Joint Air & Space Power Conference 2017

The Role of Joint Air Power in
NATO Deterrence

10–12 OCTOBER *2017*

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Acknowledgements

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Moderator's Foreword

Dear Reader,

It is my great privilege and pleasure to act as the moderator once again for the Joint Air Power Competence Centre's (JAPCC) annual conference, which will take place over the period 10–12 October 2017 in Essen, Germany. The theme for this year's Conference is:

'The Role of Joint Air Power in NATO Deterrence'

The issue of deterrence was raised extensively in the previous two JAPCC conferences, both in the context of strategic communications and with regard to NATO's ability to operate in a degraded environment. It is therefore entirely appropriate that this year's Conference has been dedicated to deterrence and, specifically, to consider the role of joint air power in delivering deterrent effect.

During the Cold War, there was arguably far greater discussion of – and understanding of – the theory of deterrence, with nuclear deterrence being well studied and grasped by senior military and political leaders. Over recent decades, which have seen NATO's involvement in expeditionary, out of area operations, it could be argued that 'deterrence' is an area where understanding has waned. Are the constituent parts of an effective deterrent posture well enough understood by senior political leaders, most of whom lack the previous military experience of their forebears? Can we really deter non-state actors? Does effective deterrence rely on one's potential adversary possessing a degree of rationality? What if such rationality is absent? What does all this mean for joint air power and the air capabilities that NATO should be focussing on in both the short and longer term?

In the pursuit of answers to these sorts of questions and in preparation for the upcoming Conference, the JAPCC offers the following food-for-thought papers for your consideration. Designed to provoke thought and incite debate, the previously published essays are written by leading thinkers from the military and academia. In seeking to address the role of joint air power in NATO deterrence, the JAPCC staff has assembled a tremendous multinational team of distinguished speakers and panellists for this year's Conference. As always, the JAPCC hopes that this Conference will act as a catalyst for important debate which will help shape thinking regarding the future development of effective joint air power. This is your opportunity to contribute!

I very much hope you will join us at Essen in October for what promises to be a fascinating and important 2 days.

Ian Elliott
Air Commodore (ret.), GBR AF

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Deterrence: What It Can (and Cannot) Do

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Michael Rühle, *Head Energy Security Section,*
Emerging Security Challenges Division in NATO's International Staff

Deterrence is making a comeback. Perceived by many as a mere relic of the Cold War, the Russia-Ukraine crisis has hastened its resurrection. However, the debate over the past months as to how best to deter Russia reveals that 20 years of neglect have taken their toll. Much of what was once considered basic knowledge on deterrence appears to have evaporated. What, then, is deterrence? What can it achieve – and what can it not?

Deterrence is the threat of force in order to discourage an opponent from taking an unwelcome action. This can be achieved through the threat of retaliation (deterrence by punishment) or by denying the opponent's war aims (deterrence by denial). This simple definition often leads to the conclusion that all it takes to deter is to put enough force on display. As long as both sides act 'rationally', i.e. according to a cost-benefit calculus, and if none of them is suicidal, their military potentials will keep each other in check.

If only it were so easy. History abounds with examples of deterrence failing despite a balance of forces, and even cases in which the weaker side attacked the stronger. In some cases, the weaker side banked on the

element of surprise. The military leadership of Imperial Japan, for example, was fully aware of US military superiority. But if a surprise attack on the Pearl Harbor naval base would destroy a major part of the US Pacific Fleet while paralysing Washington politically, Japan might stand a chance of prevailing. In 1973 Syria and Egypt attacked the militarily superior Israel – not because they hoped to win, but because they wanted to re-establish the political clout they had lost after Israel had defeated them in the 1967 Six-Day-War. Israel had not seen the attack coming: why would two militarily inferior countries even think of attacking an opponent that was certain to emerge victorious? This self-assuredness led Israel to ignore the many warning signals about a pending attack. As a result, the rapidly advancing armies of Egypt and Syria were initially much more successful than expected. Military superiority had not ensured deterrence.

