and cyber-attacks. At the southern and south-eastern borders of Europe, instability covers large areas from North Africa to Afghanistan. Weak and collapsing states cannot curb non-state actors, for example the Islamic State. This situation led to an increase in radicalization, extremism, terrorism, organized crime, and illegal migration into the EU.”<sup>58</sup>

The assessment of the current security environment is published in broad outlines in the annual security reports of the Security Information Service (civil counterintelligence agency) “Bezpečnostní Informační Služba – BIS”. The 2017 Security Report was released in December 2018 – this security report identified the security risks, threats and challenges to the Czech Republic.

According to the report, Russian hybrid warfare activities were detected in the Czech Republic, typically in the field of operations influencing domestic politics. The ultimate goal, as interpreted by Russia, is to weaken the cohesion among the EU and NATO member states, for example, by weakening individual member states. The 2017 security report established that Russian hybrid warfare can be traced back to the period before the annexation of Crimea.<sup>59</sup> With regard to the Russian hybrid warfare waged against the Czech Republic, the Security Information Service concluded that due to the division between anti-migration and anti-Muslim extremist groups, the reluctance of individual activists to cooperate, and the cessation of immigration, these groups were transforming into “anti-government” movements. These anti-government movements manifested themselves in public condemnation of the NATO-and EU-membership of the Czech Republic and a positive opinion on President Putin’s policy, with an emphasis on the principles of so-called “pan-Slavism”.<sup>60</sup> Such anti-NATO and anti-EU, pro-Russian attitudes were present among members of extremist paramilitary, illegal “homeland defence”, and right-wing extremist groups.<sup>61</sup> According to the Annual Security Report, in 2017 the most likely attackers of the e-mail server of the Czech Foreign Affairs Ministry were the Federal Security Service of the Russian Federation (FSB) and the Main (Intelligence) Directorate of the General Staff of the Armed Forces of the Russian Federation (GU). These were the organizations that appear to have launched two unique attacks.<sup>62</sup>

<sup>57</sup> BS CZE 2015: 9-10., articles 21-33.

<sup>58</sup> *Obranná strategie České republiky*. [The Defence Strategy of the Czech Republic] Praha: Ministerstvo obrany České republiky, 2017. 7., article 4.

<sup>59</sup> “Výroční zpráva Bezpečnostní informační služby za rok 2017”. [Annual Report of the Security Information Service on 2017] Bezpečnostní Informační Služba [Security Information Service]. 3 December 2018. 6-7. <https://www.bis.cz/vyrocní-zpravy/vyrocní-zprava-bezpecnostni-informacni-sluzby-za-rok-2017-d85907e6.html>, Accessed on 8 December 2020. (hereafter: VZ BIS 2017)

<sup>60</sup> VZ BIS 2017: 9.

<sup>61</sup> VZ BIS 2017: 10-11.

<sup>62</sup> VZ BIS 2017: 15.

In addition to intelligence activities by Russia, China also carried out both influencing and intelligence activities in the Czech Republic. These Chinese intelligence activities were classified by the BIS into three categories: 1. damaging the EU's unified policy through Czech minorities living abroad, 2. intelligence aimed at the Czech armed forces (army, police, secret services, etc.), and 3. commercial intelligence, conducted also in the fields of research and development. China's complex intelligence activities (political, intelligence, legislative and economic) present a threat to the Czech Republic in the field of economy, science, and technology. China's intelligence activities focus mainly on strategic sectors such as energy, telecommunications, finance, logistics, healthcare, and advanced technologies. All these activities serve the purpose of implementing the "Made in China 2025" program (establishment of an independent and self-sufficient People's Republic of China by 2025).<sup>63</sup>

On 26th November 2019, the Czech Security Information Service released its 2018 report, which stated that the BIS conducted countermeasures mainly against intelligence activities by Russia and China. These activities of the Russian and Chinese secret services concentrated in the field of politics, diplomacy, intelligence, economy, and information. The annual report of 2018 confirmed that the biggest security threat within and against the Czech Republic is presented by Russian hybrid warfare, which is directed against NATO, therefore also against the Czech Republic.<sup>64</sup>

Chinese intelligence activities are comparable to those conducted by the Russian intelligence services. In addition to hybrid warfare, Russian and Chinese intelligence agencies also operated in the cyber space, which manifested in an attack against the unencrypted network of the Ministry of Foreign Affairs of the Czech Republic.<sup>65</sup> The 2018 security report already discusses Russian and Chinese intelligence activities separately.

In 2018, in addition to the FSB and GU, the Foreign Intelligence Service of the Russian Federation (SVR RF) was also operating in the Czech Republic. The activities of the Russian secret services included the approaching of people close to politicians, weakening the anti-Kremlin part of the Russian diaspora, and strengthening the part that is supportive of Russia's current policy. Also in 2018, the Czech Republic was a scene of Russian-controlled subversive actions targeting Ukraine's political sovereignty and territorial integrity. Following the Russian "Novichok" attack against Sergei Skripal and his daughter in Salisbury, UK, in March 2018, the Russian intelligence activities slowed down. A joint action by NATO member states resulted in the expulsion of three unrecognized Russian intelligence officers from the Czech Republic. In the framework of cooperation with a partner country's national security service the deployment of the "Information and Communications Technology (ICT)"<sup>66</sup> infrastructure by the FSB could be prevented. This ICT infrastructure was

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<sup>63</sup> VZ BIS 2017: 8-9.

<sup>64</sup> "Výroční zpráva Bezpečnostní informační služby za rok 2018". [Annual Report of the Security Information Service on 2018] Bezpečnostní Informační Služba [Security Information Service]. 26 November 2019. 6. <https://www.bis.cz/public/site/bis.cz/content/vyrocní-zpravy/2018-vz-cz.pdf.pdf>, Accessed on 9 December 2020. (hereafter: VZ BIS 2018)

<sup>65</sup> VZ BIS 2018: 6.

<sup>66</sup> ICT is an extensional term for information technology that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals) and computers, as well as necessary enterprise software, middleware, storage and audiovisual systems, that enable users to access, store, transmit, and manipulate information.

to operate as part of a broader system that the FSB planned to use for regional and global encrypted cyber and information operations.<sup>67</sup>

Both the intensity and scope of intelligence activities of the People's Republic of China increased. All major Chinese National Security Services have carried out operations in the Czech Republic – Military Intelligence Department (MID),<sup>68</sup> International Liaison Department of the Chinese Communist Party (IDCPC), Ministry of State Security (MSS), Ministry of Public Security (MPS). In addition to the national security services, as in the previous period, Chinese career diplomats also resorted to coercive promotion of Chinese interests. In addition to targeting the scientific community, security and armed forces, and government agencies more and more free training, conferences, and sightseeing invitations were offered to members of these groups.<sup>69</sup>

On 10th November 2020, BIS released the 2019 Safety Report. In this report, the director of BIS stated in the preface that the Russian and Chinese national security services were the most active against the Czech Republic in the previous year. However, the counterintelligence services also dealt with the activities of the national security services of Iran and the Democratic People's Republic of Korea (North Korea) conducted in the Czech Republic.<sup>70</sup> Attempts to circumvent international sanctions were detected by BIS, made primarily by North Korea, Syria, Iran and Pakistan.<sup>71</sup>

The intensity of China's intelligence and influence activities does not lag behind Russia's activities. The key difference, however, is that Russia seeks to destabilize and disintegrate its opponents, while China aims to build a Sinocentric<sup>72</sup> global community where other nations recognize the legitimacy of Chinese interests and give China the deserved respect (as interpreted by China). In addition, actors related to Russian and Chinese state powers were active in cybersecurity intelligence as well. In this context, BIS detected additional security incidents in 2019 linked to the activities of state or state-sponsored cyber spy groups.<sup>73</sup>

In principle Russian and Chinese intelligence activities did not change compared to 2018 – the national security services present in the Czech Republic remained active. The majority of Chinese activities were aimed at the scientific community, while the Russian National Security Services continued to use proven intelligence methods in cyberspace against the Czech embassies and the private antivirus company Avast.<sup>74</sup>

Based on the analysis of the security environment, the Security Strategy, Defence Strategy adopted by the Czech government parallel with the annual Security Reports, the author identifies security challenges, risks and threats from a military perspective and with regard to the Czech Republic:

<sup>67</sup> VZ BIS 2018: 6-7.

<sup>68</sup> In the Czech Republic the Second Department and Third Department of the People's Liberation Army operated most probably.

<sup>69</sup> VZ BIS 2018: 7.

<sup>70</sup> "Výroční zpráva Bezpečnostní informační služby za rok 2019". [Annual Report of the Security Information Service on 2019] Bezpečnostní Informační Služba [Security Information Service]. 10 November 2020. 3. <https://www.bis.cz/vyrocní-zpravy/vyrocní-zprava-bezpecnostni-informacni-sluzby-za-rok-2019-c665e2a7.html>, Accessed on 10 December 2020. (hereafter: VZ BIS 2019)

<sup>71</sup> VZ BIS 2019: 8.

<sup>72</sup> Sinocentrism is an ideology centred around the idea that China is the cultural, political, or economic centre of the world.

<sup>73</sup> VZ BIS 2019: 8-9.

<sup>74</sup> VZ BIS 2019: 9-11.

- The capabilities of the UN and the OSCE are insufficient to prevent regional conflicts, and the mechanisms of conventional arms control need to be developed.
- The NATO-EU Strategic Partnership is not powerful enough to effectively prevent Russia from building exclusive spheres of influence for destabilising the neighbouring countries, while the efforts of the People's Republic of China are focused on building a Sinocentric global community. To achieve all of these goals, these powers apply intelligence activities in the fields of politics, diplomacy, intelligence, economics, and information.
- Terrorist threats, the proliferation of weapons of mass destruction and their means of delivery, and illegal migration originate from weak or failed states, as a consequence of serious, multiple violations of human rights, and the inability of their governments to provide security guarantees for their own citizens.
- The resilience of state and non-state actors to cyber-attacks and control of critical infrastructures that have due to the reduced defence spending and the preference of allied (NATO, EU) national interests over Alliance interests.
- Extremism is an increasingly powerful manifestation of interethnic social tensions and organised crime.

## CONCLUSION

The probability of a traditional, state-level military attack against the Slovak Republic or the Czech Republic is low. However, the risk of a military attack against another NATO member state cannot be ruled out. The changing security environment makes it necessary to address security challenges, risks and threats in the framework of international cooperation. Unfortunately, the effectiveness of the UN and the OSCE has declined recently. There is a threat of terrorism, although it does not directly affect the Slovak Republic or the Czech Republic.

The continuing deterioration of NATO/EU relations with the Russian Federation, which led to bilateral economic sanctions and a diplomatic crisis, has worsened the security situation. This is the consequence not only of Russia's military presence near the borders of NATO member states, but also of the stepped-up Russian intelligence activities in NATO member states, including the Slovak Republic and the Czech Republic.

The author considers it necessary to note that Russia's activities are based on the current national security strategy of the Russian Federation [Указ Президента РФ от 31 декабря 2015 г. N 683 "О Стратегии национальной безопасности Российской Федерации"] and obviously correspond to the Russian interpretation. This National Security Strategy states that NATO's global power projection is in violation of international law, while activating the Alliance's military activities, further expanding the Alliance near Russia's borders and establishing a missile defence system will jeopardize Russia's national security.<sup>75</sup>

Both countries consider the proliferation of weapons of mass destruction and their means of delivery as a threat. Both illegal and legal migrations pose a security risk for both countries, even if they are not directly affected for the time being. The increase in cyber-attacks that has become a part of hybrid warfare presents a security threat. All these risk

<sup>75</sup> "Указ Президента РФ от 31 декабря 2015 г. N 683 'О Стратегии национальной безопасности Российской Федерации'". [Decree of the President of the Russian Federation of December 31, 2015 N 683 "On the National Security Strategy of the Russian Federation"] 31 December 2015. Articles 15. and 106. <http://publication.pravo.gov.ru/Document/View/0001201512310038>, Accessed on 12 December 2020.

factors affect the two assessed states not only from Russia, as a similar and growing trend could be detected from the People's Republic of China in the past 2-3 years.

These hazards occur on the peripheries of Europe and in geographically more remote regions, and present indirect threats to both – the Slovak Republic and the Czech Republic. The current security challenges are rather complex and extremely difficult to foresee. They are often mixed up not only due to geographic factors but also because cross-border security threats mix up with national and Schengen-zone developments within the EU. All this is known to hostile state and non-state actors and they also use these opportunities to achieve their goals.

The statement made by the Minister of Foreign Affairs and European Affairs of the Slovak Republic, Mr. Ivan Korčok, at a meeting of NATO Foreign Ministers on 1<sup>st</sup> December 2020 fully and complexly expresses the “top player” of the current order of external security threats: “it is the Russian Federation, which poses a complex security challenge not only to the Slovak Republic but also to NATO as a whole. NATO must respond adequately to this complex security challenge – through the use of collective defence and dialogue with the Russian Federation. Such a dialogue requires both sides, and officials from the Russian Federation must show an interest in the dialogue.”<sup>76</sup>

On the basis of the National Security Strategies and the annual Security Reports of the assessed countries, it is clear that most of the complex threats come from Russia. The next complex threats, no less important though, are the weak or failed states in the Middle East, Asia and Africa, which are mainly manifested by illegal migration. These risk factors are followed by the efforts of the People's Republic of China to build a global, Sinocentric community and carry out economic, and research and development espionage. Last but not least, activities that present a threat to the national security of the Slovak Republic and the Czech Republic may originate in Iran, Syria, Pakistan and North Korea. Due to the minimum language barriers, the possible legal migration from Ukraine to the two assessed countries could turn into a serious security challenge in the future.

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<sup>76</sup> “Minister Korčok na rokovaní NATO: Rusko je bezpečnostnou výzvou pre Alianciu a Slovensko ako jej súčasť. Zároveň chceme dialóg, na ten však potrebujeme aj záujem Moskvy”. [Minister Korčok at the NATO meeting: Russia is a security challenge for the Alliance and Slovakia as part of it. At the same time, we want dialogue, but we also need that the Moscow's interest in it] mzv.sk. 1 December 2020. [https://www.mzv.sk/aktuality/detail/-/asset\\_publisher/Iw1ppvnScIPx/content/minister-korcok-na-rokovani-nato-rusko-je-bezpecnostnou-vyzvou-pre-alianciu-a-slovensko-ako-jej-sucast-zaroven-chceme-dialog-na-ten-vsak-potrebuje-a-p\\_p\\_auth=VsIN-qKIL&\\_101\\_INSTANCE\\_Iw1ppvnScIPx\\_redirect=%2Fweb%2Fsk](https://www.mzv.sk/aktuality/detail/-/asset_publisher/Iw1ppvnScIPx/content/minister-korcok-na-rokovani-nato-rusko-je-bezpecnostnou-vyzvou-pre-alianciu-a-slovensko-ako-jej-sucast-zaroven-chceme-dialog-na-ten-vsak-potrebuje-a-p_p_auth=VsIN-qKIL&_101_INSTANCE_Iw1ppvnScIPx_redirect=%2Fweb%2Fsk), Accessed on 2 December 2020.

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István Simicskó

# THE CHALLENGES AND TESTS FACED BY PATRIOTISM IN THE 21<sup>ST</sup> CENTURY<sup>1</sup>

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**ABSTRACT:** *Through Government Decision 1257/2018. (VI. 4), the Government appointed a Government Commissioner for Patriotic and National Defence Education and Related Investments. The tasks of the Commissioner include drawing up a Government strategy for national defence education. National defence education is part of a complex system of patriotic education. Based on the systemic environmental analysis of patriotic education, the present essay discusses the main challenges and risks of our time, which are misleading, hiding dangers and tests of character when it comes to conserving Hungarian identity, especially for young generations. In the conclusion, it is confirmed that the key to facing the security challenges and risks of the 21<sup>st</sup> century – be they caused by globalisation or new methods of warfare – is the strengthening of patriotism and a sense of national belonging.*

**KEYWORDS:** *national defence, patriotism, globalisation, migration, hybrid warfare, nation states*

Patriotism is a complex moral concept, based on both emotional and intellectual elements. Morality, made up of written and unwritten rules, is one of the most important social norms. In the course of history, moral norms altered, sometimes undergoing changes over a short period, or even coexisting with other norms. The meaning of patriotism itself has also changed over historical periods. The term is of Greek origin (*patris*), but the ancient Greeks were not attached to a nation as it is understood today (an *ethnos*) but rather to a *polis*, a territorial unit and its government and institutional setup. In contrast, Hungarian patriotism is based on a national bond and its emotional basis has always been a love of the country. This is reflected in the following quote, taken from “The Emancipation of Jews” (*A zsidók emancipációja*) by József Eötvös: “The homeland is not the piece of land you were born on. (...) The homeland is more than that. It is the place where we feel free, where we are among our ilk, whose history is our pride, whose flourishing is our happiness, whose future is our hope; this is the homeland, for which only cowards are not willing to give up their lives; and of those who do not have a homeland, it would be cruel to expect sacrifices.”<sup>2</sup>

This was especially true during the Hungarian Reform Era of the 19<sup>th</sup> century, the period of national awakening when the most noble feelings of the Hungarian people found expression and coalesced into a unified national programme, when patriotism was a natural feeling

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<sup>2</sup> Eötvös, J. *A zsidók emancipációja*. Budapest: Neumann Kht., 2003. <https://mek.oszk.hu/05900/05920/html/gmeotvosj0002.html>.

that inspired people to unite for a higher purpose. The best traditions of the Hungarian nation were brought together into a shared national idea, which has provided a good foundation for building a future, and the physical and intellectual heritage of this period is a source of pride to this very day.

## CHALLENGES AND TESTS FOR PATRIOTISM

One should not get stuck in nostalgic remembrances regarding the achievements of the Hungarian Reform Era and resign oneself to the idea that the current environment is unfavourable to patriots, who might be called out as nationalists or chauvinists. Patriotism is not a fashion trend arriving from the outside that changes one's look every now and again; it is rather an emotional and intellectual state that matured over the course of the trials and tribulations of a thousand-year history: "*the love of our homeland, if it is mindful, is one of the greatest moral virtues*".<sup>3</sup> Deliberate patriotism can never become old-fashioned or outdated; true patriotism can never be about nationalism or chauvinism. True patriotism teaches us to respect our own national values, without denigrating other nations. In fact, it helps Hungarians respect the culture, language and customs of other peoples. Without a doubt, the Reform Era provided a more favourable environment for progressive national socialisation processes than the 21<sup>st</sup> century does, which is filled with hidden challenges. The greatest of these challenges, both on individual and national level, are globalisation, illegal migration and neo-imperialism. According to the categorisation of factors threatening security, illegal migration ranks higher on the scale than a challenge; it is what the security policy terminology calls a risk.<sup>4</sup> If the above-mentioned challenges and risks go unopposed, the concepts of homeland, patriotism, patriotic and national defence might be no more than empty phrases for the coming generations.

## GLOBALISATION

Globalisation started with the great geographical discoveries, and it continued and strengthened over various historical eras. The pace of globalisation accelerated in the 20<sup>th</sup> century, and it became truly global with the institutional establishment of the global market, which dates from the foundation of the WTO (World Trade Organization) in 1995. In terms of their extent, global processes are all the social, economic and environmental processes the effects of which are felt across the globe instead of being limited to one country or region. In terms of their content and their goals, these are processes that allow Western civilisation to drive a trend of homogenisation around the world in a wide range of areas including economy, finance, trade, architecture, culture and so on, penetrating even into the lifestyles of individual people. This results in a sort of *mono-culture*: in all corners of the world, one might find similar lifestyles based on the consumer society, similar shopping centres, hotels, crowded cities, uniform products, foods (McDonald's), films, music and information technologies. Some see this as a blessing and a path to a world of uniform welfare, while others see it as a curse. In any case, we live in a special time in a world where globali-

<sup>3</sup> "Házazzeret". *Kislexikon*. <http://www.kislexikon.hu/hazaszeretet.html>.

<sup>4</sup> Challenges are in general, longer-term processes (e.g. globalisation, environmental and demographic challenges etc.). Risks involve a higher level of threat and they arise as a result of challenges (e.g. massive illegal migration, problems arising out of religious extremism).

sation affects everything by simultaneously creating new values and destroying old ones. Therefore, globalisation cannot be defined as 100% good or 100% bad. Globalisation is a multi-faceted, varied phenomenon. Insulating ourselves from it would be at least as bad a decision as allowing it to enter our country unchecked. The analysis of economic processes shows that the poorest peoples around the world are those that were left out of globalisation. Dictatorships are the least involved in globalisation – North Korea, Cuba and most African countries – and they are clearly the poorest countries of the world. A one-sided or superficial assessment of the *complex effects* of globalisation might lead one to think there is nothing wrong with using state-of-the-art techniques and technologies in order to gain easy access to the circulation of the global economy, especially if the banks of the developed world are more than happy to provide the necessary funding. Introducing modern techniques and technologies is indeed useful in and of itself. However, this is only the start of a process, which has numerous *side effects*. However, economic globalisation does not come with a package leaflet listing those side effects. The main beneficiaries and supporters of economic globalisation are international corporations and financial institutions, which are acquiring greater and greater powers with less and less control. As part of this process, the frameworks provided by nation states are becoming less and less capable of controlling economic and social processes, and the sovereignty of local societies and governments is significantly reduced in the areas that have the greatest impact on the citizens. This negative effect of globalisation on the operation of nation states is what has the greatest impact on the subject of this essay: patriotism.

Europeans have mixed views on globalisation:<sup>5</sup>

- 37% view globalisation as an asset to their country's identity;
- 53% view globalisation as a threat to their country's identity;
- 9% do not know;
- 55% consider globalisation is an opportunity overall;
- 45% consider globalisation is a threat overall;
- 35% view their economic prospects with anxiety.

*Cosmopolitanism* can be considered as an undesired offshoot of globalisation.

According to the Hungarian Dictionary of Words of Foreign Origin, cosmopolitan means:

- a citizen of the world, a citizen committed to *universal human progress*, especially an intellectual;
- a person who is *not closely tied to their people or the culture of their country*, who can easily fit in anywhere in the world;
- in biology: a living creature that is found in most parts of the Earth.<sup>6</sup>

Celebrities are often called cosmopolitan, and viewed as role models in this matter. Based on this definition, one might ask whether somebody who is not closely tied to the people and the culture of their nation can be a good patriot. The author can only hope that the definition is incorrect, and the citizens of the world fulfil their mission for “universal human progress” while conserving their Hungarian identity, their attachment to the Hungarian

<sup>5</sup> “Reflection paper on harnessing globalization”. *European Commission*. 10 May 2017. [https://ec.europa.eu/commission/sites/beta-political/files/reflection-paper-globalisation\\_en.pdf](https://ec.europa.eu/commission/sites/beta-political/files/reflection-paper-globalisation_en.pdf), Accessed on 17 October 2019. DOI: 10.2775/41851

<sup>6</sup> “Kozmopolita”. *Idegen Szavak Gyűjteménye*. <https://idegen-szavak.hu/kozmosopolita>, Accessed on 22 October 2019.

people and culture; as patriots first and cosmopolitans second. As one of the greatest Hungarian poets said: *“the Homeland above all”*.

Those who support globalisation and cosmopolitanism without reservations often argue for the necessity – and indeed, priority – of universal human progress over serving one’s own country. In Hungary, the concepts of homeland and progress go hand in hand. The phrase was coined as a motto by poet Ferenc Kölcsey: *“Our mottoes were: Homeland and progress.”* („Jelszavaink valának: haza és haladás.”) Dezső Csejtei, a historian of philosophy provides a very convincing guidance regarding this issue in a recently published essay. The essay discusses the ways those in power manipulated the phrase of Kölcsey, updating it to comment on the machinations of globalisation and cosmopolitanism.<sup>7</sup> Back in the early 19<sup>th</sup> century, Kölcsey wanted to call the attention of his compatriots to the fact that Hungary would not be able to achieve independence without certain fundamental reforms aimed at establishing a strong middle class. In this period, a strong connection between homeland and progress (with the homeland coming first) was only natural. Later, mainly in the 20<sup>th</sup> century, as left-wing movements gained power, the two came into opposition. Progress was seen as more important, and internationalism became the justification. Under socialism, there was a certain homeland mythology that manifested the attachment of the working classes to the country through the phrase “Socialist homeland”. After the democratic transition, liberal cosmopolitanism took roots in Hungary, significantly eroding moral norms associated with patriotism, including people’s sense of an obligation to national defence. In this period, progress became synonymous with the mantra globalisation. This process was further fuelled by multiculturalism and the pro-migration policies cloaked as humanitarianism.

As Csejtei concluded: *“(...) in this age, instead of following the twisted rallying cry of progress, our homeland itself and the protection of our homeland is what real progress should be about. The homeland, the nation state is perhaps the only possible antidote of cosmopolitan destruction.”*<sup>8</sup>

## MIGRATION

Migration and the various associated phenomena are among the greatest risk factors of our age. The great migration that recently started exceeded all expectations. The events of the last few years exposed Europe to an extreme social, cultural and civilisational shock the likes of which had not been seen since the Ottoman conquest.

Numerous Western European examples indicate that even immigrants who have been living in Europe for decades live in their own micro-communities, and have no wish to change that. Among those who arrive in a receiving country, the distribution of people with regard to their approach to adapting to the culture, laws and religion of the receiving nation is rather extreme. At the same time, Europe is going through a demographic crisis due to the falling birth rate. It becomes clear that if migration goes unchecked, it has the potential to quickly change, or perhaps even push into the background the universal European values of law, culture and religion that emerged over millennia, fundamentally disrupting European societies, which are more or less stable for the time being. The risks of this process to the security of nation states are clear.

<sup>7</sup> Csejtei, D. “A haza minden előtt”. *Magyar Nemzet*, 11 October 2019. <https://magyarnemzet.hu/velemeney/a-haza-minden-elott-7333160/>, Accessed on 2 November 2019.

<sup>8</sup> Csejtei. “A haza minden előtt”.

## NEO-IMPERIALIST AMBITIONS

Among leading European politicians, there are two diametrically opposed views on the future of Europe and the European Union in particular. One camp would like to conserve Europe's respect of nation states and its Judeo-Christian traditions, which both emerged over several thousand years, and wishes to give nation states a strong role within the European Union. The followers of this view are convinced that Europe can only be strong if its member states are strong and work in close cooperation with each other, thus making the most of their own abilities and maintaining their sovereignty, instead of being relegated to the role of executors of centrally issued orders, which may in some cases be opposed to the interests, traditions, culture and temperament of the given nation. The United Kingdom has traditionally been in favour of strong nation states within Europe. According to the followers of the other line of thinking, Europe can only keep pace with the world's leading powers by becoming a superpower like them. In other words, by becoming an empire in which decisions are made centrally. This is essentially the idea of setting up the United States of Europe, in which nation states would play a much smaller role. The representation of national interests would almost certainly be weakened, and nation states would have to give up the independence they had spent centuries fighting and working for, in the service of goals that can hardly be identified at this stage, and which may not be achieved. From the leading nations of the European Union, Germany and France are most committed to centralisation. British philosopher Roger Scruton said: "(...) *the nation state is not the problem but the solution – it contains within itself the only motives to which politicians can now appeal, when the effects of the European project are finally being felt across the continent.*"<sup>9</sup>

## NEW TYPES OF WARFARE

After Hungary joined NATO, voices questioning the necessity of developing the Hungarian military and home defence capabilities started emerging. Some said NATO was going to protect Hungary if it were to become necessary, and Europe has been peaceful for more than half a century, anyway. These comments may be seen as a layman's harmless ideas, but the author feels that the representatives of neo-imperialism are certainly not harmless laymen; they pose a real danger, because the ideas of strengthening the central power inevitably lead to denying the need for an independent military and independent home defence. How peaceful is the world? How realistic is the sense of security of the population? Is there a need for nation states to have their own militaries? To answer these questions, it is necessary to review some characteristics of new types of warfare.

The hybrid warfare model is the most current product of the theory of 21<sup>st</sup> century warfare, and it reflects a new way of thinking about armed conflict between states. Today's warfare – be it called *strategic deterrent*, *new generation warfare* or *hybrid warfare* – is based on the shared realisation that countries – especially with regard to great powers – are unable to achieve their geopolitical objectives through military force alone, and there are complex methods that can replace or reduce the use of military force in pursuing their interests. "Hybrid warfare, as a complex strategic system model, is a set of tools that countries and alliances

<sup>9</sup> Scruton, R. "Nélkülözhetetlen nemzetek". *Magyar Szemle, Új folyam* XXII/7-8. 2013. 52-76.

can use to pursue their geopolitical interests. This model aims to achieve geopolitical objectives through a limited use of military operations, largely through non-military resources.<sup>10</sup>

Clausewitz described war as a mere continuation of policy by other means. The relationship between politics and war is different in hybrid warfare. In fact, one might say that “in the case of hybrid warfare, the policy is war itself”<sup>11</sup>, in which the human dimension is the primary battleground, and geopolitical objectives are pursued primarily through new indirect methods, by influencing the thoughts of the target population, by turning them against their own government. In hybrid warfare, by its very nature, the lines between peace, qualified period and war are blurred; there is a constant state of mutual threat. The attacking side essentially engages in a fight with peculiar weapons in the territory of the opposing country without a declaration of war, without escalating the conflict to the level of war, usually through the veiled (undercover) use of existing groups that are willing to use violence against those in power in the target country. As there is no declaration of war and no armed conflict, there is no war in the traditional sense of the word, but it is possible to sow chaos in the target country from outside.

Regarding this issue, one of the most important questions is: what risks will Hungary have to face in the future? Considering the geopolitical position of Hungary, the main reason it may become the target of a complex hybrid threat is its role in the system of alliances. However, there is a possibility of some operations using elements of hybrid warfare.

In 2015, NATO drew up an alliance-level strategy for fending off hybrid warfare attacks. The implementation plan dictates that the member state under threat or attack has to be the first to respond, and the international community has to be ready to assist if requested. Identifying the hybrid threat is essentially *the responsibility of the affected country*. Due to the main directions and areas of the threat and its complex nature, defence requires the *active co-operation of the entire society* as well as governmental, non-governmental, national security, law enforcement and national defence agencies. The statement of General Valery Gerasimov makes the same point: a peculiar feature of today’s conflicts is the need to protect the population, objects and communication from the increasing activity of special operations forces. This can be achieved by organising and operating a system of territorial protection.<sup>12</sup> This is one of the tasks to keep in mind while setting up the Volunteer Territorial Protection Reserve Service. The need to fight this new type of security risk is exactly the reason why territorial protection, which used to rely on military force, needs to be reconsidered in practice. Territorial protection is not about a uniform system or chain of territory control supported by fortified structures; territorial protection requires the use of complex protection resources with territorial variations and differentiation based on what risk factors threaten security.

The most important elements of this type of protection is to appropriately prepare society and to maintain the sense of security of the citizens at an optimal level. One is optimistic about the future of humanity but cannot be complacent about war even if it is only hybrid war in which hard and soft power are used in combination, because according to the pre-

<sup>10</sup> Simicskó, I. “A hibrid hadviselés előzményei és aktualitásai”. [The Antecedents and Current Features of Hybrid Warfare] *Hadtudomány* XXVII/3-4. 2017. 3–16. DOI: 10.17047/HADTUD.2017.27.3–4.3.

<sup>11</sup> Simicskó, I. “A hibrid hadviselés előzményei és aktualitásai”.

<sup>12</sup> Gerasimov, V. “Ценность науки в предвидении: Новые вызовы требуют переосмыслить формы и способы ведения боевых действий”. *ВПК*, 26 February 2013. <http://www.vpk-newws.ru/articles/14632>, Accessed on 20 September 2016.

dictions of the model, the social, economic and political destruction is comparable to the consequences of a real war.

The paragraphs above provide an answer to the question of whether or not nation states need their own national defence capabilities.

## NATIONAL DEFENCE

Ever since the beginning of recorded history, humans – as social beings, as members of a community – have always fought against threats, looking for ways to protect themselves, using all the accumulated knowledge of their time to ward off danger. It is not an exaggeration to say that humans are genetically programmed to seek security.

Is it possible to rely on people's need for security? If so, to what extent?

Yes, it is possible and it is necessary, but one has to keep in mind that security is like air: we only feel how much we need it when we do not have it. Today's security risks and threats tend to weaken the sense of danger; to realise that one only needs to think about how stealthy the previously mentioned security challenges are.

The best security guarantee of a nation and its population is a *well-functioning national defence system*, and the Government is legally required to ensure its proper operation.

National defence is the largest defence system of a society; it is a national cause based on shared responsibility for the fate of the country and on common action. It is the right, constitutional and moral obligation of each citizen to serve this cause.<sup>13</sup>

National defence is an integrated defence system laid down in the National Security Strategy of Hungary and in the laws. It includes establishing and maintaining the country's defence capabilities, and if needed, mobilising and applying them to manage crisis situations.<sup>14</sup>

The basic idea of the operation of a volunteer force presupposes the active participation of society in the system of national defence. National defence is one of the most powerful embodiments of the Hungarian System of National Cooperation, which is open to every Hungarian, an opportunity for everyone and an expectation for everyone. With regard to personal participation in national defence, the following basic principle should be followed: We must give all capable citizens, irrespective of age and sex, the opportunity to participate in the complex task of national defence to the extent of their abilities and possibilities. By way of explanation: In Hungary, the participation of women in national defence is not a question, but a fact of life. Regarding the age groups not covered by compulsory military service: it is the moral obligation of youths who are still too young for military service to prepare for national defence.

## NATIONAL DEFENCE EDUCATION

The key to facing the security challenges and risks of the 21<sup>st</sup> century – be they caused by globalisation or new methods of warfare – is the strengthening of patriotism and a sense of

<sup>13</sup> Simicskó, I. "Az országvédelem és országmozgósítás szervezeti, hatásköri, irányítási rendszere minősített időszakokban – Történelmi korokon át napjaink hatályos szabályozásáig". [The Organisational System, Division of Responsibilities and Control System of National Defense and National Mobilisation in Qualified Periods – From Historical Periods to Today's Legislation]. PhD Thesis. Budapest: ZMNE, 2008.

<sup>14</sup> Simicskó. "Az országvédelem és országmozgósítás szervezeti, hatásköri, irányítási rendszere..."

national belonging. Patriotic education and national defence education serve this purpose. These are one of the most important tools of strengthening society and improving its defence capabilities and willingness in order to allow Hungarian society to adequately respond to the challenges of the present and the future.

As national defence education is a common interest declared by the Fundamental Law, the state has to provide opportunities for citizens to learn about national education and meet their obligations in this regard. To that end, it is important to continuously work on developing the patriotic education of young generations, strengthening their consciousness of national defence and their positive attitude to national defence.

National defence education is part of a complex system of patriotic education. *Patriotism is a type of personal conduct rooted in morality*. It has many components, primarily the love for one's homeland, which has both emotional and intellectual elements.

The main scene of national defence education is the family and school, which mutually complement and reinforce each other. These two environments are vital because they are the main scenes of pedagogical activities. Also, family and school are jointly responsible for fulfilling obligations listed in the Fundamental Law of Hungary. The Fundamental Law names three such obligations:

1. participating in the defence of the country is the obligation of every Hungarian citizen;
2. parents are required to make sure that their minor children receive education;
3. the obligation to pay taxes and contributions.

Schools today have great responsibility in educating the coming generations in this regard, and nurturing their ethical national consciousness and their sense of responsibility for national defence. Promoting patriotic ideas is traditionally part of community education; as part of national community development, it is part of the educational system of all European nation states in one form or another. István Bábosik put it in the following way: patriotic education is essentially about the presentation, adoption and strengthening of constructive habits, role models, ideals and convictions that meet the interests of the nation. If this work is successful, the behaviour and activities of those who underwent patriotic education will be beneficial to the community due to their internal motivation, without external incentives or control, as a result of their democratic nationalism and the valuable demands that make up democratic nationalism.<sup>15</sup> This is why it is especially important for the content rules and common requirements laid down in the National Core Curriculum to provide practical knowledge, experiences and positive examples to youths who are willing and able to live, work and act for the nation.

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<sup>15</sup> Bábosik, I. "Nemzettudat – nemzeti szocializáció – hazafiság". [National Consciousness – National Socialisation – Patriotism] *Iskolakultúra* 8/4. 1998. 40–48.

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1<sup>st</sup> Lt Viola Vincze

## THE *USS VINCENNES* INCIDENT

### A case study involving Autonomous Weapon Systems

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**ABSTRACT:** *The objective of the paper is to introduce the facts of the USS Vincennes incident in 1988 and examine how the deployment and use of an Autonomous Weapon System has influenced military decision-making in the specific case. As a result of misidentification of the contact and confusion on board, Vincennes (a Ticonderoga-class guided missile cruiser outfitted with the Aegis Combat System) fired two radar-guided missiles and shot down a civilian airliner from Iranian territorial waters (in Iranian airspace) only minutes after the airliner's take-off. Not one from the 290 passengers and crew on board survived. Several contradictory articles have been written on the incident from legal, political and scientific vantage points and this article attempts to strip these accounts of the emotional tone and look into the facts in order to establish how personnel and machine interacted during the events that eventually led to the tragedy and how similar incidents involving AWS could be avoided.*

**KEYWORDS:** *International Law, Law of Armed Conflicts, Autonomous Weapon Systems, case study, scenario fulfilment, responsibility*

## INTRODUCTION

Today we can witness a lively, although not always well-informed debate on the deployment of lethal Autonomous Weapon Systems (AWS) during international armed conflicts (IACs). Their supporters and opponents are invoking various arguments regarding their use, but more often than not they tend to focus on the analysis of the Law of Attack<sup>1</sup> as contained in the Law of Armed Conflict (LOAC), most notably in Protocol I additional to the 1949 Geneva Conventions<sup>2</sup> (Additional Protocol I), while paying less attention to the assessment of NATO documents and national military manuals on targeting, although these can be regarded as the direct translations of the Law of Attack into the language of daily target selection and engagement.

<sup>1</sup> Law of Attack is an artificial expression coined by military legal advisors referring to those rules of Additional Protocol I that deal with how to conduct hostilities.

<sup>2</sup> "Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)". 8 June 1977. <https://www.ohchr.org/EN/ProfessionalInterest/Pages/ProtocolI.aspx>, Accessed on 15 February 2021.