Another important example for the pitfalls of deterrence is provided by the 1982 Falklands War. Argentina, which contests the United Kingdom's authority over the islands in the South Atlantic, knew only too well about the superiority of the British armed forces. However, over the course of several decades the UK had gradually been reducing its military protection for the islands. Thus, while London kept emphasizing that the Falklands were British, the military Junta in Buenos Aires became convinced that such statements were mere lip service. When the Junta faced a domestic crisis that threatened its rule, it tried to generate support by stirring patriotic feelings and occupied the islands. Deterrence had failed because the United Kingdom had ignored an important factor. Striking a tough pose while at the same time reducing the means to make good on it undermines one of deterrence's most important ingredients: credibility. The story did not end there, however. Much to Argentina's surprise, the British Navy sailed to the South Atlantic and re-conquered the islands. General Galtieri, the Chief of Argentina's military Junta, later admitted that he never believed that a European country would be ready to pay such a high price for a few insignificant islands so far away. Argentina, too, had miscalculated.

But could Galtieri and his fellow countrymen not have guessed that a proud nation like the United Kingdom would not stand idly by as part of her overseas territory was being occupied by another power? Should one not have known that remaining passive would have spelled the end for any British government?

The answer: yes, in normal times Argentina may well have pondered such scenarios. However, in a crisis humans tend to think along a different kind of logic. Indeed, many studies about human behaviour demonstrate that people who fear to lose something valuable are ready to take greater risks than those who hope to make a gain. In the context of the Falklands War, this means that for the Junta, which was under siege politically, occupying the 'Malvinas' was not about a gain, but rather about avoiding losing power. This made them take risks they otherwise would not have dared to take. Rationality – a precondition for a stable deterrence system – had evaporated.

Looking at Russian domestic politics today, the lessons of 1982 are worth reconsidering: stirring nationalism in order to generate political support may lead one to military adventurism which can be self-defeating.

All these cases demonstrate that deterrence is not just about military balances, but also about interests. If the opponent's interest in achieving a certain objective is higher than one's own, deterrence may fail. A classic example is the Cuban missile crisis of 1962. When it became clear that Washington was ready to defend its core security interests, the Soviet Union withdrew the missiles it had started to deploy in Cuba. Another example is the Vietnam War. Although the United States was militarily far superior, it ultimately had to withdraw because the North Vietnamese and the Vietcong were willing to make much greater sacrifices to achieve their goals than the US was willing to make in support of South Vietnam. This asymmetric set of interests not only makes deterrence fail, it also makes big powers lose small wars.

But what about nuclear deterrence? Should the fear of the enormous destructive power of such weapons not be enough to virtually guarantee deterrence? The answer to this question is the same as to the 'conventional' examples cited above: even in the nuclear domain, deterrence depends on the interests that one seeks to protect. If a nation's existence is at stake, the use of nuclear weapons is credible. Accordingly, deterrence between nuclear weapons states is considered to be relatively 'stable'. By contrast, extending one's national nuclear deterrence to allies is much more complicated. As British Defence Minister Denis Healey put it in the 1960s, one only needed five per cent credibility to deter the Russians, but 95 per cent to reassure the Europeans. Despite this 'Healey Theorem', however, extended nuclear deterrence has become a central pillar of international order. This is not only the case for NATO, but also for the Asia-Pacific region, where Japan, South Korea and Australia are under the US 'nuclear umbrella'.

It is moot to speculate whether the United States would indeed be willing to risk nuclear escalation in order to protect an Ally. What counts is the political signal that Washington views the security of its Allies as a fundamental national security interest. However, such a message will only be convincing if the US is militarily present in those regions that is claims to defend. This ensures that in a conflict Washington will be involved from the start. Without such a presence, neither Allies nor opponents would perceive such a nuclear commitment as credible.

What Conclusions Can Be Drawn for Western Security Policy?

First, a renewed debate about deterrence must be cautious not to oversell that concept. The temptation to do just that is already visible. For example, some peace researchers have argued that the tactical nuclear weapons stationed in various NATO countries could be withdrawn, since they failed to deter Russia's aggression against Ukraine. If this logic were sound, one

would also have to abolish all national militaries and even NATO itself. For no army and no alliance has deterred Russia from annexing Crimea and destabilizing Eastern Ukraine. A more realistic analysis of the Ukraine situation will find that this is less a case of deterrence but of geography and interests. Russia is ready to prevent Ukraine's Western integration even with military means, while the West is not willing to risk a military escalation on behalf of a country that does not belong to NATO. Put differently, the example of Ukraine is ill-suited to prove or falsify deterrence. If anything, it demonstrates that a country that is politically and militarily weak is easy prey for a powerful neighbour.

Second, given Europe's current security situation, NATO's foremost task is to ensure the military protection of its geographically most exposed members. The Alliance's new 'Readiness Action Plan' (RAP) foresees increasing the readiness-level of NATO's reaction forces, and holding increasingly complex exercises in Central and Eastern Europe. The RAP includes a 'spearhead' force capable of deploying within a matter of days, the establishment of a multinational NATO command and control and reception facilities on the territories of several eastern Allies, and the updating of defence plans. Although NATO's emphasis remains on the rapid projection of reinforcements rather than on the permanent stationing of substantial combat forces in Central and Eastern Europe, the RAP reflects the reaffirmation of a principle that for some time had been receiving short shrift: in order to communicate deterrence through credible defence one needs to match one's rhetoric with the appropriate military posture.

Third, the nuclear dimension of deterrence will have to be re-visited as well. Although not in the public limelight, Russia is also sending nuclear signals to the West: by stepping up nuclear exercises, by having Russian bombers flying closer to allied borders, and by boasting the development of new nuclear weapons. In autumn 2014, Russia's Deputy Prime Minister Rogozin even promised that Russia's military modernization would contain

a 'nuclear surprise' for the country's potential adversaries. All this reveals that Russia's thinking, both politically and militarily, is far more 'nuclearized' than most Western observers believed. The West does not need to mirror-image Russia's approach. However, it will have to ask itself whether the post-Cold War tendency to largely ignore nuclear deterrence and to look at nuclear weapons mainly in the context of disarmament is still in line with today's security landscape. Given Russia's behaviour, as well as the risk of new nuclear powers emerging in the Middle East and parts of Asia, the West will have to re-learn some lost principles of deterrence.

Fourth, deterrence must also include non-military aspects. In Ukraine, Russia has provided a textbook example of hybrid warfare: the rapid concentration of regular forces at Ukraine's border, the employment of unmarked special forces in Crimea, support for separatists in Eastern Ukraine, an increase in the gas price and a massive propaganda campaign that sought to obscure the events on the ground. It is arguable whether this kind of warfare, which aims to create ambiguity that could make NATO's decision-taking difficult, can be deterred merely by the threat of force. Deterring hybrid war will also require other means, such as increased resilience of cyber networks, diversification of energy supplies, and strategic communications that can rapidly correct false information spread by an opponent. Rather than punish an aggressor with military reprisals, 'deterrence-by-resilience' seeks to dissuade him by demonstrating the futility of his approach.

Fifth, the United States remains the linchpin of Western deterrence. This is not just due to their tremendous military power, but also their political will to act as a guarantor of global order. Should the US lose this will – or lose its ability to convey it – others would soon test the various 'red lines' drawn by Washington. Despite a debate about domestic priorities, the US remains keenly aware of this fact. At the start of the Crimea crisis, the US quickly enhanced its military presence in Central and Eastern Europe, backing up its promises of assistance with concrete military hardware.

Nothing could better illustrate the enormous significance of the US presence than a photo of an American armoured vehicle on a highway in Lithuania. Many Lithuanians sent the photo to each other on their mobile phones. The text underneath the picture said more about deterrence than a thousand textbooks: 'Awesome! They could have come 70 years earlier though …'

http://www.nato.int/docu/review/2015/also-in-2015/deterrence-russia-military/EN/index.htm

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Deterrence for the 21ˢᵗ Century

<div style="text-align:right">11</div>

__Alexander Vershbow,__ NATO Deputy Secretary General

Opening Remarks by NATO Deputy Secretary General Alexander Vershbow at the Berlin Security Conference 2015

I t's always a pleasure to be in Berlin, and I'm glad to be with you today to address the security challenges facing our Euro-Atlantic community – challenges that have been driven home anew by the horrific terrorist attacks in Paris over the weekend.

For much of the twentieth century, Berlin symbolized the Cold War between the liberal democracies of the West and the Communist dictatorships of the East. The Wall, which for so long divided this great city, was the physical embodiment of that confrontation – the Iron Curtain rendered in concrete.