Specific cases based on attacks carried out by resorting to a special type of weaponry (including AWS) in breach of LOAC have so far rarely reached the registries of international courts, the notable exceptions are *Prosecutor v. Martić*<sup>3</sup> or the USS *Vincennes* incident. (Although often referenced in scholarly articles, *Banković et al*<sup>4</sup> deals with jurisdictional issues<sup>5</sup> and not with a specific means or method of warfare used in the particular case.<sup>6</sup>)

The objective of present writing is to introduce the facts of the USS *Vincennes* incident (resulting in the death of 290 civilians) and examine whether the deployment and use of an AWS has influenced military decision-making positively or negatively in the specific case. Several contradictory articles have been written on the incident from legal, political and

<sup>3</sup> In *The Prosecutor v. Milan Martić*, the Trial Chamber established that the M-87 Orkan (a non-guided high dispersion projectile) was fired on 2 and 3 May 1995 from the Vojnić area, near Slavsko Polje, between 47 and 51 kilometers from Zagreb in an attack against Zagreb. The Trial Chamber noted that the weapon was fired from the extreme of its range and considering the characteristics of the weapon, the M-87 Orkan was incapable of hitting specific targets. For these reasons, the Trial Chamber found that the M-87 Orkan is an indiscriminate weapon, the use of which in Zagreb resulted in the infliction of severe casualties. The fact that military targets were also present in Zagreb is irrelevant in light of the nature of the weapon. (“462. The M-87 Orkan is a non-guided projectile, the primary military use of which is to target soldiers and armoured vehicles. Each rocket may contain either a cluster warhead with 288 so-called bomblets or 24 anti-tank shells. The evidence shows that rockets with cluster warheads containing bomblets were launched in the attacks on Zagreb on 2 and 3 May 1995. Each bomblet contains 420 pellets of 3mm in diameter. The bomblets are ejected from the rocket at a height of 800-1,000m above the targeted area and explode upon impact, releasing the pellets. The maximum firing range of the M-87 Orkan is 50 kilometers. The dispersion error of the rocket at 800-1,000m in the air increases with the firing range. Fired from the maximum range, this error is about 1,000m in any direction. The area of dispersion of the bomblets on the ground is about two hectares. Each pellet has a lethal range of ten metres.”) In: “*The Prosecutor v. Milan Martić: Judgment*”. Case No. IT-95-11-T. International Criminal Tribunal for former Yugoslavia (ICTY). 12 June 2007. <https://www.icty.org/x/cases/martic/tjug/en/070612.pdf>, Accessed on 15 February 2021., para 461-463. See also Schmitt, M. N. and Widmar, E. W. “On Target: Precision and Balance in the Contemporary Law of Attack”. *Journal of National Security and Policy* 7. 2014. 398. According to the authors, indiscriminate weapons are rare but SCUD missiles employed by Iraq against major cities in Israel and Saudi Arabia were insufficiently accurate.

<sup>4</sup> “European Court of Human Rights, Grand Chamber Decision as to the Admissibility of Application no. 52207/99 by Vlastimir and Borka Banković, Živana Stojanović, Mirjana Stoimenovski, Dragana Joksimović and Dragan Suković against Belgium, the Czech Republic, Denmark, France, Germany, Greece, Hungary, Iceland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Turkey and the United Kingdom”. 12 December 2001. <http://hudoc.echr.coe.int/eng/?i=001-22099>, Accessed on 15 February 2021.

<sup>5</sup> At the heart of the case lies the question whether the relatives of those deceased as a result of the NATO bombing of the Radio Televizije Srbije (Radio-Television Serbia, RTS) headquarters in Belgrade as part of NATO's air strikes against the Federal Republic of Yugoslavia (FRY) during the Kosovo conflict (an extraterritorial act) on 23 April 1999 could still fall within the jurisdiction of the respondent states.

<sup>6</sup> In the case, the Court was satisfied that the jurisdictional competence of a state is primarily territorial (according to the ordinary meaning of Article 1 of the European Convention on Human Rights) and the suggested bases of extraterritorial jurisdiction (“including nationality, flag, diplomatic and consular relations, effect, protection, passive personality and universality”) are defined and limited by the sovereign territorial right of the other relevant states (para 59). The Court's case law demonstrates that its recognition of extraterritorial jurisdiction by a state is exceptional: “it has done so when the respondent State, through the effective control of the relevant territory and its inhabitants abroad as a consequence of military occupation or through the consent, invitation or acquiescence of the Government of that territory, exercises all or some of the public powers normally to be exercised by that Government” (para 71). The Court also added that other instances of extraterritorial jurisdiction by a state include cases concerning the activities of its diplomatic or consular agents abroad and on board aircraft and vessels registered in that state, but not cases of taking control of the airspace even if it is limited in scope (para 73). The Court concluded that there was no “jurisdictional link between the persons who were victims of the act complained of and the respondent States” (para 82).

scientific vantage points and this article attempts to strip these accounts of the emotional tone and look into the facts in order to establish how personnel and machine interacted during the events that led to the tragedy and how similar incidents involving AWS could be avoided.

## A SHORT SUMMARY

USS *Vincennes* CG-49 (named after the Battle of *Vincennes* during the American Revolutionary War in 1779) was a Ticonderoga-class<sup>7</sup> guided missile cruiser outfitted with the Aegis Combat System<sup>8</sup> in service with the US Navy in 1988.

In the protracted Iraq-Iran war (1980-88), hundreds of attacks had been carried out against third-country oil tankers in the Persian Gulf both by the Iraqi and Iranian forces. Iran's attacks on Gulf states' tankers propelled the United States and other states to position warships in the Persian Gulf "to ensure the flow of oil to the rest of the world."<sup>9</sup> Behind the scenes, the United States provided support for Iraq and later in the war intervened to protect Iraqi oil tankers.<sup>10</sup> USS *Vincennes* was dispatched to the Persian Gulf in order to protect tankers carrying oil to and from Kuwait.<sup>11</sup> What appears to be certain is that on the day of the tragic incident, 3 July 1988, *Vincennes*, under the command of Captain William C. Rogers III, was on patrol when Iranian Revolutionary Guard gunboats had attacked a vessel (either a Liberian tanker<sup>12</sup> or a Pakistani merchant vessel<sup>13</sup>). *Vincennes* deployed one of her helicopters north to investigate the reported incident. The helicopter had followed the gunboats into Iranian waters but came under gunfire from the Iranians. Upon reporting the fire, Captain Rogers decided to attack the gunboats and *Vincennes* entered Iranian territorial waters.

At the same time, *Vincennes*'s radars picked up a contact taking off from the nearby Bandar Abbas airport. The object was an Iran Air Airbus A300 civil airliner (Iran Air Flight 655) heading for Dubai. As a result of the misidentification of the contact and confusion on board,

<sup>7</sup> The Ticonderoga class are equipped with the Aegis Combat System, which integrates the ship's electronic sensors and weapons systems to engage anti-ship missile threats. The Aegis system has a federated architecture with four subsystems – the AN/SPY-1 multifunction radar, the command and decision system, Aegis display system and the weapon control system. "Ticonderoga Class Aegis Guided-Missile Cruisers". Naval Technology. <https://www.naval-technology.com/projects/ticonderoga/>, Accessed on 13 May 2020.

<sup>8</sup> An Autonomous Weapon System introduced in the 1980s to help defend navy ships against air and missile attacks.

<sup>9</sup> "Iraq-Iran War". Encyclopaedia Britannica. <https://www.britannica.com/event/Iran-Iraq-War>, Accessed on 13 August 2020.

<sup>10</sup> Riedel, B. "How the Iran-Iraq war shaped the trajectories of figures like Qassem Soleimani". *Brookings*. 9 January 2020. <https://www.brookings.edu/blog/order-from-chaos/2020/01/09/how-the-iran-iraq-war-shaped-the-trajectories-of-figures-like-qassem-soleimani/>, Accessed on 13 August 2020. and "Iraq-Iran War". History.com. 24 August 2018. <https://www.history.com/topics/middle-east/iran-iraq-war>, Accessed on 13 August 2020.

<sup>11</sup> Barry, J. and Charles, R. "Sea of Lies". *Newsweek*, 7 December 1992. <https://www.newsweek.com/sea-lies-200118>, Accessed on 13 May 2020.

<sup>12</sup> Barry and Charles. "Sea of Lies".

<sup>13</sup> Fogarty, W. "US Department of Defense, Investigation Report, Formal Investigation into the Circumstances Surrounding the Downing of Iran Air Flight 655 on 3 July 1988". U.S. Navy Judge Advocate General's Corps. 19 August 1988. 2. <https://www.jag.navy.mil/library/investigations/VINCENNES%20INV.pdf>, Accessed on 13 May 2020. and McCarthy, J. D. "U.S.S. Vincennes (CG 49) shootdown of Iran Air Flight #655: A Comprehensive Analysis of Legal Issues Presented by the Case concerning the Aerial Incident of 2 July 1988 (Islamic Republic of Iran v. United States of America)". 30 September 1991. [https://archive.org/stream/ussvincennescg4900mcca/ussvincennescg4900mcca\\_djvu.txt](https://archive.org/stream/ussvincennescg4900mcca/ussvincennescg4900mcca_djvu.txt), Accessed on 13 May 2020.

*Vincennes* fired two radar-guided missiles and shot down the airliner from Iranian territorial waters (in Iranian airspace) only minutes following the airliner's take-off. Not one from the 290 passengers and crew on board survived.

## THE FACTS OF THE INCIDENT

In the following, I will summarize what happened (and went wrong) aboard USS *Vincennes* on that day that led to mistaken a civilian airliner (a civilian object) for a military object. Although the United States had provided support for Iraq during the Iraq-Iran War, it was not party to the armed conflict. However, notwithstanding the lack of international armed conflict between the United States and Iran, this case serves with valuable details regarding how the United States employed and utilized an AWS supposedly in compliance with the established principles of *jus ad bellum* (necessity and proportionality).

At the time of the incident, the assessed AWS, the Aegis Combat System<sup>14</sup> was operating on a semiautomatic mode<sup>15</sup> leaving it to the crew to make targeting decisions (the Aegis computer system can be overridden on any of its operating modes). The Aegis was utilized to track multiple targets and guide the ship's defensive weapons against them. "The system was composed of the Aegis anti-aircraft weapon system itself, plus the Phalanx Close-In Weapon System, and a Vertical Launch System that employed additional missiles, all of which were semi-autonomous."<sup>16</sup>

On the day of the incident, two aircraft took off in close sequence from Bandar Abbas Airport:<sup>17</sup> the Iran Air Flight 655, which was scheduled to start her weekly journey<sup>18</sup> and was climbing on a consistent course (inside the commercial air corridor) and speed, broadcasting a radar and radio signal that showed it to be a commercial airliner.<sup>19</sup> Not much later, an Iranian F-14 fighter also departed from Bandar Abbas. Aboard *Vincennes*, after noticing the contact

<sup>14</sup> Aegis came with four modes: semiautomatic (the human interfaced with the system to judge when and at what to shoot); automatic special (human controllers set the priorities, e.g. to destroy bombers before fighter jets, but the computer then decided how to do it); automatic (data went to human operators in command, but the system worked without them); casualty (system just does what it thinks best to keep the ship from being hit). Singer, P. W. *Wired for War: the robotics revolution and conflict in the twenty-first century*. New York: Penguin Books, 2010. 124-125.; Aegis has four modes of operation (or doctrines): manual setting (most human control); Semi-Auto (part of the engagement process is automated, final decision authority is withheld by operator); Auto SM (larger part of the engagement process is automated than in Semi-Auto, but human is still in the loop); Auto-Special (human on the loop: Aegis automatically firing against threats meeting the predefined parameters). Doctrine statements "can mix and match these control types against different threats". Scharre, P. *Army of None: autonomous weapons and the future of war*. New York: W. W. Norton & Company, 2018. 163-164.

<sup>15</sup> Singer. *Wired for War*. 125.

<sup>16</sup> Solis, G. D. *The Law of Armed Conflict: International Humanitarian Law in War*. Cambridge: Cambridge University Press, 2016. 562.

<sup>17</sup> Scharre. *Army of None*. 169.

<sup>18</sup> This was missed by Vincennes's Combat Information Centre Officers confused by the four different time zones in the area.

<sup>19</sup> This is confirmed by the report of ICAO fact-finding investigation, see: "Excerpts From Report of ICAO Fact-Finding Investigation Pursuant to Decision of ICAO Council of 14 July 1988". *American Journal of International Law* 83/2. 1989. 333. DOI: 10.2307/2202744 and by the account of David Carlson who served as a Commanding Officer on USS *Sides* at the time of the incident. Carlson, D. R. "The Vincennes Incident". U.S. Naval Institute. *Proceedings* 115/9/1039. 1989. 87. <https://web.archive.org/web/20080229003110/http://www.geocities.com/csafdari/Proceedings.pdf>, Accessed on 13 May 2020.

(Iran Air Flight 655) on the radar screens, several attempts were made by the crew, facilitated by the Aegis Combat System, to positively identify the object.

The civilian airliner was climbing at the time of detecting, and her IFF transponder<sup>20</sup> was on civilian code (IFF Mode III) as opposed to the purely military mode (IFF Mode II), as was duly recorded by Aegis. The original IFF reading for Iran Air Flight 655 correctly displayed Mode III. This reading was recorded at a track gate at Bandar Abbas Airport (a box that is being monitored for signals) but later this box was not moved by the operators on *Vincennes*, and the Aegis picked up another (Mode II) signal by the same track gate from the dual-use airport (the F-14 fighter), which was thought to belong to the original object that had already passed by and was on her normal route at the time of detecting the second object.<sup>21</sup>

*Vincennes* issued warnings to the airliner, but these were transmitted on military channels (military air distress frequency) that were not accessible by the airliner pilot and on the international civil aviation distress frequency.<sup>22</sup> The flight crew of the airliner was not equipped to monitor the *military* air distress frequency and even though they were instructed to monitor the civilian emergency frequency (used by USS *Vincennes* in the attempt to reach the airliner), the Iran Air Flight 655 crew was either not monitoring it in the early stages of climb, or they did not realize that their flight was challenged by *Vincennes*.<sup>23</sup>

Not far from USS *Vincennes*, USS *Sides* (FFG-14), an Oliver Hazard Perry class guided-missile frigate, was also closely following the events, *Sides* was equipped with a special data link to exchange tactical information with *Vincennes* in real time and watch (and assess) the same information as the crew aboard USS *Vincennes*.<sup>24</sup> Yet, based on the exact same information, the captain of *Sides* came to a different conclusion than Captain Rogers, and identified the object as a civilian airliner (although the *Sides*' captain admitted later that since *Sides* was not equipped with Aegis, he thought *Vincennes* may have more or more detailed and better-quality information than what his crew at *Sides* had<sup>25</sup>). What is important to note here is that although all combat and navigational data of Aegis indicated a no-threat, Captain Rogers decided to shoot it down allegedly on the basis of a mistaken call-out of crew members (that the object was a possible F-14 fighter jet).<sup>26</sup>

<sup>20</sup> Identification, friend or foe (IFF) is an identification system designed for command and control. It enables military and civilian air traffic control interrogation systems to identify aircraft, vehicles or forces as friendly and to determine their bearing and range from the interrogator.

<sup>21</sup> Schwartz, L. "Overwhelmed by Technology: How did user interface failures on board USS *Vincennes* lead to 290 dead?". Stanford Computer Science. 2001. <http://xenon.stanford.edu/~lswartz/vincennes.pdf>, Accessed on 13 May 2020.

<sup>22</sup> Hammond, J. R. "The 'Forgotten' US Shootdown of Iranian Airliner Flight 655". *Foreign Policy Journal*, 3 July 2017. <https://www.foreignpolicyjournal.com/2017/07/03/the-forgotten-us-shootdown-of-iranian-airliner-flight-655%C2%AD/>, Accessed on 13 May 2020.

<sup>23</sup> "Excerpts from Report of ICAO Fact-Finding Investigation...". 333.

<sup>24</sup> Evans, D. "Vincennes: A Case Study". U.S. Naval Institute. *Proceedings* 119/8/1. 1993. <https://www.usni.org/magazines/proceedings/1993-08/vincennes-case-study>, Accessed on 13 May 2020. and Carlson. The "*Vincennes*" Incident.

<sup>25</sup> Carlson. The "*Vincennes*" Incident. 89.

<sup>26</sup> "For whatever reason, in the minds of the sailors in Vincennes's combat information center, the tracks of the two aircraft on their radar screens became confused." Scharre. *Army of None*. 169.

## SCENARIO FULFILMENT

The case seems to be a prime example of *scenario fulfilment* where a commanding officer with effective command and control over his subordinates, in the position of tactical decision-making, evaluated the available information within his own predetermined (and biased) scenario of an imminent, coordinated Iranian attack against the United States, which led to the death of 290 civilians.<sup>27</sup> *Scenario fulfilment* refers to the situation when decision-makers interpret and use new information to fit their existing “belief patterns”.<sup>28</sup> Verlinden refers to the phenomenon as having a “tunnel vision” under stress that enables an individual only to act according to the already existing scenario he has in mind.<sup>29</sup> Beliefs and convictions are inherently human traits and one may argue that the tragic incident could have been avoidable when acting upon the data received from AWS which lacks human emotions that may influence decision-making. A prime example of *scenario fulfilment* is the downing of Iran Air 655 by USS *Vincennes* in 1988 where the captain of the ship incorrectly believed that Iranians chose to escalate the engagement and the ship was under threat although raw sensory data indicated otherwise.<sup>30</sup>

## FOLLOW-UP

Just a few days following the incident, speaking to a meeting of the Farm Bureau Association, Vice President Bush said, “I can’t wait to get up there to defend the policy of the United States government.” He said that “efforts to second-guess the captain of that ship will be rebuffed.”<sup>31</sup> (Less adamant to loudly defend the US policy, President Reagan apologized for shooting down the airliner in a diplomatic note on 5 July.<sup>32</sup>) Before the United Nations Security Council on 14 July 1988, the Vice President emphasized that USS *Vincennes* acted in self-defence, against the background of unlawful Iranian attacks against the US armed forces and merchant shipping and with the failure of the Iranian authorities to divert Iran Air Flight 655.<sup>33</sup> On 4 August 1988, the Legal Advisor of the Department of State<sup>34</sup> underlined in his statement before the Defense Policy Panel of the House Committee on Armed Services that Captain Rogers, given the hostile context at the time of the incident, “evidently believed

<sup>27</sup> Fogarty. “US Department of Defense, Investigation Report”. 3.

<sup>28</sup> Foy, J. “Autonomous Weapons Systems: Taking the Human Out of International Humanitarian Law “. Social Science Research Network. 20 April 2013. 12. DOI: 10.2139/ssrn.2290995, Accessed on 13 May 2020.

<sup>29</sup> Verlinden, N. “To feel or not to feel? Emotions and International Humanitarian Law” University of Leuven. December 2016. 10. <https://lirias2repo.kuleuven.be/bitstream/id/418989/?jsessionid=CE53E525CBF0616F4E06FF6A1B48D910>, Accessed on 13 May 2020.

<sup>30</sup> For more on the incident see Marchant et al. “International Governance of Autonomous Military Robots”. *The Columbia Science and Technology Law Review* 12. 2011. 280. <https://doi.org/10.7916/D8TB1HDW> and Scharre. *Army of None*. 170.

<sup>31</sup> Johnson, J. “Bush to Speak At U.N. Debate On Iran’s Plane”. *The New York Times*, 14 July 1988. <https://www.nytimes.com/1988/07/14/us/bush-to-speak-at-un-debate-on-iran-s-plane.html>, Accessed on 13 May 2020.

<sup>32</sup> Moore, M. and McAllister, B. “Reagan Apologized to Iran for Downing of Jetliner”. *The Washington Post*, 6 July 1988. [https://www.washingtonpost.com/archive/politics/1988/07/06/reagan-apologized-to-iran-for-downing-of-jetliner/9523c6dc-a244-4b3b-90e9-054168d98c79/?noredirect=on&utm\\_term=.e63ef15befbd](https://www.washingtonpost.com/archive/politics/1988/07/06/reagan-apologized-to-iran-for-downing-of-jetliner/9523c6dc-a244-4b3b-90e9-054168d98c79/?noredirect=on&utm_term=.e63ef15befbd), Accessed on 13 May 2020.

<sup>33</sup> Nash Leich, M. “Denial of Liability: Ex Gratia Compensation on a Humanitarian Basis”. *American Journal of International Law* 83/2. 1989. 320-321.

<sup>34</sup> Abraham D Sofaer.

that his ship was under imminent threat of attack from a hostile aircraft, and he attempted repeatedly to identify or contact the aircraft before taking defensive action. Therefore, the United States does not accept legal responsibility for this incident and is not paying “reparations,” a word which implies wrongdoing and is often associated with wartime activities. Instead, the President has decided to make an *ex gratia* payment as a humanitarian gesture to the families of the individuals who were on #655.”<sup>35</sup> On 19 August 1988, the Pentagon issued its own report on the incident and according to Kaplan, “though the text didn’t say so directly, it found that nearly all the initial details about the shoot-down – the “facts” that senior officials cited to put all the blame on Iran Air’s pilot – were wrong. And yet the August report still concluded that the captain and all the other *Vincennes* officers acted properly.”<sup>36</sup>

The Iranian government emphasized that *Vincennes* knowingly shot down the civilian aircraft in an unjustified action<sup>37</sup> and pointed out that owing to the very short time frame and the quick escalation, there was no real chance of actually informing the airport and the airliner about the nearby events.<sup>38</sup> (It is also part of the picture that – marking the end of the armed conflict – Iran accepted a cease-fire with Iraq effective on 20 July 1988, in less than 3 weeks following the incident.) Iran took the case to the ICJ but in 1996, the governments agreed to conclude a settlement agreement concerning the incident whereby the United States had to pay a settlement amount of USD 131,800,000 including USD 61,800,000 for the legatees and heirs of the Iranian victims. The agreement included that Iran shall “indemnify and hold harmless the United States [...] against any claim, counterclaim, action or proceeding that Iran [...] may raise, assert, initiate or take against the United States with respect to, arising out of, in connection with or relating to the I.C.J. case.”<sup>39</sup>

There are contradictory accounts regarding the incident: according to Schwartz,<sup>40</sup> the Aegis picked up the signal of the F-14 fighter, whereas Hammond states that unlike what has been indicated by the captain and some of the crew (being threatened by an F-14 fighter), the ship’s radar has not picked up anything other than the Iran Air Flight 655.<sup>41</sup> During the investigation, no one was able to find out who called out in the erratic situation that the incoming aircraft was an F-14 fighter jet.<sup>42</sup>

## THE ICAO INVESTIGATION

Compared to the concerning United States statements and Pentagon report, the ICAO’s (International Civil Aviation Organization) report seems much more factual. The ICAO investigation found that following take-off, “the aircrew climbed straight ahead en-route and the climb

<sup>35</sup> Nash Leich. “Denial of Liability”. 322.

<sup>36</sup> Kaplan, F. “America’s Flight 17: The time the United States blew up a passenger plane – and tried to cover it up”. *Slate*, 23 July 2014. [http://www.slate.com/articles/news\\_and\\_politics/war\\_stories/2014/07/the\\_vincennes\\_downing\\_of\\_iran\\_air\\_flight\\_655\\_the\\_united\\_states\\_tried\\_to.html?via=gdpr-consent](http://www.slate.com/articles/news_and_politics/war_stories/2014/07/the_vincennes_downing_of_iran_air_flight_655_the_united_states_tried_to.html?via=gdpr-consent), Accessed on 13 May 2020.

<sup>37</sup> “Memorial submitted by the Islamic Republic of Iran: Vol. I”. International Court of Justice. 24 July 1990. 66. <https://www.icj-cij.org/files/case-related/79/6629.pdf>, Accessed on 13 May 2020.

<sup>38</sup> “Memorial...”. 84.

<sup>39</sup> “Settlement Agreement on the Case concerning the Aerial Incident of 3 July 1988 before the International Court of Justice”. 9 February 1996. <https://www.icj-cij.org/public/files/case-related/79/11131.pdf>, Accessed on 15 February 2021.

<sup>40</sup> Schwartz. “Overwhelmed by Technology”.

<sup>41</sup> Hammond. “The ‘Forgotten’ US Shootdown of Iranian Airliner Flight 655”.

<sup>42</sup> Barry and Charles. “Sea of Lies”.

profile was normal”<sup>43</sup>. Among the reasons for the misidentification of the Airbus, the Report lists *inter alia*

- the association of the Airbus radar contact with an unrelated IFF Mode II response labelled as an F-14 fighter jet;
- the lack of response from the contact to the challenges and warnings on the frequencies used by USS *Vincennes*;
- no detection of civil weather radar and radio altimeter emissions from the contact;
- the availability of intelligence on Iranian F-14 deployment to Bandar Abbas;
- the expectation of hostile activity; and most importantly;
- “reports by some personnel aboard USS *Vincennes* of changes in flight profile (descent and acceleration) which gave the appearance of maneuvering into an attack profile; and the radar contact was tracked straight towards [...] USS *Vincennes* on a course slightly diverging from the centerline of airway A59.”<sup>44</sup>

The Report concludes that the “USS *Vincennes* AEGIS system contained and displayed correctly the IFF mode and code, and the altitude and speed information of the contact (IR655). The AEGIS system recorded a flight profile consistent with a normal climb profile of an Airbus A300.”<sup>45</sup>

## CONCLUSIONS

Many opposers of AWS regard these systems as evil technological advancements with the inherent ability to make life and death decisions. Yet, the USS *Vincennes* incident highlights that keeping the human in the decision loop works only if the crew is properly trained in operating AWS in contested environments and understands how the system works in-depth and what sort of information can be reliably delivered by it. Sadly, the crew of *Vincennes* had been exercising threatening scenarios for months before the incident, but had never anticipated the chance of a “harmless passage of a civilian airliner” which undoubtedly “contributed to their misperceptions.”<sup>46</sup> In latter case, acting upon the raw data provided by the Aegis Combat System could have led to a completely different outcome of events, saving not only innocent lives but also disgrace to the US Navy, not to mention the millions of dollars paid to the victims’ families.

Although many factors contributed to the incident, unquestionably the most important one was human error. In this peculiar case, a wider degree of autonomy (more freedom to act) given to the AWS (by a different operating mode) might have helped to avoid the death of civilians. As Scharre notes, “just as automation could help shoot down incoming missiles in a saturation scenario, it could also help *not fire* at the wrong targets in an information-overloaded environment.”<sup>47</sup> This tragedy also underlines that keeping a man in the decision loop is not a cure-all in scenarios where “it may be difficult to distinguish civilians and civilian objects from combatants and military objectives.”<sup>48</sup>

<sup>43</sup> “Excerpts from Report of ICAO Fact-Finding Investigation...”. 333.

<sup>44</sup> “Excerpts from Report of ICAO Fact-Finding Investigation...”. 334.

<sup>45</sup> “Excerpts from Report of ICAO Fact-Finding Investigation...”. 335.

<sup>46</sup> Hables Grey, C. *Postmodern War: The New Politics of Conflict*. London: Routledge, 1997. 67.

<sup>47</sup> Scharre. “*Army of None*”. 170.

<sup>48</sup> Schmitt, M. N. and Thurnher, J. S. “Out of the Loop: Autonomous Weapon Systems and the Law of Armed Conflict” *Harvard National Security Journal* 4. 2013. 248-249.

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Éva Ambrus

## OF ENDS AND MEANS: THE INTEGRATION OF PSYCHOLOGICAL OPERATIONS AND CYBER OPERATIONS

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*ABSTRACT: Terminology is a general word for the group of specialized meanings relating to a particular field, encapsulating its meaning and intent. This article focuses on the evolving military terminology regarding psychological operations as technology moves forward. As a non-kinetic type of operation its content is more shifting, thus different terminologies are used, creating ambiguity. Furthermore, different concepts are behind as to what constitutes psychological operations. Words are important in naming the narrative and in this article, I will present a brief overview of this evolution and how it reflects on the present thinking – and it is a reflection of the organization of military forces.*

*KEYWORDS: Psychological operations, cyber operations, information operations, terminology*

### INTRODUCTION

It is very probable that psychological warfare and psychological operations (further use: PSYOPS)<sup>1</sup> have been employed since the beginning of war and conflicts, albeit named differently. One example of this is the often quoted military theorist Sun Tzu, who advocated the psychological undermining of the enemy, often through demoralization.<sup>2</sup> The methods used through the ages were those available in society (rumour, printing, radio) and the development of psychological warfare has always been sensitive to the development of technology, as it rapidly adopts innovation to reach target audiences and influence outcomes. With the advances in info-communication technology, data analysis, public opinion analysis, and prediction of behaviours, psychological operations have become more systematic (data-driven) and widespread. As they have reached the boundaries of cyber domain, both of them benefitted from the synergies, and a convergence between cyber and information operations can be noted. Both of them are considered non-kinetic operation in Western military thinking and although non-kinetic operations rarely exist as a stand-alone concept, they are just as vitally important as kinetic operations in contemporary military operations.

<sup>1</sup> The U.S. terminology uses PSYOP whereas the NATO terminology is PSYOPS. In this article I use the latter.

<sup>2</sup> Post, J. M. "The key role of psychological operations in countering terrorism". In Forrest, J.J. F. (ed.) *Countering Terrorism and Insurgency in the 21<sup>st</sup> Century: Strategic and Tactical Considerations*. Westport: Praeger Security International, 2007. 380.

In this paper I present the different terminology involved in the discussion on psychological operations, cyber operations, and information operations. I focus on the transatlantic terminology, the overlaps and differences between them. These result in some confusion in the terms used in the literature. First I present a brief history of the term ‘psychological operations’, followed by the terminology and convergence of information operations, cyber operations, influence operations and information warfare, and finally contrasting it with the Russian concepts of combining information warfare elements.

## BRIEF HISTORY

The first known application of the term ‘psychological warfare’ was in 1920 and ‘psychological operations’ in 1945 by British military analyst and historian, J.F.C. Fuller.<sup>3</sup> He stipulates that historically the used techniques are accepted as instruments of (furthering) national policy, “developing and refining Clausewitz’s well known statement that *‘war is a continuation of politics by other means’*.”<sup>4</sup> The National Security Council (NSC) of the United States (US) viewed that psychological warfare techniques provide an additional way in which to conduct politics, both in peace and war, and it was a means to influence directly the people of foreign countries. Secondly, the NSC recognized the principle that psychological warfare – to be effective – must be a continuous process. During peace time it was called ‘foreign information program’, and the over-riding objective was to promote the understanding of US objectives and during war, the process is called ‘psychological warfare’.<sup>5</sup>

These two principles, notably that psychological warfare deals not only with governments but directly with people and that it is a continuous process, are quintessential, even though the use of psychological warfare fell out of preference as the terminology often includes targeting neutral or even friendly audiences and thus the more neutral term ‘psychological operations’ became more prominent. With the technological advances of the last decades, first information operations and later cyber operations emerged.

These changes not only supported existing structures, but “since the 1990s, many political scientists [...] have identified and advocated information as a fourth element of power [as] the dynamic security environment that we confront today and that in the future will alter the relative utility of the other three elements – economic, diplomatic and military”.<sup>6</sup> The technological boom of the 2000s further divided the notion and with the emergence of new technologies, new ‘operations’ were created, thus creating confusion in the terms and definitions. With the more proponent spreading of the element of information warfare (IW), Libicki argues that a convergence of these notions can be seen.<sup>7</sup> In his view, three circumstances support the synergies between PSYOPS and CYBEROPS: first (1) they both may

<sup>3</sup> Daugherty, W. E. “Origin of Psyop Terminology”. In McLaurin, R. D. (ed.) *Military Propaganda: Psychological Warfare and Operations*. New York: Praeger Publishers, 1987. 257.

<sup>4</sup> Smith, C. H. “Psychological Warfare”. *Naval War College Review* 6/2. 1953. 41.

<sup>5</sup> Smith. “Psychological Warfare”. 41.

<sup>6</sup> Jones, F. L. “Information: the psychological instrument”. In Bartholomees, J. B. (ed.), *U.S. Army War College guide to national security policy and strategy*. Carlisle: Strategic Studies Institute, US Army War College, 2014. 198-210.

<sup>7</sup> Libicki, M. C. “The Convergence of Information Warfare”. *Strategic Studies Quarterly* 11/1. 2017. 50.

use the same techniques (e.g. the subversion of computers, systems, networks). Second (2), the strategic aspects of these elements are converging (where on element of information warfare can be used, other elements might as well). Thirdly (3), some countries (e.g. Russia, China, Iran) are starting to combine information warfare elements.<sup>8</sup>

## TERMINOLOGY

The seemingly ever faster evolution of human knowledge following the rapid development of new technologies results in appearance of new words and terms that reflect the new concepts created.<sup>9</sup> These new definitions matter because the underlying concepts can be perceived differently depending on the audience and the context used. In a closed environment, e.g. among colleagues during a discussion, the interlocutor may intuitively understand what their partners are trying to convey, or can directly ask for clarification. In a written context, or during a presentation, it is important to be precise because the reader or listener may come from a different background where the same term has another connotation.<sup>10</sup> To have clear and unambiguous communication among its members, NATO uses a standardized terminology (column 4 in the matrix table) to sustain its interoperability at all levels. For the purpose of this paper I looked into the terms related to psychological operations (PSYOPS), cyber operations (CYBEROPS), information operations (INFOOPS), influence operations (INFLUENCEOPS) and information warfare (IW). For comparison to those definition were added the changing definitions used by the United States Department of Defense (US DoD)<sup>11</sup> and the Hungarian definitions of terms, with the similarities marked in bold.

Regarding the definition of psychological operations, common elements are as follows: it is a planned activity towards predominantly foreign audiences with the aim to influence. This is in line with one of the earlier definition of PSYOPS which was “the *planned use*, by a nation, of propaganda and related informational measures designed to *influence* the opinions, emotions, attitudes and behaviour of enemy, neutral or friendly *foreign groups* in such a way as to support the accomplishments of its national policy and aims”. However the aim of influencing is different in the US, in the NATO and in Hungarian definitions, while the US PSYOPS focuses on the emotions, motives and objective reasoning of target groups, the NATO terminology works on the perceptions, attitudes and behaviours of these groups, the latter seeming a more nuanced and narrower approach to the hearts and minds of the audience.

Cyber operations (CYBEROPS) can either be offensive or defensive in theory, however only the US terminology adapted an offensive term. The latter is intended to project power through cyberspace, while the defensive CYBEROPS are generally to preserve freedom of action in cyberspace and to protect own data, networks and systems. The latter sentence of the US definition is more concrete than that of NATO, further narrowing the scope. The Hungarian National Security Strategy theoretically envisages the possibility of response in the physical space as well in the case of a serious cyber-attack.

<sup>8</sup> Libicki. “The Convergence of Information Warfare”. 52.

<sup>9</sup> Georgieva, V. “Systematization of military terminology: mission (im)possible?”. In *Foreign Language Competence as an Integral Component of a University Graduate Profile*. Brno: University of Defence, 2007. 86.

<sup>10</sup> van Mil, J. W. F. and Henman, M. “Terminology, the importance of defining”. *International Journal of Clinical Pharmacy* 38/3. 709-713. DOI: 10.1007/s11096-016-0294-5.

<sup>11</sup> It should be noted that regarding the term ‘PSYOPS’ there is a difference of view between the US DoD and the US army.

Both PSYOPS and CYBEROPS are part of information operations (INFOOPS), which is a core function in all definitions examined here. While the US definition underlines its integrated nature, the NATO definitions elaborate it more (analyse, plan, assess and integrate), and while NATO's objective is to 'create the desired effect', the US definition's is to 'influence, disrupt, corrupt, or usurp' the adversaries' capabilities and preserve one's own. The US's definition is narrowing its scope to military operations, thus the inclusion of 'influence operations' (INFLUENCEOPS) in it. While it is not widely endorsed, its research was done by RAND Corporation, a think tank working with the US army. Influence operations might be the counterpart to 'peace time' operations, to the MISO (military information support operations). This differentiation is partly due to the fact that "in the US 90% of cyber activity is in private hands, thus the military should not be operating within 90% of the Internet unless it pertains to one of the mission sets." The U.S. Department of Defense used the term MISO instead between 2010–2017, after which they reverted to the term PSYOPS, understanding that MISO is part of what they do, but not who they are, and the change was primarily a terminological one.

Cyberspace is a force multiplier of INFOOPS activities as it can amplify a narrative, thus becoming more effective, e.g. confusing the target audience and diminishing its trust towards its government. Rand proposes as well the separation of INFOOPS into two parts: a technical function (with electronic warfare [EW] and computer network warfare [CNW]), and an INFLUENCEOPS (including PSYOPS, operational security [OPSEC] and military deception [MILDEC]).

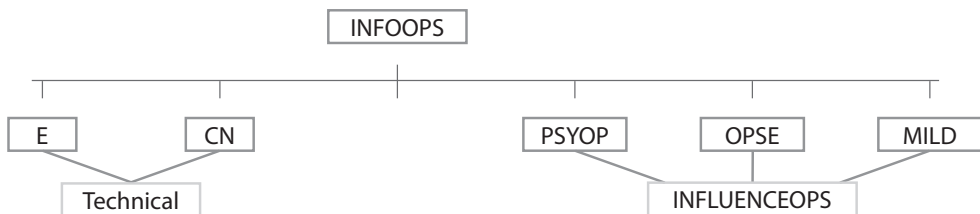


Figure 1 *The proposed classification by RAND*<sup>12</sup>

Although both INFOOPS and CYBEROPS can be used to achieve strategic information warfare goals, the efficiency of cyber operations as a medium for PSYOPS messages is inherent. An offensive cyberattack, e.g., the disruption of crucial webpage access, might have a psychological effect and influence decision makers, to change the behaviours of the target audience. An example of this is that during the COVID-19 crisis, DDoS (distributed denial of service) attacks increased in volume, targeting crucial infrastructure services like school and hospital websites. Kasperski's estimate is that the rates doubled in comparison to the final quarter of 2019, and surged by 80% year over year.<sup>13</sup> A further classification of INFOOPS is the overtness – covertness of it. INFOOPS can be overt (or white), which means that the sponsorship of the dissemination activity is known (source known and stated). Covert (black) information operations means that the ownership of such activity is denied or there is an attempt to have other source identified. The hybrid or grey area is when there is no attempt to either identify or conceal the source.<sup>14</sup>

<sup>12</sup> Porsche. *Redefining information warfare boundaries...* xxi.

<sup>13</sup> Kupreev, O., Badovskaya, E. and Gutnikov, A. "DDoS attacks in Q1 2020". *Kasperski Securelist*. 6 May 2020. <https://securelist.com/ddos-attacks-in-q1-2020/96837/>, Accessed on 10 June 2020.

<sup>14</sup> Smith. "Psychological Warfare". 46.