During that time, NATO existed to perform one function: to keep our people and our territory safe from Soviet attack, and thereby provide the security that underpinned our freedom and our prosperity. We did this by being strong militarily and united politically, preventing any possible threat from the Soviet Bloc. This was demonstrated through NATO's doctrine of deterrence, the subject I would like to focus on today.

Deterrence is a relatively simple idea. It's about convincing your opponent that the costs to him of attacking you will outweigh any potential gain – that the costs will be so high, in fact, as to make any attempt not only not worthwhile, but a terrible mistake.

During the Cold War, deterrence worked. The Soviet Union knew that any attempt to attack NATO would be met by a swift and overwhelming conventional response and, potentially, a nuclear one. The cost would be failure at best and potential annihilation at worst. NATO was able to convince Soviet leaders of this due to a number of vital factors that we had in place.

First, there was the clear political will on the part of all the Allies to act together as one. There was no doubt that if one Ally were attacked, then all the Allies would respond. Soviet leaders couldn't just pick off one or two smaller nations without fear of consequences; they would always have to deal with every Allied nation, and that included the United States.

Second, it was obvious that we could back up our words with deeds. We had the troops, we had the equipment, we could demonstrate their quality through exercises, and ultimately, we had our tactical and strategic nuclear forces to make up for any perceived asymmetry in conventional capabilities. We were not limited to one action or another; we could choose, from many, the most appropriate and most effective response – a response that could increase in severity if that were needed.

This flexibility, this ambiguity of our response, produced uncertainty in the minds of Soviet generals and political leaders, making any calculations significantly more difficult.

And third, we communicated a clear and consistent message: that we were ready, willing and able to act to defend our Alliance. There was no ambiguity about that. This message was delivered through diplomatic

channels, in public announcements, and in our military exercises, demonstrations and force posture.

Each of these three pillars of our deterrence was essential. Without the political will to act in unity, all our equipment and declarations would have been pointless. Without a strong and capable military, our solidarity and clear communications would have been of no value. And without making the unacceptable costs clear in the minds of the Soviet leadership, our deterrence would have failed.

It was only by having all three parts in place, at all times, that our deterrence succeeded. Moreover, it not only prevented the Cold War from descending into World War III and contained Soviet expansionism; deterrence also created a level of stability that, even with the ideological conflict of the Cold War, enabled us to engage in dialogue and cooperation in certain areas, including arms control and confidence-building measures.

In short, deterrence paved the way for détente, and introduced predictability into a still-competitive relationship.

Then, in the late 1980s, history moved into fast forward, with the arrival of *glasnost* and *perestroika,* and with the possibility of moving beyond containment and beyond traditional notions of deterrence.

If a divided Berlin symbolized the Cold War, a newly united Berlin symbolized the optimism and hope of the post-Cold War period – a hope that was crystallized when thousands of people came out onto the streets to cross newly opened borders and smash that terrible wall 26 years ago this month.

When Communism collapsed across the Eastern Bloc, the enemy we had been so vehemently deterring suddenly no longer posed a threat.

Our efforts switched from deterring Russia and its involuntary allies in Eastern Europe, to welcoming them as friends and partners. The two Germanys became one and many members of the old Warsaw Pact sought and found membership in NATO.

The world had changed. This did not mean that deterrence was no longer important. But the specific threat had subsided – from a real and present danger, to a more abstract notion of a potential threat from an unknown aggressor.

This more benign security environment in Europe enabled NATO to gradually shift the focus of our forces away from deterrence and collective defence towards greater flexibility and being able to deploy our forces quickly around the world. NATO exercises and NATO operations dealt increasingly with conflicts beyond our borders in places such as Bosnia, Kosovo and Afghanistan. The nature of our equipment, our training, and our expertise shifted too.

This shift in focus was reflected in our updated Strategic Concept, agreed at our Lisbon Summit in 2010. It spoke of the continued importance of deterrence and collective defence. But it also emphasized, in the age of globalization, the need to protect our interests further afield – be it by deploying our forces beyond our borders to protect our security at home, as we did in Afghanistan; or by supporting our partners in their efforts to maintain stability through cooperative security.

The 2010 Strategic Concept codified what the Alliance had been busy doing for the previous two decades in response to a changed security environment.

And now our security environment has changed again. In just a couple of years, our neighbourhood has been plunged into turmoil and violence by

many varied causes. The promise of the Arab Spring has turned to dust, leaving a trail of failed or failing states in its wake from Libya to Syria. Terrorist groups like ISIL have been quick to fill the vacuum, spreading bloody violence across North Africa and the Middle East – and even onto our streets.