Table 1 *Matrix table*

Definitions	US DoD 1998 (U. S. Staff 1998)	US DoD 2006 <sup>I</sup>
<b>PSYOPS</b>	Planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately the behavior of foreign governments, organizations, groups, and individuals.	No change.  US DoD 2010 added: „in a manner favorable to the originator’s objectives”
<b>CYBEROPS</b>	–	–
<b>INFOOPS</b>	“actions taken to affect adversary information and information systems, while defending one’s own information and information systems” I-9	The integrated employment of the core capabilities of electronic warfare, computer network operations, psychological operations, military deception, and operations security, in concert with specified supporting and related capabilities, to influence, disrupt, corrupt or usurp adversarial human and automated decision making while protecting our own.
<b>INFLUENCE OPS</b>	–	–
<b>INFORMATION WARFARE</b>	“information operations conducted during time of crisis or conflict (including war) to achieve or promote specific objectives over a specific adversary or adversaries” <sup>IX</sup>	the Department of Defense removes the term “information warfare”

<sup>I</sup> “Joint publication 3-13: information operations”. US Joint Chiefs of Staff. 13 February 2006. <https://www.hsdl.org/?view&did=461648>, Accessed on 7 May 2020.

<sup>II</sup> “Joint publication 3-12: cyberspace operations”. US Joint Chiefs of Staff. 8 June 2018. <https://www.hsdl.org/?view&did=812851>, Accessed on 7 May 2020.

<sup>III</sup> Ált/ 46: *Lélektani műveletek doktrína*. Budapest: Magyar Honvédség, 2014. 13.

<sup>IV</sup> “1163/2020. (IV.21.) Korm. határozat Magyarország Nemzeti Biztonsági Stratégiájáról”. [Government Decree No. 1163/2020. on Hungary’s National Security Strategy] *Magyar Közlöny* 81. 2020. 2101-2118.

<sup>V</sup> “Joint publication 3-13: information operations”. US Joint Chiefs of Staff. 20 November 2014. <https://www.hsdl.org/?view&did=759867>

<sup>VI</sup> “NATO Standard AJP-3: Allied Joint Doctrine for the conduct of operations”. NATO Standardization Office. February 2019. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/797323/doctrine\\_nato\\_conduct\\_of\\_ops\\_ajp\\_3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/797323/doctrine_nato_conduct_of_ops_ajp_3.pdf)

<sup>VII</sup> Ált/57: *Információs műveletek doktrína*. Budapest: Magyar Honvédség, 2014. 17.

<sup>VIII</sup> Made for the US army. Larson, E. V. et al. *Foundations of Effective Influence Operations: a Framework for Enhancing Army Capabilities*. Santa Monica: RAND Corporation, 2009.

<sup>IX</sup> “Joint publication 3-13: joint doctrine for information operations”. US Joint Chiefs of Staff. 9 October 1998. <https://www.hsdl.org/?view&did=3759>, Accessed on 7 May 2020. I-1.

<sup>X</sup> Theohary, C. A. “Defense Primer: Information Operations”. Congressional Research Service. 14 January 2020. <https://crsreports.congress.gov/product/pdf/IF/IF10771>, Accessed on 8 May 2020.

US DoD 2018 <sup>II</sup>	NATO (2019) AAP-06	HU
Use of „MISO”: military information support operations.	Planned activities using methods of communication and other means directed at approved audiences in order to influence perceptions, attitudes and behaviour, affecting the achievement of political and military objectives.	Planned psyops activities using methods of communication and other means aimed at influencing the approved audiences' attitudes, behaviours and attitudes, thus affecting the achievement of political and military objectives. <sup>III</sup>
(Offensive) Missions intended to project power in and through cyberspace. (Defensive) Missions to preserve the ability to utilize cyberspace capabilities and protect data, networks, cyberspace-enabled devices, and other designated systems by defeating on-going or imminent malicious cyberspace activity.	Actions in or through cyberspace intended to preserve own and friendly freedom of action in cyberspace and/or to create effects to achieve military objectives.	N.B.: in the Hungarian National Security Strategy (2020) cyber capabilities capable of endangering physical security or causing significant material damage are considered weapons, and their use is considered armed aggression, to which a response in physical space is also possible. <sup>IV</sup>
The integrated employment, during military operations, of information-related capabilities in concert with other lines of operation to influence, disrupt, corrupt, or usurp the decision-making of adversaries and potential adversaries while protecting our own. <sup>V</sup>	A staff function to analyse, plan, assess and integrate information activities to create desired effects on the will, understanding and capability of adversaries, potential adversaries and audiences approved by the North Atlantic Council in support of Alliance mission objectives. <sup>VI</sup>	Staff function to analyse and plan the information environment. It plans, coordinates and assess the information activities, integrates them into the military capabilities in order to achieve the desired effect on the will, understanding and capability of the target audiences. Target audiences comprises of adversaries, potential adversaries and other politically approved audiences. <sup>VII</sup>
“application of national diplomatic, informational, military, economic, and other capabilities in peacetime, crisis, conflict, and post-conflict to foster attitudes, behaviours, or decisions by foreign target audiences that further U.S. interests and objectives” <sup>VIII</sup>	–	–
“While there is currently no official U.S. government (USG) definition of information warfare (IW), practitioners typically conceptualize it as a strategy for the use and management of information to pursue a competitive advantage, including both offensive and defensive operations.” <sup>IX</sup>	–	–

Some countries (e.g. Russia, China, Iran) are starting to combine INFOOPS elements.

“The *hearts and minds* is a principal centre of gravity in operational and tactical planning and execution. This insistence on regarding psychological warfare as central to the conduct of war stands in contrast to the role of psychological warfare in major Western military establishments, where it is generally seen as supplemental and of secondary importance”<sup>15</sup>. These countries are integrating and deploying cyberspace and psychological capabilities in ways consistent with their doctrine, strategy, organizational culture, and risk tolerance. The use of new capabilities evolve as they are introduced in conflicts, and thus brings a maturation of operational concepts and strategic insights<sup>16</sup>. A brief example of this is the fact that the Russians generally do not use the terms cyber or cyberwarfare, except when referring to foreign writings on the topic. “They tend to use the word *informatization*, which is a holistic concept that includes computer network operations, electronic warfare,

<sup>15</sup> “Psychological warfare”. *Encyclopedia Britannica*. <https://www.britannica.com/topic/psychological-warfare>, Accessed on 10 June 2020.

<sup>16</sup> Nakasone, P. M. “A cyber force for persistent operations”. *Joint Force Quarterly* 92/1. 2019. 12.

psychological operations, and information operations. In other words, cyber is regarded as a mechanism for enabling the state to dominate the information landscape, which is regarded as a warfare domain in its own right.”<sup>17</sup>

Russia has also developed capabilities for Information Warfare which includes Computer Network Operations, Electronic Warfare, Psychological Operations, and Deception activities.<sup>18</sup> Russia views information warfare as a soft power tool to be used both in peacetime and wartime. Indeed, it is an ongoing activity regardless of the state of relations with the opponent; in contrast to other forms and methods of opposition, information confrontation is waged constantly in peacetime.<sup>19</sup> (p.4.) As per the Russian concepts, Information Warfare in the new age conditions will be the starting point of every action now called the new type of warfare, or hybrid war, in which broad use will be made of the mass media and, where feasible, global computer networks (blogs, various social networks, and other resources)<sup>20</sup> It is also a point of view, that “Russia faces fewer legal and cultural barriers to influence at the operational and strategic level and it also has philosophically different approaches and goals while operating in the information environment”.<sup>21</sup> This difference can be seen in the definition presented, whereas IW is an “intensive struggle in the information environment with the aim of achieving informational, psychological and ideological superiority, damaging information infrastructure, undermining political and social systems, as well as psychologically shaping military personnel and populations”.<sup>22</sup> Bruce Schneier presents 8 steps that are frequently used in influence operations, and to which he proposes countermeasures as well. In his view, the following happens in a successful campaign: (1) exploit societal division and weaken trust in government, (2) build audience, (3) create distortion through alternative narratives, (4) have some truth to those narratives, (5) conceal (attribution), (6) amplify narratives, (7) deny involvement and (8) focus on long-term impact.<sup>23</sup> These steps show resemblance to the disinformation campaigns and narratives, which is often taken under the umbrella of information operations.<sup>24</sup>

Some other risks include big data and artificial intelligence. As humans become more connected via different devices, their production of personal data increases. These data, including health, purchases, and GPS tracking, can describe individuals to a high level of detail. If there is access to these data from legitimate (or illegitimate) data brokers, matching these different types of data can be a goldmine for precision targeting and microtargeting. Thus, it has become easier for covert or grey information warfare to target key figures with the intended messages. On the other hand, with the data and information at hand, the creation of ‘shallowfakes’ (manually alter images), ‘deepfakes’ (the use of artificial intelligence

<sup>17</sup> Connell, M. and Vogler, S. *Russia's approach to cyber warfare*. Arlington, VA: Center for Naval Analysis, 2017. 3.

<sup>18</sup> Ajir, M. and Vaillant, B. “Russian Information Warfare : Implications for Deterrence Policy”. *Strategic Studies Quarterly* 12/3. 2018. 74.

<sup>19</sup> Giles, K. *Handbook of Russian Information Warfare*. Rome: NATO Defense College, 2016. 4.

<sup>20</sup> Giles. *Handbook of Russian Information Warfare*. 6.

<sup>21</sup> Tashev, B., Purcell, M. and McLaughlin, B. “Russia's Information Warfare, Exploring the Cognitive Dimension”. *Marine Corps University Journal* 10/2. 2019. 132. DOI: 10.21140/mcu.j.2019100208.

<sup>22</sup> Tashev, Purcell and McLaughlin. “Russia's Information Warfare...” 136.

<sup>23</sup> Schneier, B. “8 ways to stay ahead of influence operations”. *Foreign Policy*, 12 August 2019. <https://foreignpolicy.com/2019/08/12/8-ways-to-stay-ahead-of-influence-operations/>, Accessed on 15 May 2020.

<sup>24</sup> Weitz, R. “Assessing the Russian Disinformation Campaign During COVID-19”. International Centre for Defence and Security. 13 November 2020. <https://icds.ee/en/assessing-the-russian-disinformation-campaign-during-covid-19/>, Accessed on 20 December 2020.

to manipulate or generate visual and audio content with a high potential to deceive) and ‘social bots’ (an agent that communicates more or less autonomously on social media, often with the task of influencing the course of discussion and/or the opinions of its readers,<sup>25</sup> will also become more realistic.

On the other hand, in the case of the United States, its legal and doctrinal scope is narrower. The “DoD has three primary cyber missions: (1) defend DoD networks, systems and information, (2) defend the US homeland and US national interests against cyberattacks of significant consequence and (3) provide cyber support to military operational and contingency plans. There is pressure on DoD to participate in cyber operations outside their three stated mission sets. The military operates in four areas of the cyberspace: intelligence, information, crime and military operations.”<sup>26</sup> A change in the doctrine would mean of course that if “the US CYBEROPS became part of a broader understanding of IW, US Cyber Command would have to broaden its mission as well”<sup>27</sup>.

As we have seen thus far, CYBEROPS and PSYOPS are usually classified beneath INFOOPS, as part of it. An interesting proposition by Ajir and Vaillant takes another approach, and proposes the integration of INFOOPS separately under CYBEROPS and PSYOPS: the cyber domain (virtual) and a psychological domain (cognitive)<sup>28</sup> by the effects of information operations on the target. The writers underline this step from the lenses of deterrence (and classical deterrence theory) and while the idea has merit during my research I have not found other sources in favour of such changes.

An interesting point made by Smith is that defence against the enemy’s psychological operations is limited responsibility of one’s own PSYOPS. This is partly because the “target is not the opposing PSYOPS forces as in normal warfare, and the ‘minds’ include neutral and friendly foreign groups as well.”<sup>29</sup> This opinion seems to converge with other elements, notably that “the current information warfare domain is ‘offence-dominant’ – it is easier to create malign content and apps than it is for governments and social media platforms to identify and counter these threats”<sup>30</sup>.

## CONCLUSION

The aim of this article was to give an overview of the terminology used regarding psychological operations and how it has changed as the intent and tools used for its purpose evolved. Three essential points should be made regarding the discussed topic. First, it would be important to clearly define the content, roles and methods of the operation types (PSYOPS, INFOOPS, CYBEROPS) to avoid the duplication of frameworks used, while keeping in mind a pragmatic and horizontal approach. Secondly, derived from this mainstreamed approach, the changes in the organizational structure should follow – not only at command level, but also at personnel level. Thirdly, a better understanding and consideration should be given to the different approach (‘grey zone’) to influence by other parties. It should also be noted, that there is a third area that interlaps with both PSYOPS and CYBEROPS, and that is disinformation.

<sup>25</sup> Ferrara, E. et al. “The Rise of Social Bots”. *Communications of the ACM* 59/7. 2016. 96-104. DOI: 10.1145/2818717.

<sup>26</sup> Crowther. “The Cyber Domain”. 64-65.

<sup>27</sup> Libicki. “The Convergence of Information Warfare”. 61.

<sup>28</sup> Ajir and Vaillant. “Russian information warfare...”. 86.

<sup>29</sup> Smith. “Psychological Warfare”. 41.

<sup>30</sup> Weitz. “Assessing the Russian Disinformation Campaign During COVID-19”.

This article has very lightly touched upon it, and INFLUENCEOPS or grey area PSYOPS might cover some of its elements, it still poses a difficulty to categorize disinformation operations neatly. It is possible that a new, encompassing term will emerge, or that over time one of the terms will become more prominent. At this point what can be seen is that some allied countries (e.g. the Czech Republic, Germany, Poland, Sweden) are upgrading their structures reflecting the changed importance of information operations, including PSYOPS and CYBEROPS. As it is important to take into account the context and cultural, theoretical background when discussing terms and definitions, so it is regarding what constitutes cyber operations and psychological operations in the transatlantic and in other military cultural context, as it would bring clarity as to what are we seeing today. Just as conventional warfare has changed in the last decades, and unconventional warfare has become more prominent, so is the digital (cyber) landscape changing, with multiple different actors and intents present, and thus creating a (cyber)fog of war.

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Zsuzsanna Borbély

## HEALTH BEHAVIOUR, STRESS, AND POLICE TRAINEES

DOI: [10.35926/HDR.2020.2.8](https://doi.org/10.35926/HDR.2020.2.8)

**ABSTRACT:** *Occupational stress has adverse effects on the health of police officers which may have a negative impact on their work in the long run. The same may apply to police trainees who have been less studied in this respect so far.*

*To investigate this issue, we performed a cross-sectional study in probationer police officers in their second school year in two grades at one of the Hungarian law enforcement schools. The study was performed in two waves in 2016 (N = 138) and 2018 (N = 94). We explored the connection between stress exposure as measured by the Occupational Stress Questionnaire for Law Enforcement Services, and health-related behaviours, particularly alcohol consumption, smoking, and physical activity as measured by a custom-made questionnaire.*

*Variance analysis showed that police stress factors have a connection with health behaviours in the two grades: relations between smoking status, alcohol consumption, and binge drinking on the one hand and Individual, Personal factors on the other in 2016 and between the frequency of physical activity, alcohol consumption and binge drinking on the one hand and Workload factors on the other in 2018. The findings obtained in 2016 and 2018 are different in many respects. Overall, the relationship between stress exposure and health-related behaviours was more obvious in 2018 than in 2016.*

*Our study revealed important connections between stress exposure and health-related behaviours in police trainees, but the differences observed in the two waves indicate the complexity of the relationship and require further – preferably longitudinal – studies on the issue.*

**KEYWORDS:** *smoking, alcohol consumption, physical activity, work-related stress, police trainees*

## INTRODUCTION

### About the Hungarian Police Officer Training System

We could find just a few publications about the Hungarian police training system. This phenomenon has special reasons, for example, the diversity of the training system (secondary form vs. higher form, training in the school system or outside of school system), or the consecutive changes in the training system.

The secondary form of the training is conducted in the four law enforcement schools in Hungary<sup>1</sup> (but, predictably, that the country will have only two schools at the moment of the publication of this article). The higher form is conducted at the Faculty of Law Enforcement of the University of Public Service. The secondary form of training in school has two types now, the two-year-long, and the one and a half-year-long. The latter is really new because it started only in September 2017 while the two-year-long form has a long history.

The school education has some specialties that can encumber the state both for the teachers and the students. It could be highlighted that in Act XLII of 2015 on the Service Status of Professional Members of Law Enforcement Agencies § 49 (4) articles declared the earliest time of the appointment for probationer police officers (hereinafter: police trainees) – now this date is the successful completion of their first school year. It is a favourable change because earlier the start of the probation was subject to a political decision adapted to headcount. In the worst cases, this meant that the students became probationer police officers after 3 or 6 months of education.<sup>2</sup>

Double legal status becomes effective after the appointment: they have an academic commitment as students in the law enforcement school, and duty commitment as police trainees in a police department. It makes a double expectation system in which they have to correspond.

It is not surprising that the generality of students is a member of the generation Z in the full-time police officer courses both in secondary and higher forms. They have several traits that pose a real challenge for the teachers who are mostly members of generation X. I have experience in these difficulties because I have worked in one of the law enforcement schools for 4.5 years as a psychologist and teacher. So I have communicated with students and fellow teachers daily. I have been inspired to a research project by the story of the students who started their studies in September 2014 and participated in the handling of migration in 2015. I engrossed psychological research about their experience during their two-year-long training from the point of view of occupational stress and health behaviour.

## Stress Research, Health Behaviour, and Young Police Officers – Brief Research Review

Police stress research has a tradition in the last 40 years, but we have really divergent pictures about how overloading police work can be: some study said the police were one of the most stressful occupations<sup>3</sup>, and some studies said it was only at average level.<sup>4</sup>

<sup>1</sup> Cseh, J. “A fiatalok rendészeti felkészítése az Adyligeti Rendészeti Szakközépiskolában”. *Pécsi Határőr Tudományos Közlemények* V. 2006. 47-62.; Borbély, Zs. “Az iskolarendszerű rendőrképzés napjainkban”. In Zsámbokiné Ficskovszky, Á. (ed), *Biztonság, szolgáltatás, fejlesztés, avagy új irányok a bevételi hatóságok működésében*. Budapest: Magyar Rendészettudományi Társaság Vám- és Pénzügyőr Tagozata, 2019. 38-50.

<sup>2</sup> Borbély. “Az iskolarendszerű rendőrképzés napjainkban”. 38-50.

<sup>3</sup> Anshel, M. “A conceptual modal and implications for coping with stressful events in police work”. *Criminal Justice and Behaviour*, 27/3. 2000. 375-400.; Johnson, S. et al. „The experience of work-related stress across occupations”. *Journal of Managerial Psychology* 20/2. 2005. 178-187.

<sup>4</sup> Brown, J. M. and Campbell, E. A. “Sources of occupational stress in the police”. *Work & Stress* 4/4. 1990. 305-318.; Bar-On, R. et al. “Emotional expression and implications for occupational stress: an application of the Emotional Quotient Inventory (EQ-i)”. *Personality and Individual Differences* 28/6. 2000. 1107-1118.

There are some typical types of stress research and one of that is focusing on the health consequences of police stress. These studies are aiming at exploring the physical and psychological consequences of work-related stress. It has a lot of research about suicide, cardiovascular and digestive diseases, mental health (depression, anxiety), personal problems misuse of substances (alcohol, drug).<sup>5</sup>

The relationship between occupational stress on the one hand and smoking and alcohol consumption on the other is supported by studies. These studies showed that work-related stress can increase smoking among male officers, indicating the connection between these tendencies and burnout.<sup>6</sup> Furthermore, the studies have shown the highly-stressed police often drink more alcohol.<sup>7</sup>

Alcohol consumption is one of the most examined health behaviour problems, so we have some research results about it at special police task units.<sup>8</sup>

We can find just a few studies about young police officers in the international research field. It has various reasons, for example, the really different selection and training systems in the countries. We can compare the results about the effect of training and experiences on mental health because of it. However, some studies were made comparing, for example, stress, coping mechanism<sup>9</sup>, or frustration, depression, anxiety by years of service.<sup>10</sup> But if we looked out, they show various pictures about how the years of service moderate the mental health, and the number of longitudinal research in the time of probation gives a very short list.

<sup>5</sup> Abdollahi, M. K. "Understanding Police Stress Research". *Journal of Forensic Psychology Practice* 2/2. 2002. 1-24.

<sup>6</sup> McCarty W., Zhao, J. and Garland, B. E. "Occupational stress and burnout between male and female police officers". *Policing: An International Journal of Police Strategies & Management* 30/ 4. 2007. 672-691.; Smith, D. R. et al. "Alcohol and Tobacco Consumption among Police Officers". *Kurume Medical Journal* 52/1-2. 2005. 63-65.

<sup>7</sup> Smith et al. "Alcohol and Tobacco Consumption..." 63-65.; Violanti, J. M. et al. "Police and Alcohol Use: A Descriptive Analysis and Associations with Stress Outcomes". *American Journal of Criminal Justice* 3/6. 2011. 344-356.

<sup>8</sup> Borbély, Zs., Farkas, J. and Tózsér, E. "A tömeges méretű illegális migráció pszichés következményei a rendészeti feladatellátás során". *Hadtudományi Szemle* 10/3. 2017. 288-304.; Borbély, Zs., Fridrich, A. C. and Tózsér E. "Az Ideiglenes Biztonsági Határzár menti feladatellátás hatása a határzárát védők magánéletére". *Honvédségi Szemle* 146/6. 2018. 65-79.; Farkas et al. "A »migráns helyzet« feladatellátása következtében jelentkező pszichés hatások". *Pro Publico Bono – Magyar Közigazgatás* 6/1. 2018. 4-33.

<sup>9</sup> Violanti, J. M. "What does high stress policing teach recruits? An analysis of coping". *Journal of Criminal Justice* 21/4. 1993. 411-417.

<sup>10</sup> Bartol, C. R. "Psychological characteristics of small-town police officers". *Journal of Police Science and Administration* 10/1. 1982. 58-63.; Kohli, K. and Bajpai, G. S. "A Comparative Study of Frustration, Depression and Deprivation amongst Trainee and Serving Police Officials". *Indian Journal of Criminology and Criminalistics* 27/3. 2006. <https://pdfs.semanticscholar.org/77f5/dfa43bdaee09afb1b9561ef8de13e80b9db.pdf>, Accessed on 30 October 2010.; Williams, V., Ciarrochi, J. and Deane, F. P. "On being mindful, emotionally aware, and more resilient: longitudinal pilot study of police recruits". *Australian Psychologist* 45/4. 2010. 274-282.; Husain, W. "Depression, Anxiety and Stress among Junior & Senior Police Officers". *Academic Research International* 5/3. 2014. 239-244.

The pioneer of Hungarian police stress research is Lt Col Erika Malét-Szabó. Her PhD thesis and articles have been the most comprehensive exploration of this issue.<sup>11</sup> The results show that younger officers experienced lower stress than officers with more years in service. In addition, we can find some research about the stress profile of different units<sup>12</sup> and the police trainees.<sup>13</sup>

## METHODS

### Study sample

The police officers who finished their training in 2016 and 2018 had a special probation year. The appointment and the opening of the probation were unexpected in August 2015 in the case of the class of 2014-2016, but it was necessary because of the migration crisis. They spent their probation at Riot Police ranger companies. The most significant task was guarding the Temporary Security Border, which was executed together with the designated law enforcement units of every county police department and Hungarian Defence Force. They served far from their home and family.

In the case of the class of 2016-2018, the appointment was proposed, and they started the probation in July 2015. The majority spent their probation at Riot Police, next to the southern border of Hungary, far from their home and family. But in this class there was a little group who spent this year at a County Police, near their home or at home.

These two classes showed some significant differences in their experiences in the training process, so we should not handle them as a big sample ( $N=232$ ) but in two smaller groups ( $N=138$  and  $N=94$ ) in the statistical analysis.

Data were collected in one of the four Hungarian law enforcement schools in two waves, after the trainees' successful final exams in June 2016 and 2018. It was a grouped data collection. Participation in the survey was anonym and voluntary.

<sup>11</sup> Szabó, E. and Rigó, B. "A munkahelyi stresszmegterhelés sajátosságai a rendőrség hivatásos állományának körében". *Alkalmazott Pszichológia* VII/3. 2005. 15-29.; Szabó, E. "A munkahelyi egészségpszichológia és egészségfejlesztés a Magyar Köztársaság Rendőrségén, valamint a szubjektíve észlelt munkahelyi stresszterheltség jellegzetességei – különös tekintettel az idői tényezőre – a hivatásos állományú rendőrök körében". PhD Thesis. Debrecen: University of Debrecen Faculty of Humanities, 2009. 1-260.; Malét-Szabó, E. and Szatmári, A. "A rendőr lelki biztonsága – avagy a biztonság megőrzésének egyik alappillére a rendőr lelki biztonsága". *Pécsi Határőr Tudományos Közlemények* XIII. 2012. 399-412.

<sup>12</sup> Fridrich, A. C. "Az eltérő szakterületeken dolgozó rendőrök teszteredményeinek vizsgálata – hasonlóságok és különbségek az RMSK tükrében". PhD Thesis. Budapest: Eötvös Loránd University Faculty of Education and Psychology, 2015. 1-65.; Tegyei, A. C. "Eltérő szakterületek a szervezeti kultúrában". In Farkas, J., Horváth, J. (eds), *Szervezeti kultúrák és kutatásuk*. Budapest: Dialóg Campus Kiadó, 2020. 139-156.

<sup>13</sup> Borbély, Zs. "Egészségmagatartás, kiégés, mentális egészség – specifikus stresszorok hatása a Rendőrség próbaidős tiszthelyettes állományában". PhD Thesis. Budapest: Eötvös Loránd University Faculty of Education and Psychology, 2017. 1-155.; Borbély, Zs. "Specifikus stresszorok és a szervezeti kultúra". In Farkas, J., Horváth, J. (eds), *Szervezeti kultúrák és kutatásuk*. Budapest: Dialóg Campus Kiadó, 2020. 116-138.; Borbély, Zs. "A munkahelyi stressz és a rendőrtanulók". In Baráth N. E. and Mezei J. (eds), *Rendészeti-Tudomány-Aktualitások. A rendészettudomány a fiatal kutatók szemével*. Budapest: Doktoranduszok Országos Szövetsége Rendészettudományi Osztálya, 2019. 39-47.; Borbély, Zs. "Egészségmagatartás és mentális egészség – nemi különbségek a munkahelyi stressz megélésében". *Belügyi Szemle* 67/7-8. 2019. 37-50.

## Measures

The survey measured sociodemographic questions, occupational stress, questions about health behaviour, and motivation for a healthy lifestyle.

Six plus one variables were included as sociodemographic questions: age, sex, current marital status, place of residence, financial circumstances and the plus one was the field of probation in 2018.

Work-related stress was measured by Occupational Stress Questionnaire for Law Enforcement Services (in Hungarian: Rendvédelmi szervek munkahelyi stressz kérdőíve, abbreviation: RMSK)<sup>14</sup>. This is a special test for law enforcement, the developers have not publicized it but it was introduced in the most particular way at a PhD thesis by Erika Szabó in 2009. The questionnaire has two parts: one part about the work and workplace and another about individual, personal factors. Every item in the questionnaire is scored on a Likert scale ranging from one to six, in accordance with instructions at the beginning of every session<sup>15</sup>.

In 2018 the Perceived Stress Scale Hungarian version for measuring the stress level was recorded the last month<sup>16</sup>.

The questions about the health behaviour were based on the relevant literature (e.g. European Health Interview Survey)<sup>17</sup> and involved the following fields:

- physical activity: regularity, frequency, length of time, using performance-enhancing and nutritional supplements;
- smoking: status, cigarette consumption per day, attitude to the getting out of the habit, smoking motivation (Wisconsin Inventory of Smoking Dependence and Motives short form, Hungarian version: WISDM-37 with 11 motivational factors),<sup>18</sup>
- alcohol consumption: frequency, binge drinking, circumstances.

<sup>14</sup> Szabó. “A munkahelyi egészségpszichológia...” 1-260.

<sup>15</sup> Szabó. “A munkahelyi egészségpszichológia...” 1-260.

<sup>16</sup> Stauder, A. and Konkoly Thege, B. “Az Észlelt Stressz Kérdőív (PSS) magyar verziójának jellemzői”. *Mentálhigiéne és Pszichoszomatika* 7/3. 2006. 203-216.

<sup>17</sup> Boros, J., Németh, R., Vitrai, J. “Országos Lakossági Egészségfelmérés OLEF 2000. Research riport”. Egészségmonitor. 2002. [http://www.egeszsegmonitor.hu/dok/kutatasi\\_jelentes\\_OLEF2000.pdf](http://www.egeszsegmonitor.hu/dok/kutatasi_jelentes_OLEF2000.pdf) Accessed on 24 October 2010.; Varga, J. “Testedzés és egészségmagatartás: Védőfaktor-e a sport?” PhD Thesis. Budapest: Eötvös Loránd University Faculty of Humanities, 2002. 1-78.; Urbán, R. and Marián, B. “A dohányzás szocioökonómiai prediktorainak és a stressz hatásának vizsgálata magyar reprezentatív mintában”. In Urbán, R., Kugler, Gy., Marián, B., Oláh, A., Szilágyi, Zs. and Varga, J. (eds), *A dohányzás egészségpszichológiája*. Budapest: Országos Addiktológiai Intézet, 2003. 89-105.; Urbán, R., Kugler, Gy. and Szilágyi, Zs. “A nikotin-dependencia mérése és korrelátumai magyar felnőtt mintában”. In Urbán, R., Kugler, Gy., Marián, B., Oláh, A., Szilágyi, Zs. and Varga, J. (eds), *A dohányzás egészségpszichológiája*. Budapest: Országos Addiktológiai Intézet, 2004. 127-155.; Boros, J. “Országos Lakossági Egészségfelmérés OLEF 2003. Research riport”. Budapest: Országos Epidemiológiai Központ, 2005.; Pikó, B. and Keresztes, N. *Sport, lélek, egészség*. Budapest: Akadémiai Kiadó, 2007. 1-157.; “Egészségfelmérés (ELEF), 2009”. *Statistikai Tükör* 4/50. 2010. 1-7.; “Európai lakossági egészségfelmérés, 2014”. *Statistikai Tükör* 9/29. 2015. 1-9.

<sup>18</sup> Smith, S. S. et al. “Development of the Brief Wisconsin Inventory of Smoking Dependence Motives”. *Nicotine & Tobacco Research* 12/5. 2010. 489-499.; Vajer, P. et al. “Psychometric Properties and Construct Validity of the Brief Wisconsin Inventory of Smoking Dependence Motives in an Internet-Based Sample of Treatment-Seeking Hungarian Smokers”. *Nicotine & Tobacco Research* 13/4. 2011. 273-281.

The motivational background of a healthy lifestyle was measured by the Hungarian version of the Health Orientation Scale (HOS)<sup>19</sup> which consists of 10 subscales. The items are scored on a Likert scale from one to five.

The psychometric indicators of all questionnaires corresponded to the previous surveys.<sup>20</sup>

Table 1 *Descriptive statistics of health behaviours of class 2016 and class 2018*

Variables	2016			2018		
	Mean (SD)	n	%	Mean (SD)	n	%
<b>DEMOGRAPHIC VARIABLES</b>						
GENDER						
Male		84	60.9		66	70.2
Female		54	39.1		28	29.8
AGE	21.67 (2.27)			22.10 (2.68)		
MARITAL STATUS						
Single		65	47.1		45	47.9
In a relationship		71	51.5		46	48.9
Married		1	0.7		3	3.2
Not answered		1	0.7		0	0
<b>PHYSICAL ACTIVITY</b>						
REGULARITY						
Yes		109	79.0		60	63.8
No		25	18.1		33	35.1
no answer		4	2.9		1	1.1
FREQUENCY						
No regular physical activity		15	10.9		30	31.9
1-2 times per week		37	26.8		25	26.6
3-4 times per week		52	37.7		23	24.5
5 or more times per week		30	21.7		15	16.0
no answer		4	2.9		1	1.1

<sup>19</sup> Snell, W. E. et al. "The Health Orientation Scale: A measure of psychological tendencies associated with health". *European Journal of Personality* 5/2. 1991. 169-183.

<sup>20</sup> Stauder and Konkoly Thege. "Az Észlelt Stressz Kérdőív (PSS)...". 203-216.; Szabó. „A munkahelyi egészségpszichológia...” 1-260.; Süle, A. "A jóga, mint ősi stresszkezelési módszer". PhD Thesis. Budapest: Eötvös Loránd University Faculty of Education and Psychology, 2009. 1-106.; Kiss, M. "A H1N1-influenza elleni védőoltások igénybevételének egészségpszichológiai vonatkozásai". PhD Thesis. Budapest: Eötvös Loránd University Faculty of Education and Psychology, 2010. 1-81.; Szabó, K. "Tánc és lelki egészség. Avagy: A jóllét, az áramlat-élmény, a nőiesség, a testkép és az egészségorientáció kapcsolata a különböző táncstílusok mentén". PhD Thesis. Budapest: Eötvös Loránd University Faculty of Education and Psychology, 2010. 1-114.; Vajer et al. "Psychometric Properties..." 273-281.; Fridrich. "Az eltérő szakterületeken dolgozó...". 1-65.; Borbély, Zs. Egészségmagatartás, kiégés... Budapest: Eötvös Loránd University Faculty of Education and Psychology, 2017. 1-155.; Borbély. "Specifikus stresszorok..."; Borbély. "Egészségmagatartás és mentális egészség...". 37-50.

Variables	2016			2018		
	Mean (SD)	n	%	Mean (SD)	n	%
<b>SMOKING</b>						
STATUS						
Non-smoker		70	50.7		51	54.3
Quitted smoker		5	3.6		7	7.4
Casual smoker		10	7.2		11	11.7
Regular smoker		49	35.5		23	24.5
CIGARETTE CONSUMPTION PER DAY						
Non-smoker		76	55.1		58	61.7
1-5 cigarette per day		5	3.6		7	7.4
5-10 cigarettes per day		15	10.9		12	12.8
10-15 cigarettes per day		17	12.3		8	8.5
15-19 cigarettes per day		10	7.2		5	5.3
more than 19 cigarettes per day		11	8.0		1	1.1
<b>ALCOHOL CONSUMPTION</b>						
FREQUENCY OF ALCOHOL CONSUMPTION						
Never drink		31	22.5		8	8.5
Monthly or rarer		63	45.7		57	60.6
More times in a month		17	12.3		13	13.8
Weekly		10	7.2		7	7.4
More times in a week		4	2.9		5	5.3
Daily		8	5.8		2	2.1
BINGE DRINKING						
Never drink so much		44	31.9		17	18.1
Monthly or rarer		54	39.1		53	56.4
More times in a month		12	8.7		10	10.6
Weekly		8	5.8		6	6.4
More times in a week		2	1.4		4	4.2
Daily		7	5.0		2	2.1

Table 2 Descriptive statistics of the RMSK, PSS, WISDM-37 and HOS of class 2016 and class 2018

Questionnaires, scales, subscales			2016		2018	
			Mean	SD	Mean	SD
RMSK	Workload events		51,23	48,94	24,49	29,59
	Workload factors	Subjective opinion about workload	2,02	0,81	1,58	0,81
		Workload from the characteristic of the organization	1,31	0,83	1,24	0,81
		Role conflicts from the characteristic of the work	1,91	0,85	1,76	0,94
		Subjective opinion about the workplace atmosphere	2,13	1,05	1,80	0,98
		Subjective opinion about the direction	2,26	1,08	2,03	1,09
		Complex opinion about workload	2,93	0,92	2,60	0,89
		Opinion about conveniences of the workplace	2,69	1,00	2,32	0,87
		Opinion about working hours	3,64	1,08	2,86	1,13
		External opinion about the workplace	2,92	1,29	2,65	1,15
		Ethical aspects of the work	2,68	1,53	2,05	1,19
		Personal equitation to the job	2,90	1,13	2,60	1,24
		Effective workload	2,99	0,97	2,51	0,95
		Opinion about financial acknowledgment	2,54	1,30	3,19	1,52
		Opinion about personal responsibility	2,98	1,17	3,00	1,41
		Opinion about organizational expectations	2,76	1,09	2,39	1,02
		Opinion about the position in the organization	2,87	1,00	2,60	1,08

Questionnaires, scales, subscales			2016		2018	
			Mean	SD	Mean	SD
RMSK	Individual, personal factors	Health status	1,94	0,89	1,68	0,55
		Internal vs. external control	3,09	0,82	3,51	0,75
		Type A or Type B personality	3,34	0,73	3,55	0,56
		Activity	3,06	0,92	2,82	0,87
		Motivation	3,25	1,00	3,31	0,80
		Social support	3,23	1,35	2,82	0,99
		Social support – Person	8,18	2,39	7,57	2,51
		Stress reduction	3,51	0,54	3,78	0,43
	Workplace stress index		4,36	4,98	1,91	2,24
Perceived Stress Index		no data	no data	23,15	8,07	
WISDM-37	Affiliative attachment		8,53	4,99	6,41	4,59
	Automaticity		12,51	6,12	10,44	6,56
	Loss of control		12,03	6,48	8,91	5,18
	Cognitive enhancement		9,75	4,85	9,63	5,31
	Craving		12,31	6,52	10,44	6,11
	Cue exposure/ associative process		9,12	4,50	8,91	4,54
	Social/environmental goods		10,86	4,54	13,53	4,91
	Taste		10,95	5,03	8,97	4,78
	Tolerance		12,02	6,08	11,25	6,40
	Weight control		8,58	4,53	6,41	4,22
	Affective enhancement		10,51	5,06	8,75	4,77
HOS	Personal Health Consciousness		16,11	3,76	17,65	3,71
	Health Image Concern		13,57	3,94	10,68	4,67
	Health Anxiety		12,92	3,62	9,58	3,91
	Health-Esteem and Confidence		16,54	3,78	19,91	3,82
	Motivation to Avoid Unhealthiness		15,50	4,15	16,76	4,16
	Motivation for Healthiness		15,54	3,87	16,65	3,88
	Internal Health Control		16,29	4,76	19,14	4,15
	External Health Control		13,85	3,08	11,41	3,47
	Health Expectations		15,84	3,37	19,34	3,73
	Health Status		15,93	3,40	18,71	3,57

## Statistics

The data analysis was performed with the IBM SPSS 20 statistical software package and Microsoft Excel. Descriptive statistics are presented as means and standard deviations for continuous variables and percentages for nominal variables. Student t-tests for independent groups and effect sizes were calculated to compare RMSK scales as well as the regularity of physical activity. One-way ANOVA with post hoc (Hochberg GT2 – big difference in the size of groups, Gabriel – minimal difference in the size of groups, or Games-Howell – not eligible homogeneity of variance) analysis was used to test for the frequency of physical activity, smoking status, cigarette consumption per day, frequency of alcohol consumption and binge drinking. Pearson correlation coefficients were applied to assess correlations between RMSK subscales and PSS on the one hand and smoking motivations and health orientations subscales on the other side.