And as ISIL's reign of terror continues and as Syria collapses, millions have been forced to flee for their lives, prompting a humanitarian catastrophe and the greatest refugee crisis Europe has experienced since World War II.

And now Russia has also entered the conflict. Russia's military build-up in Syria, its air strikes and its cruise missile strikes, are not mainly aimed at ISIL, as the US-led coalition's forces are. They focus instead on supporting the continuation of the Assad regime. Russia still has the ability and the opportunity to make a constructive contribution to ending the war in Syria and destroying ISIL. But as things stand now, its actions are only pro-longing the war and the suffering of the millions of people caught up in it.

In Ukraine, it is now almost two years since Russia deployed its 'little green men', denying their activities until Crimea was illegally annexed and brought fully under Russian control. Since then, it has continued to support so-called 'separatists' in eastern Ukraine with soldiers masquerading as 'volunteers' and 'vacationers', with weapons – including heavy weapons – and with command and control.

While we have seen some progress in implementing the Minsk agreements, the risk remains of a resumption of violence by Russia and its proxies at any moment.

Through its aggressive actions in Ukraine, Russia has ripped up the international rule book which we had all worked so hard for so many decades to write: rules that ensured the sovereignty of nations and the sanctity of

borders; that ensured that disagreements would be solved through diplomacy and negotiation and not on the battlefield; that stated that every nation had the right to chart its own course and to choose its own destiny.

Since the end of the Cold War, NATO worked hard to include Russia, and not to isolate her. Our aim was a strategic partnership where we could work together. As a result, borders were opened, trade flourished and, over time, trust increased.

We signed the NATO-Russia Founding Act and created the NATO-Russia Council. We cooperated on counter-terrorism and counter-piracy, and on helping Afghanistan. And we offered to work together on areas such as missile defence.

All of this benefitted us, and it benefitted Russia. But today, the choices made by Moscow have taken our relations with Russia to their lowest point in decades. We are not back to the Cold War, but we are far from a strategic partnership.

In recent years, Russia's military activity at the Alliance's borders has increased significantly. We have seen a military build-up in Kaliningrad, in Crimea and now in Syria. Russia has the ability to move massive numbers of forces quickly along its borders, and their anti-aircraft and anti-ship missiles cover huge areas of NATO territory. This so-called 'anti-access and area denial' (A2AD) capability is designed to restrict our freedom of movement and navigation. It is something we are paying close attention to in our planning.

Our security environment may have evolved in the last couple of years, but so has NATO. Since our Summit in Wales last year, Allies have been busy implementing the biggest increase in NATO's collective defence

since the Cold War: the Readiness Action Plan (or RAP). This has strengthened our ability to respond with great speed and tremendous power to any kind of attack – threatened or actual – from any point on the compass.

In the run-up to our next Summit, in Warsaw next July, we will continue adapting and bolstering our deterrence posture.

Our security environment today is complex and fast moving. It is more dangerous and less predictable than it has been for decades. We face threats from state and from non-state actors; from the south and from the east; from conventional military forces and from unconventional terrorist, cyber or hybrid attacks.

So we must modernize our deterrence with better intelligence and early warning. We have to speed up how we take decisions, and how we implement them. We must significantly improve our cyber defences. And we must strengthen coordination with other organizations that have a role in countering cyber and hybrid threats – the EU in particular.

Militarily, modernizing deterrence means building on the RAP with greater mobility, with cutting-edge capabilities, and better integration of our land, sea and air forces. We need to be sure we have the capacity to reinforce our Eastern Allies now and in the future in the face of Russia's growing A2AD capability, especially in the Baltic and Black Sea regions. And we need a realistic assessment of our requirements for the pre-positioning of equipment, enablers and forward stationing of combat units on a rotational basis so that we can counter even the most devious hybrid attacks.

And beyond strengthening our forces and our procedures, we must ensure that our political unity remains rock solid; that our militaries are strong and capable; and that all potential adversaries understand, loud and clear, that every square metre of this Alliance is defended.

All in all, we need to make clear that, if attacked, we can and will defend every Ally. But it is better to deter those who would attack us from doing so in the first place. Prevention is always better than cure.

Prevention may also be the key to countering the threats from the South, where our adversaries – non-state actors like ISIL – may not be susceptible to traditional concepts of deterrence. We must prevent ISIL from capturing more territory and roll back the gains it has already made. And we must help build the defence and security capacity of our neighbours in the Middle East and North Africa so that they can prevent their nations from becoming ISIL's next victims.

Coming back to Europe, let me say that I know deterrence is not always a popular word. For some it contains echoes of the Cold War that we would rather not hear in the modern world – as if to deter is in some way an act of aggression or belligerence. I disagree entirely.

Being strong enough to prevent others from attacking you is not an act of aggression. NATO Allies have never had strong military forces because we wanted to fight a war, we have them because we want to prevent a war. Deterrence is not a concept for a bygone age. It is as relevant today as it has always been.

And by ensuring effective deterrence against a revisionist Russia, we will have a more solid basis on which to engage Moscow – to bring it back into compliance with international law and, in time, begin to rebuild the trust and partnership that Russia has destroyed.

Ladies and gentlemen,
Today's challenges are very different from the ones we faced when this city was divided. And they are very different to those in the decades since it has been reunited.

But NATO continues to evolve as NATO always has. What remains unchanged are our central goals: to protect our territory and our people; to preserve our values of freedom, democracy, human rights and the rule of law; to project stability in our neighbourhood; and to preserve our vision of a Europe whole, free and at peace, within a safe and strong Euro-Atlantic community.

With a strong and effective deterrence, NATO has maintained our security since the Second World War. With a modern, 21ˢᵗ century deterrence posture, it will maintain that security for many more decades to come.

http://www.nato.int/cps/en/natohq/opinions_124808.htm

Ambassador Alexander Vershbow was the Deputy Secretary General of NATO from February 2012 to October 2016. He received a B.A. in Russian and East European Studies from Yale University (1974) and a Master's Degree in International Relations and Certificate of the Russian Institute from Columbia University (1976).

General Thomas A. Middendorp, NLD Army

Address on the Occasion of the
International Press Conference in Eygelshoven
on 15 December 2016

Excellencies, ladies and gentlemen, welcome here in Eygelshoven, in southern Limburg. Or – as I should now say: Welcome to the Army Prepositioned Stocks Eygelshoven.

Because as of today, 1,600 US armored vehicles will be stored, and serviced, at this site. To be able to defend NATO territory, whenever necessary. It is why I would like to thank Lieutenant General Ben Hodges, the Commanding General of the US Army Europe, and all his colleagues from all the US services, for their continuous commitment and support.

Europe, after all, is no longer just an exporter of security. Today, we also face instability close to home. Look at the military activities of Russia. The European Union's biggest neighbour. In 2014, Russia illegally annexed Crimea, and thereby violated Ukraine's territorial integrity. Russia also destabilized the eastern part of Ukraine, and is regularly conducting large-scale military exercises, involving tens of thousands of troops, right

on the borders of our NATO territory. Without giving any notification or warning in advance.

Obviously, these sudden exercises not only violate international agreements, they also increase the risks of misunderstandings and accidents. As you can imagine, these exercises, for instance, are very threatening for our eastern Allies. Like Poland, Estonia, Latvia, and Lithuania. When visiting the Baltic states, I experienced this for myself. Standing there, near the Russian border, you could feel the tense atmosphere. So I understand why these countries – and their people – feel concerned. And why they fear that Russia could also interfere in their countries.

Let's not forget they saw what happened in Ukraine, and they have a long history with Russia. But the Russian military activities are not just a concern for our eastern Allies. They are a concern for all of us.

Our NATO Alliance, after all, is built on a firm foundation of solidarity and mutual assistance. Article 5 is crystal clear about that. 'An attack on one, is an attack on all.' It means we always need to safeguard our common security. To stand side by side.

This is also why NATO is establishing an enhanced forward presence in the eastern region of the Alliance, why my men and women, together with other allied military personnel, are training with our eastern partners, why we continue to provide our fighter jets to patrol the airspace above the Baltic countries, why we contribute to the VJTF, NATO's rapid reaction force, and why we now support the United States, our close Ally, with this forward storage site.