## RESULTS

Descriptive statistics of health behaviours are presented in *Table 1*. In 2016 138 surveys were completed. The mean age was 21.67 ( $SD=2.27$  years). In this sample was 60.9% ( $N=84$ ) male and 39.1% ( $N=54$ ). In 2018 the number of participants was 94. The mean age was 22.10 ( $SD=2.68$  years). In this sample was 70.2% ( $N=66$ ) male and 29.8% ( $N=28$ ).

Descriptive statistics of the scales and subscales of questionnaires are presented in *Table 2*.

### Physical activity

*Table 3* and *Table 4* present the results of the group comparison. Two significant results were found between RMSK scales and physical activity in class 2016. The regularity of physical activity showed significant differences only in Social support (Welch  $d=2.10$ ,  $p=0.040$ , Cohen  $d=0.39$ ). It was better in the regularly exercising group. The frequency of physical activity had also one relation to the RMSK subscales, with Social support ( $F=2.73$ ,  $p=0.047$ ). The post hoc analysis detected that the group of “five times or more per week” had greater support.

The physical activity showed another sort of connection to occupational stress in class 2018. The regularity of physical activity had a significant difference in the next RMSK subscales:

- Workload from the characteristic of the organization ( $t=-2.70$ ,  $p=0.008$ )
- Role conflicts from the characteristic of the work ( $t=-2.40$ ,  $p=0.018$ )
- External opinion about the workplace ( $t=-2.31$ ,  $p=0.023$ )
- Ethical aspects of the work ( $t=-2.15$ ,  $p=0.034$ )
- Opinion about personal responsibility ( $t=-2.03$ ,  $p=0.045$ )
- Health status ( $t=-2.22$ ,  $p=0.029$ )

The trainees, who reported regular physical activity, felt these factors less overloading and had better health.

The frequency of physical activity had only one significant relationship with RMSK scales, at Type A or Type B personality ( $F=4.44$ ,  $p=0.029$ ). The post hoc analysis showed that the group of “five times or more per week” had more Type A personality than the others.

## Smoking

The results of group comparisons concerning the smoking status and cigarette consumption per day are presented in *Table 3* and *Table 4*. One significant difference was found only in class 2016. Work-related events were reported more overloading by the non-smokers and causal smokers (Welch  $d=8.40$ ,  $p=0.005$ ). Furthermore, the analysis suggested one significant difference in class 2018. Opinion about working hours was reported more overloaded by the causal smokers, especially compared with quitted ex-smokers ( $F=3.83$ ,  $p=0.013$ ).

*Table 2* and *Table 3* show the results about cigarette consumption per day comparing to RMSK subscales too. Only two significant differences were reported by the trainees in 2018, but there were not any connections in 2016. The post hoc analysis showed that the group of 1-5 cigarettes consumption per day reported the highest Social support ( $F=2.58$ ,  $p=0.043$ ) and Social support per person ( $F=3.33$ ,  $p=0.014$ ), especially compared to the group of 10-15 cigarettes consumption per day.

Table 3 Health behaviour connection to RMSK, 2016 (N = 138) (\* $p \leq 0,05$  and \*\* $p \leq 0,01$ )

RMSK 2016		Physical activity		Smoking		Alcohol consumption	
		Regularity	Frequency	Status	Cigarette per day	Drinking	Binge Drinking
		t (p)	F (p)	F (p)	F (p)	F (p)	F (p)
Workload events		0,19 (0,849)	0,78 (0,512)	$d=8,40^{**}$ (0,001)	1,04 (0,398)	1,34 (0,292)	0,76 (0,584)
Workload factors	Subjective opinion about workload	-0,57 (0,573)	0,73 (0,535)	0,12 (0,951)	1,40 (0,228)	1,29 (0,272)	0,79 (0,557)
	Workload from the characteristic of the organization	-1,22 (0,224)	1,26 (0,291)	0,24 (0,866)	1,18 (0,322)	1,61 (0,161)	0,78 (0,568)
	Role conflicts from the characteristic of the work	-0,77 (0,445)	1,23 (0,301)	0,05 (0,987)	2,11 (0,068)	1,54 (0,183)	1,18 (0,322)
	Subjective opinion about the workplace atmosphere	-1,07 (0,285)	1,17 (0,323)	0,15 (0,930)	0,93 (0,466)	1,15 (0,337))	1,28 (0,275)
	Subjective opinion about the direction	-1,35 (0,178)	0,98 (0,404)	0,28 (0,840)	1,00 (0,422)	0,59 (0,708)	1,04 (0,396)
	Complex opinion about workload	-1,03 (0,307)	0,98 (0,406)	0,22 (0,881)	1,38 (0,236)	1,06 (0,387)	1,10 (0,364)
	Opinion about conveniences of the work-place	-0,54 (0,588)	0,51 (0,673)	0,54 (0,656)	1,05 (0,391)	0,36 (0,876)	0,83 (0,531)
	Opinion about working hours	0,15 (0,879)	0,34 (0,796)	0,34 (0,796)	0,36 (0,885)	2,06 (0,075)	0,93 (0,463)

RMSK 2016		Physical activity		Smoking		Alcohol consumption	
		Regularity	Frequency	Status	Cigarette per day	Drinking	Binge Drinking
		t (p)	F (p)	F (p)	F (p)	F (p)	F (p)
Workload factors	External opinion about the workplace	-1,79 (0,076)	0,94 (0,424)	0,58 (0,626)	0,80 (0,550)	1,58 (0,171)	0,12 (0,989)
	Ethical aspects of the work	-0,93 (0,355)	1,12 (0,343)	0,03 (0,994)	0,79 (0,556)	0,44 (0,819)	0,57 (0,723)
	Personal equitation to the job	-0,42 (0,674)	1,06 (0,371)	0,37 (0,774)	1,54 (0,183)	1,19 (0,318)	1,20 (0,314)
	Effective workload	-0,72 (0,472)	0,62 (0,602)	0,25 (0,861)	1,31 (0,265)	1,05 (0,389)	0,91 (0,480)
	Opinion about financial acknowledgment	-0,49 (0,629)	0,07 (0,975)	0,23 (0,875)	0,30 (0,914)	1,49 (0,197)	1,78 (0,121)
	Opinion about personal responsibility	-0,30 (0,766)	0,60 (0,615)	1,47 (0,225)	1,96 (0,089)	0,43 (0,821)	1,09 (0,427)
	Opinion about organizational expectations	-0,98 (0,330)	1,31 (0,273)	1,10 (0,350)	1,87 (0,103)	1,45 (0,211)	0,72 (0,613)
	Opinion about the position in the organization	-1,19 (0,277)	1,14 (0,336)	0,23 (0,875)	1,98 (0,086)	1,69 (0,142)	1,18 (0,322)
Individual, personal factors	Health status	-0,93 (0,357)	0,27 (0,849)	0,64 (0,589)	0,68 (0,639)	2,44 (0,071)	0,95 (0,454)
	Internal vs. external control	0,45 (0,656)	0,08 (0,969)	0,87 (0,457)	1,09 (0,369)	0,68 (0,639)	0,37 (0,867)
	Type A or Type B personality	-0,84 (0,401)	1,15 (0,331)	1,11 (0,349)	0,61 (0,695)	2,34* (0,045)	1,26 (0,287)
	Activity	0,46 (0,648)	0,90 (0,445)	1,04 (0,379)	0,84 (0,523)	3,38** (0,007)	2,56* (0,031)
	Motivation	d=0,04 (0,973)	0,33 (0,805)	2,24 (0,086)	0,29 (0,916)	2,01 (0,081)	1,42 (0,221)
	Social support	d=2,10* (0,040)	2,73* (0,047)	2,08 (0,107)	0,46 (0,807)	2,42* (0,039)	2,79* (0,020)
	Social support – Person	-0,18 (0,861)	0,68 (0,565)	0,88 (0,452)	0,37 (0,868)	4,780** (0,005)	1,70 (0,140)
	Stress reduction	-0,30 (0,767)	0,54 (0,653)	0,02 (0,996)	0,57 (0,721)	0,78 (0,569)	0,87 (0,507)
Workplace stress index		-0,46 (0,645)	1,82 (0,157)	0,48 (0,694)	0,56 (0,727)	0,38 (0,863)	0,19 (0,965)

Table 4 *Health behaviour connection to RMSK and PSS, 2018 (N = 94) (\*p ≤ 0,05 and \*\*p ≤ 0,01)*

Stress scales 2018		Physical activity		Smoking		Alcohol consumption	
		Regularity	Frequency	Status	Cigarette per day	Drinking	Binge Drinking
		t (p)	F (p)	F (p)	F (p)	F (p)	F (p)
RMSK	Workload events	-1,07 (0,287)	0,48 (0,700)	1,24 (0,299)	1.02 (0.401)	d = 4,35* (0,033)	1,75 (0,133)
	Subjective opinion about workload	-1,83 (0,071)	0,86 (0,463)	1,68 (0,178)	0.18 (0.947)	2,59* (0,031)	1,70 (0,143)
	Workload from the characteristic of the organization	-2,70** (0,008)	2,04 (0,115)	2,67 (0,053)	0.50 (0.737)	d = 13,52** (0,000)	0,79 (0,558)
	Role conflicts from the characteristic of the work	-2,40* (0,018)	1,67 (0,180)	2,18 (0,096)	0.69 (0.598)	1,86 (0,109)	1,17 (0,333)
	Subjective opinion about the workplace atmosphere	-1,78 (0,078)	0,91 (0,440)	1,69 (0,175)	0.18 (0.947)	1,36 (0,249)	0,77 (0,573)
	Subjective opinion about the direction	-1,62 (0,109)	0,73 (0,537)	1,54 (0,210)	1.18 (0.326)	2,33* (0,049)	2,13 (0,069)
	Complex opinion about workload	-1,79 (0,076)	0,98 (0,405)	1,68 (0,178)	0.25 (0.908)	2,42* (0,042)	1,77 (0,128)
	Opinion about conveniences of the workplace	-0,95 (0,343)	0,13 (0,942)	1,10 (0,355)	0.33 (0.857)	d = 3,93* (0,043)	1,66 (0,154)
	Opinion about working hours	-1,75 (0,090)	0,89 (0,448)	3,83* (0,013)	0.18 (0.950)	3,03* (0,014)	2,47* (0,039)
	External opinion about the workplace	-2,31* (0,023)	2,63 (0,055)	2,12 (0,104)	1.94 (0.111)	1,74 (0,133)	2,41* (0,043)
	Ethical aspects of the work	-2,15* (0,034)	2,50 (0,065)	1,61 (0,193)	1.17 (0.331)	0,36 (0,872)	0,15 (0,979)
	Personal equitation to the job	-1,15 (0,255)	0,43 (0,732)	1,91 (0,133)	1.29 (0.281)	d = 3,61 (0,053)	1,00 (0,421)
	Effective workload	-1,38 (0,170)	0,83 (0,481)	1,00 (0,398)	0.28 (0.892)	2,96* (0,016)	2,14 (0,068)
	Opinion about financial acknowledgment	-1,02 (0,312)	0,36 (0,785)	1,68 (0,177)	1.12 (0.352)	0,75 (0,591)	0,83 (0,533)

Stress scales 2018			Physical activity		Smoking		Alcohol consumption	
			Regularity	Frequency	Status	Cigarette per day	Drinking	Binge Drinking
			t (p)	F (p)	F (p)	F (p)	F (p)	F (p)
RMSK	Workload factors	Opinion about personal responsibility	− 2,03* (0,045)	1,78 (0,157)	0,92 (0,437)	0.14 (0.968)	3,00* (0,015)	2,14 (0,069)
		Opinion about organizational expectations	− 1,27 (0,208)	0,61 (0,610)	2,51 (0,064)	0.29 (0.883)	4,12* (0,032)	1,06 (0,387)
		Opinion about the position in the organization	− 1,54 (0,127)	1,10 (0,352)	<i>d</i> = 2,59 (0,080)	0.67 (0.613)	1,31 (0,266)	1,29 (0,276)
	Individual, personal factors	Health status	− 2,22* (0,029)	1,64 (0,185)	2,29 (0,084)	1.96 (0.108)	3,10* (0,013)	3,68** (0,005)
		Internal vs. external control	1,40 (0,165)	0,90 (0,445)	1,84 (0,147)	2.23 (0.073)	0,78 (0,570)	0,73 (0,606)
		Type A or Type B personality	− 1,48 (0,144)	4,44** (0,006)	1,34 (0,266)	0.57 (0.687)	1,32 (0,262)	2,32 (0,051)
		Activity	− 0,79 (0,432)	0,96 (0,413)	0,07 (0,974)	1.26 (0.294)	0,36 (0,873)	0,33 (0,893)
		Motivation	− 0,51 (0,612)	0,72 (0,541)	0,42 (0,740)	0.16 (0.957)	1,27 (0,283)	1,33 (0,259)
		Social support	1,41 (0,161)	1,83 (0,147)	2,48 (0,067)	2.58* (0.043)	0,66 (0,654)	0,76 (0,578)
		Social support – Person	0,16 (0,877)	0,39 (0,764)	<i>d</i> = 1,10 (0,374)	3.33* (0.014)	1,60 (0,168)	2,17 (0,065)
		Stress reduction	− 0,26 (0,799)	0,76 (0,521)	2,14 (0,101)	<i>d</i> = 1.08 (0.396)	0,33 (0,896)	1,01 (0,417)
	Workplace stress index	− 1,28 (0,203)	0,73 (0,535)	1,82 (0,150)	<i>d</i> = 1.99 (0.143)	1,72 (0,140)	1,23 (0,303)	
PSS			− 1,53 (0,129)	1,39 (0,252)	2,60 (0,057)	1.88 (0.122)	0,97 (0,438)	1,49 (0,205)

Table 5 provides an overview of the quantity of statistically significant differences (correlations) between WISDM-37 and RMSK subscales.

These significant differences are more interesting from the aspect of RMSK subscales. Only two subscales of Workload factors (it has 17 subscales) and four subscales of Individual, personal factors (it has eight subscales) did not connect to WISDM-37 subscales in 2016: Work-related events, Opinion about working hours, Type A or Type B personality, Activity, Social support, and Stress reduction. However, the analysis showed significant relation in fewer cases at class 2018: only four subscales of Workload factors and one subscale of Individual, personal factors had a connection to WISDM-37 subscale – Subjective opinion about direction, Ethical aspects of the work, Personal equitation to the job, Effective workload and Type A or Type B personality. The intensity of correlations was in a narrower region, but with a little higher means in 2018. The absolute values of correlations were between 0.36 and 0.50 this year, but amongst 0.26 and 0.57 in 2016.

Table 5 *The quantity of the statistically significant relationship between WISDM-37 and stress scales*

WISDM-37 subscales	RMSK factors						PSS
	Workload		Individual, personal factors		Work stress index		
	2016	2018	2016	2018	2016	2018	(only in 2018)
Affiliative attachment	11	0	1	1	0	0	0
Automaticity	0	0	0	0	0	0	0
Loss of control	6	0	1	1	0	0	0
Cognitive enhancement	11	0	1	0	0	0	0
Craving	9	0	1	1	0	0	0
Cue exposure/associative process	9	1	0	0	0	0	0
Social/environmental support	8	0	2	0	0	0	0
Taste	6	1	1	1	0	0	0
Tolerance	4	0	1	0	0	0	0
Weight control	15	3	1	0	0	0	0
Affective enhancement	8	0	1	0	0	0	0

## Alcohol Consumption

Table 2 and Table 3 include results from group comparison concerning frequency of alcohol consumption and binge drinking. The frequency of alcohol consumption showed significant differences in RMSK subscales in class 2016. The post hoc analysis suggested that the group of weekly and daily drinking alcohol felt more overload than the others in these subscales:

- Type A or Type B personality ( $F=2.34, p=0.045$ );
- Activity ( $F=3.38, p=0.007$ );
- Social support ( $F=2.42, p=0.039$ );
- Social support-Person ( $d=4.80, p=0.005$ ).

With regard to binge drinking, two statistically significant differences were found in class 2016. The group of daily binge drinking reported a significantly lower level of Activity

( $F=2.56, p=0.031$ ) than the group of never binge drinking or rare binge drinking. In addition, the group of never binge drinking showed greater Social support ( $F=2.79, p=0.020$ ) than the group of daily binge drinking. It needs to be highlighted that alcohol consumption had a significant difference only with Individual, personal factors, but not connected with the Workload factors.

The analysis showed significant differences in the RMSK subscale eleven times in the frequency of alcohol consumption at class 2018:

- Work-related events ( $d=4.35, p=0.033$ );
- Subjective opinion of workload ( $F=2.59, p=0.031$ );
- Workload from the characteristic of the organization ( $d=13.52, p=0.000$ );
- Subjective opinion about direction ( $F=2.33, p=0.049$ );
- Complex opinion about workload ( $F=2.42, p=0.042$ );
- Opinion about conveniences of the workplace ( $d=3.93, p=0.043$ );
- Opinion about working hours ( $F=3.03, p=0.014$ );
- Effective workload ( $F=2.96, p=0.016$ );
- Opinion about personal responsibility ( $F=3.00, p=0.015$ );
- Opinion about organizational expectations ( $d=4.12, p=0.032$ );
- Health status ( $F=3.10, p=0.013$ ).

The post hoc analysis suggested that the groups of “weekly” and “several times a week drinking alcohol” reported higher overload in these subscales.

Binge drinking had only three significant connections to RMSK subscales in class 2018:

- Opinion about working hours ( $F=2.47, p=0.039$ );
- External opinion about the workplace ( $F=2.41, p=0.043$ );
- Health status ( $F=3.68, p=0.005$ ).

Post hoc analysis showed that the differences were most intense between the extremes of binge drinking.

With regard to PSS, a statistically significant difference was not found in the examined health behaviours in class 2018.

## Health Orientation

Table 6 *The quantity of the statistically significant relationship between HOS and stress scales*

HOS subscales	RMSK factors						PSS
	Workload		Individual, personal factors		Work stress index		
	2016	2018	2016	2018	2016	2018	(only in 2018)
Personal Health Consciousness	1	0	2	1	0	0	1
Health Image Concern	0	1	3	1	0	1	0
Health Anxiety	11	10	5	0	0	1	0
Health-Esteem and Confidence	9	2	3	1	0	1	1
Motivation to Avoid Unhealthiness	1	0	1	1	0	0	0

HOS subscales	RMSK factors						PSS
	Workload		Individual, personal factors		Work stress index		
	2016	2018	2016	2018	2016	2018	(only in 2018)
Motivation for Healthiness	3	0	1	1	0	0	0
Internal Health Control	6	1	2	1	1	0	1
External Health Control	11	0	4	2	0	0	0
Health Expectations	11	7	3	3	0	0	1
Health Status	12	11	3	2	0	0	1

Table 6 presents the quantity of statistically significance difference (correlations) between HOS and RMSK subscales. There is some curiosity from the aspects of the RMSK subscale. Ethical aspects of the work were the one and only in 2016, which did not show any connections to the HOS subscale. But five RMSK subscales were without relation with HOS subscales in 2018: Subjective opinion about the workplace atmosphere; Opinion about working hours; Ethical aspects of the work; Social support; Social support – Person. In addition, the Stress reduction subscale had nine significant connections from ten cases to the HOS subscale in class 2016, however, the Activity subscale had the most relation with seven cases from ten in 2018. There were three or four connections on average (exactly 3.58) between RMSK subscales and HOS subscales in 2016, but there were only 1-2 connections on the average (exactly 1.85) in 2018. The intensity of correlations was amongst 0.18 and 0.39 in absolute value in class 2016 but it was amongst 0.21 and 0.46 in class 2018. So the connections between RMSK subscales on the one hand and HOS subscales on the other were a little stronger in 2018 although there were fewer connections than in 2016.

## DISCUSSION

This was a rare study that attempted to show the potential curiosities and questions, the connection between occupational stress and health behaviour among police trainees.

Regarding physical activity, we can assess that the expected physical activity was present for the appropriate fitness in 2016. But the diverse rates of the two classes had an effect on the relationship between occupational stress and physical activity. Because of it, we cannot make an obvious statement that physical activity is connected to the level of occupational stress, because the two classes had a different patterns of results. But it is not negligible in the findings of other research about Swiss police officers which showed that regular physical exercise could protect from the negative health consequences of the occupational stress<sup>21</sup>.

In this study, we did not find the previously showed results<sup>22</sup> about the relationship between smoking and occupational stress. We got a mixed picture about the frequency of alcohol consumption because the results of class 2018 were in accordance with international

<sup>21</sup> Gerber et al. "Do exercise and fitness buffer against stress among Swiss police and emergency response service officers?" *Psychology of Sport and Exercise* 11/4. 2010. 286-294.

<sup>22</sup> Smith et al. "Alcohol and Tobacco Consumption..." 63-65.; McCarty, Zhao and Garland. "Occupational stress..." 672-691.

findings,<sup>23</sup> but the result of class 2016 was not. (The analysis suggested there were connections to the Individual, personal factors, but not to the Workload factors.)

The reason for this discrepancy could be the specialty of our study sample compared to the sample of international research. These projects had higher average age and more years in service than the trainees in this study. But because of it, our study could be important for the future because the information about young probation police officers could support to create of organizational policy and shape human resource management especially if we remember the specialties of generation Z<sup>24</sup>.

The results of this study could be a guideline for the Hungarian police psychologists to the psychological work with these young people and for the planning of some events in the Life-Strength-Health Program (the health care and health promotion program at Hungarian Police). If we shape the health promotion program for the target audience better, the expected effect will happen more likely. And this approach could be of assistance to strengthen retention among young police officers and propose the necessity of the health care actions in the training.

The results could be useable for the Hungarian Defence Forces because of two main reasons. The first is that generation Z will become soldier soon, and the behaviour of police trainees and young soldiers could be similar. The other reason is that in the last few years, police and defence forces have worked together, and the knowledge of the behaviour and the thinking of police trainees may be helpful in further collaboration.

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<sup>23</sup> Smith et al. "Alcohol and Tobacco Consumption..." 63-65.; Violanti et al. "Police and Alcohol Use..." 344-356.

<sup>24</sup> Tegyei, A. "A »Z generáció« címke – Jogos félelmek vagy lehetőség a megújulásra?". *Rendőrségi Tanulmányok* 1/3. 2018. 81-97.

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György Zoltán Bács

## DYNAMIC MATRIX METHOD BASED ON INFORMATION THEORY IN ANALYSIS AND ASSESSMENT IN COUNTER-TERRORISM

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Wherever and whenever the analysts face a new phenomenon – in the fields of economics, industry, agriculture, politics, national security or others – some questions emerge immediately. What generated the incumbent phenomenon, how it has emerged, what kind of origins it has, what could be the consequences and what and how shall we do to minimize the possible negative consequences or to neutralize them or in the best case, to make them positive for us. In order to answer these questions it is indispensable to understand the internal evolution of the phenomenon, the dynamics of the factors that affected it prior to the tangible for us emerging. Once we have already gathered a set of data, the next recurrent problem is how to process them into information and how to set up the priority line amongst the factors, which influenced the evolution of the phenomenon drawing multiple possible outcomes and how to select the most probable one of them leading to the current status of the phenomenon in question. The roots of the problem to answer to these questions can be defined as:

- Difficulties to determine the criteria for analysis;
- The big variety of data;
- Limited data-processing capacities;
- Mostly static approach to data, as a consequence of reduced perception of dynamism;
- HR-based problems.

The consequence of these deficiencies are:

- Slow decision-making process. With certain sarcasm, we can remark that since the humankind exists any decision-making process was fast enough for the decision-makers.
- Often uncertain, insufficient conclusions of analysis and assessment papers.

The uncertainty caused by the emerging phenomenon generates the difficulties of selecting the criteria for the analysis. It is easy to understand that the only point at this stage that can make the job of analysts smoother is to focus on the possible impacts caused or possible to-be-caused by the phenomenon. The priorities of sorting the criteria can be set as vital, critical, significant, important, secondary and collateral.

The same system as above should be applied when considering the data. At this stage each of the six ranks must have at least a three-grade division: direct, close, peripheral according to the influence the data exercise on the priorities.

The limited capacities can be solved by increasing the hardware and software support up to a certain level but the old methods like root case analysis, SWAT, SWAT-C, comparative analysis, mathematic game theory have no remedy they should be replaced by a new analytic method. The problem with these old methods is that all these depart from the situation at the given moment. Thus, the result of these analyses rather refers to the status-quo, it is partially retrospective and very-very little prospective. This prospective capacity is more than limited due to the limited set of factors taken into consideration when analysing.

It is obvious that any short-, mid- and long-term action plan requires the analysis of the appropriate depth tailored to and upon the goals of the action. The depth always depends on the multi-dimensional range – including the timeline – of the data collected for analysis and to-be-converted into information. Therefore, the increase of data-processing capacities is vital for the enhanced or upgraded analytical work. Dynamism is the key word to increase the range of view of the analysis and to improve its quality and versatility. What dynamism means in this case? Since the classic and medieval physicists it has been clear that everything in the world is in permanent change i.e. its status is dynamic. One moment differs from the other on the time line subsequently the objects, processes, actions are also in permanent motion so their characteristics also change as time passes on. To understand and to make a close probability calculation of the possible ways of development of everything in motion we have to consider the factors composed of data transformed into information influencing the subjects of our research. There is no other chance to reduce the time gap between the events and phenomena on the time line and the close probability assessment necessary for the further decisions to-be-taken in the given case, than the analysis based on the influencing factors and following the changes caused by them. This analysis is an endless process whose length depends only on the sequence of time necessary for the decision makers.

Problems in the field of human resources also have a negative effect on developing the analysis and assessment capacities. This disadvantaged situation can get even worse once the educational system is strongly linked to the old-fashioned Byzantine and Prussian didactic methods of education. By changing the methods of education, the results of instruction improve immediately. The introduction of the new analytical solution requires an urgent modernization on the education at all its levels. The key point is to develop the capacity and capability of the new generation of analysts to consider problems from different – permanently changing – points of view.

To implement the new method we face two very complicated important *tasks*. There is never enough time so these tasks must be carried out parallel. For the first one we can use the old databases, complemented, modified and adapted to fit the new criteria of the new method.

The second one needs new resources beside of a new mentality. It will combine the efforts of scientists and practitioners of many fields.

The first task departs from the supposition that the basis for any analysis is the mutual influence of information as a basic component of systematized data having certain effect on other similar components. One of the primordial tasks is to select or to set up and develop the widest, deepest database. It shall be very comprehensive and shall extend to the widest possible range of other field databases.

The second task parallel to the first one is to solve the problem of data-processing. To process this enormous pile of data we have to find new ways for mathematic approaches including new algorithms. Another very important point is that without Artificial Intelligence (AI) it is almost impossible to deal with this task in its complexity.

*The expected results* of introducing and using the new method are the following:

- shortening the reaction time to changing conditions;
- increasing the credibility of analytic conclusions;
- increasing the efficiency of decision-making;
- increasing the applicability of decisions;
- save and spare human, material and environmental resources.

Now it is time to clarify some basic notions. *What does information mean for us in this sense?* It is single or combined data plus elements to link them to other possible data. With a metaphor from the house-building field, information is a brick with cement to stick to other bricks. The information without interaction with other information perhaps is useless or has very little effect. It acquires importance only in the context of other information that we call “transformation chain of information” like this: *information – knowledge – capability – action*.

In this chain *knowledge* means the cloud or agglomeration containing “n” (unknown) amount of information related to each other by strong or weak linking ties, without physical parameters. Information can be sorted by their time of formation, creation or perception. It is also a flow system! One of the speakers of the conference held at the National University of Public Service, Budapest, Hungary, on March 3-4, 2020 Mr. Brian Rivera in his lecture called flow system “*OODA-loop*” (Observation Orientation Decision Action). We call it “information spiral”.

*Capability* for us means the possible targeted use of agglomerations of knowledge. Identical agglomerations or groups of agglomerations can be applicable for different capabilities. The experiences and observations of the practical use of any capability have information value (a blow-back?) influencing on the knowledge securing its dynamism.

It is important to mention that information is not a simple phenomenon. It has some characteristics, which help us to carry out analyses and assessments. It is also important to have in mind that the characteristics of information are not permanent, they change in interaction with other information as the time passes.

Information characters are:

- positive A: brand new;
- positive B: confirming previous information;
- neutral: the possible use is unknown in the given moment;
- negative: denying previous information;

Information value status:

- positive: useful;
- neutral: uncertain about possible usefulness;
- negative: useless;

*Timeframes of the analysis* are always the given moment or a reasonably short or longer interval prior to the given moment. Subsequently, the *timeframe of the prospective assessment* refers to moments in the future when the consequent events, phenomena or moments have a certain grade of probability to happen. The reason and the validity of this position are that permanent dynamic changes are going on in the same time at different levels. Therefore the changes of data can alter the information built on them and subsequently the change of information will modify the knowledge and the capabilities as well.

*The magnitude and scope of the changes to be considered* depend on the importance of the information from the point of view and actions of the person(s) or institution(s) carrying out an analysis and assessment of the mutual impacts of data, information, knowledge and capabilities in the inter-agglomeration space.

## THE MATHEMATIC BACKGROUND

The relations among data, information, knowledge, capabilities and actions could be mathematically described by a system of equation of unbounded functions containing unlimited or unknown numbers of functions. Information is also functions. We shall notice that the

Fourrier series based on harmonic changes are not able to describe the disharmonic but not ad-hoc changes in the inter-agglomeration space.

In another way, the complex of agglomeration of knowledge and capability can be imagined as an amorphous part i.e. a dynamic matrix in the virtual space where the interrelations between different elements have a three-dimensional amorphous structure. The reference axis is the time line along which one analyses and assesses the data, information, knowledge, capabilities, and makes a decision to act.

The analysis is made at a certain point on the reference axis, therefore the validity field of the information value status is around this point. The range of the validity field is determined by the dynamism of the factors influencing the data composing the information that is being analysis at the given moment. If the data change the end point of the validity field, closing the validity period on the timeline will change immediately. With this change the end point of the previous validity field will transform into the starting point of the next validity field.

The field of gathering the data and information for the analysis and assessment is part of the dynamic matrix. One can imagine it like two funnels or cones turned to each other with their smallest diameter. Where they touch each other is the point of analysis and assessment. The largest diameter of the first cone can be infinite depending on the range of data and information we use for carrying out the analysis and assessment, and the largest diameter of the second cone can also be infinite depending on how far we want to go forward with our deductions as the result of the assessment. It is clear that the closer we approach the smallest diameter the higher and higher is the accuracy of the information/factors leading to the features of the information in question at the given point of analysis due to the closer links between the factors/information. Thus we can set up the picture of the 'prehistory' of the formation of the information we analyse.

Subsequently, as we leave behind the point of analysis the accuracy of the assessment of the possible consequences in the second cone will be smaller and smaller due to the growing variety of plausible new factors/information capable to impact the information creating possible alternative consequences.

## WHAT IS NEXT?

The next phase of the research aimed at the practical implementation of the theory above is to set up its mathematic model including the conversion of data and information into algorithms ready to be processed digitally by the AI. The research also includes the way of handling the big data, to filter the enormous amount of data and information in order to receive the targeted necessary set of data/information.

## WHAT IS THIS METHOD APPLICABLE FOR?

The practical use of the dynamic matrix method based on information theory is not limited to counter-terrorism, it is applicable in economics, finances, other political fields, defence, and social planning as well. The importance of counter-terrorism as one of the primary fields of application is clear: after the military losses that terrorism had during the past couple of years it is logical that the terrorist organizations undertake the necessary changes – change of paradigm and diversification of activities – to achieve their strategic goals in another possible ways. No further explanation is needed why a new, faster, and accurate method is so important in analysis and assessment.

## ABOUT THE AUTHORS

### **Éva Ambrus**

Ms Éva Ambrus is a PhD student at the National University of Public Service, Faculty of Military Science and Officer Training, Doctoral School of Military Engineering.

### **György Zoltán Bács, PhD**

Zoltán György Bács holds a PhD degree in Military Science from the National University of Public Service (NUPS). He earned his first university degree in 1982 in the field of international relations at the Moscow State Institute of International Relations, and earned his doctorate in history in 1988 at the József Attila University, Szeged. Since 2015, he has been an instructor at the Counter-Terrorism Department in NUPS.

### **Pál Bak**

Mr Pál Bak is a desk officer at the Defence Policy Department at the Ministry of Defence of Hungary. His main focus of interest is regional security, especially the MENA and the Sahel regions, as well as counter-terrorism.

### **Philippe Beaulieu-Brossard, PhD**

Philippe Beaulieu-Brossard is currently a Marie S. Curie Fellow at the Centre for Military Studies, University of Copenhagen and an assistant professor (on leave) specializing in Defence, Security Studies, and Design Theory at the Canadian Forces College (CFC). He holds a PhD in International Relations from the University of St. Andrews (UK).

### **Zsuzsanna Borbély**

Counselling psychologist and psychology teacher. She earned her degrees at Eötvös Loránd University. She was a psychologist and teacher at Körmend Law Enforcement School between 2014 and 2018. Currently, she is a counselling psychologist of Airport Police Directorate, Budapest, and a PhD student at the National University of Public Service Doctoral School of Law Enforcement. Apart from the standard police psychologist work she taught law enforcement related phenomena in the area of psychology for the students of the law enforcement school. As a researcher, she is conducting research on the connection of health behaviour, occupational stress, and burnout, especially among young police trainees.

### **Philippe Dufort, PhD**

Philippe Dufort holds a PhD degree from the Department of Politics and International Studies of the University of Cambridge. He is an associate professor at the School of Social Innovation at Saint Paul University, Ottawa.

**Col Zoltán Jobbágy, PhD**

Col Zoltán Jobbágy is the Vice-Dean for Academic and International Affairs at the Faculty of Military Science and Officer Training of the National University of Public Service. He earned his PhD degree from Leiden University in Social and Behavioural Science.

**Gergely Németh, PhD**

Gergely Németh is the Defence Policy Director in the Ministry of Defence of Hungary. He holds a PhD degree in Military Science from the National University of Public Service.

**Col (Ret) Ladislav Pásztor**

Colonel Ladislav Pásztor held various positions in the Slovak Armed Forces during his military career. From September 2016 to April 2020, he served as Defence Attaché of the Slovak Republic to Hungary and Slovenia with residence in Budapest, Hungary. He is a PhD student at the Doctoral School of Military Sciences of the National University of Public Service in Budapest, focusing on the field of National Security. His research topic is “Analytical-evaluative Approach to the Security Threats in Central Europe”.

**István Simicskó, PhD**

István Simicskó is Member of Hungarian Parliament and former Defence Minister between 2015 and 2018. He earned his PhD degree in Military Science from the Zrínyi Miklós National Defence University in 2009.

**Diána Szőke**

Ms Diána Szőke is a desk officer at the Defence Policy Department of the Hungarian Ministry of Defence. She has previously worked at MOL, Hungary’s largest energy company, as well as at the Institute for Foreign Affairs and Trade think tank. She graduated from the Corvinus University of Budapest and the University of Edinburgh.

**1<sup>st</sup> Lt Viola Vincze LLM, PhD**

1<sup>st</sup> Lt Viola Vincze is a Legal Advisor at the Ministry of Defence of Hungary, Legal Department, and a junior lecturer at Eötvös Loránd University, Faculty of Law, and at the National University of Public Service, Faculty of Military Science and Officer Training.

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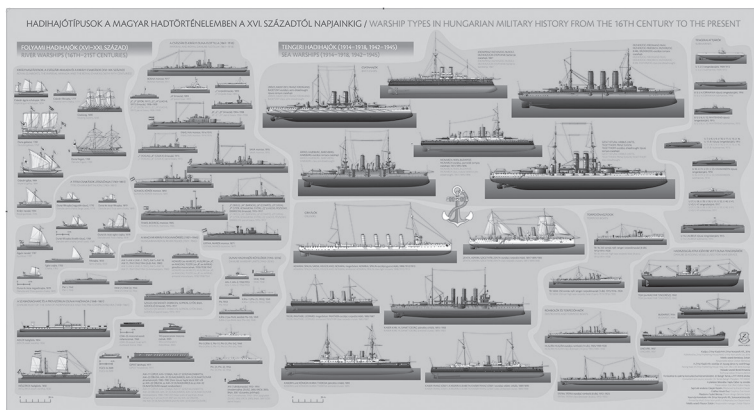
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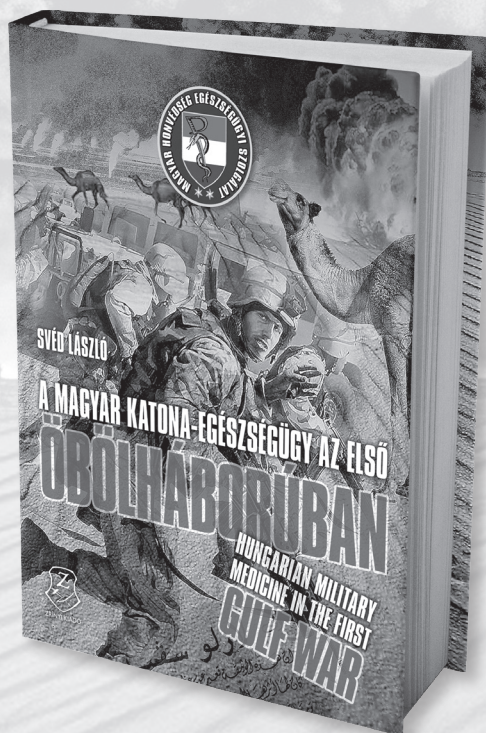
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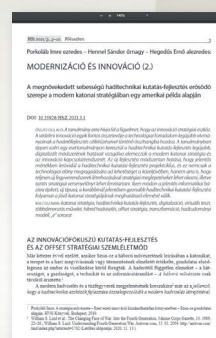
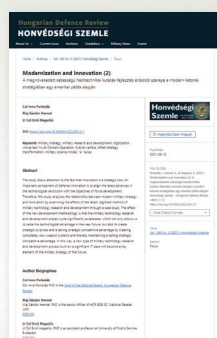
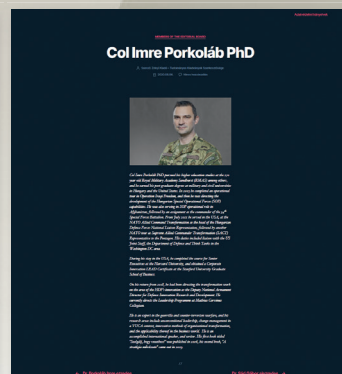
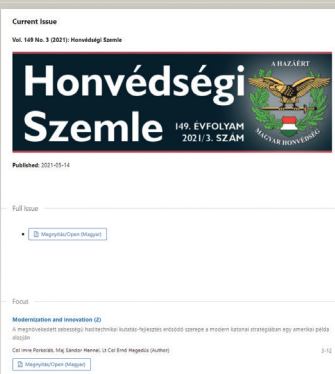
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