Because we want to make sure, we are taking proportional and measured steps to defend our Alliance when needed. Because we want to make sure we are sending a clear signal to Russia that we will not accept any

violation of NATO's territorial integrity. Because we want to make sure that we are showing that we will not desert each other when the going gets tough.

Never.

And let me be absolutely clear: The last thing we want is to signal irreversible hostility towards Russia. Towards its people.

We do not want to risk escalation, or present a danger to another nation's security. What we do want is to send a message of serious commitment and one of reassurance to all NATO members.

• To maintain our freedom and security.
• To prevent catastrophe.
• And keep Europe secure in a less secure world.

Thank you.

https://www.defensie.nl/downloads/toespraken/2016/12/15/toespraak-generaal-middendorp-eygelshoven

General Thomas A. 'Tom' Middendorp is a Royal Netherlands Army General. He is the Chief of Defence of the Armed forces of the Netherlands since 28 June 2012. He previously served as the Commander of Task Force Uruzgan part of the International Security Assistance Force from 2 February 2009 until 3 August 2009.

Hybrid Impact on the Air Domain

IV

Brigadier General Luigi Del Bene, ITA Air Force

Context

In the context of hybrid threats, up to now Air Power has been employed mainly in order to ensure adequate support to land forces to counter hybrid threats on the ground. However, it appears increasingly necessary to evolve this paradigm to a new approach that considers Air Power a guarantor of support against hybrid threats coming from the air. Those threats take advantage of modern technologies for purposes of espionage, sabotage, data collection, attacks on people or infrastructure, or the achievement of media effects.

In particular, one of the main challenges of hybrid warfare is the potential malicious use of technologies such as remotely piloted platforms, in both military operations and in peace time, in the opening moves of extremely complex scenarios.
Knowing how complex this challenge is, it is essential to synergize all intergovernmental capabilities and skills available to maintain the necessary Situational Awareness (SA) both at the tactical level, in terms of surveillance, and in a more general way through information activities that enable the creation of higher and better decision-making conditions.

Definition

'Hybrid Warfare is underpinned by comprehensive strategies based on a broad, complex, adaptive and often highly integrated combination of conventional and unconventional means, overt and covert activities, by military, paramilitary, irregular and civilian actors, which aim to achieve (geo) political and strategic objectives.'[1]

In hybrid warfare, there is usually an emphasis on exploiting the vulnerabilities of the target and on generating ambiguity to hinder decision-making processes.

Because countering hybrid threats relates to national security and defence, the primary responsibility to counter these threats lies with NATO member states, as most national vulnerabilities are country-specific.

This evolving threat requires a change of mind-set from the ones commonly used in the post-Cold War era to a more dynamic approach, allowing nations to be able to counter hybrid threats rapidly and flexibly.

The Military Problem in the Evolving Threat Scenario

The air domain is being increasingly exploited to perpetrate illicit and terrorist attacks, posing a significant threat to Homeland Security and National Defense.

A broad range of flying devices are emerging as potential means to cause damage to human life and critical infrastructure or to produce significant cognitive effects, thus increasing the public's sense of vulnerability. Commercial-off-the-shelf (COTS) technologies have greatly improved non-state actors' aerial warfare capabilities, broadening the threat spectrum with so called Low, Slow, Small (LSS) vehicles. The use of unmanned and manned LSS (e.g. balloons, ultralight aircraft and gliders) could expand the definition of, and employment against, what we already know as 'Renegades'.

The proliferation of Weapons of Mass Destruction, combined with increasingly available and inexpensive delivery methods provided by these new low-cost technologies, will increase the risk of malicious attacks to territory, population and critical infrastructures from the air.

Of note, cyberspace is a dimension that could be used to enable the hybrid threat evolution, especially considering the operational relevance of the network enabled approach in today's operations. A particular aspect of today's hybrid threat, which uses highly innovative technologies, is its invasiveness in national systems, even in peacetime. In this sense both the use of cyber capabilities and LSS may impact national interests without notice and under complete anonymity. An adaptive and faceless adversary, whose asymmetric aerial/digital capabilities may allow him to conduct hard to detect violations of national sovereignty, is the nature of the problem. Against this backdrop, airmen should investigate how Air Power can be adapted to counter such an array of threats, both at home and abroad.

The solution must consider the integration of key capabilities necessary to effectively defend national territory, domestic populations, and critical infrastructure from aerial asymmetric threats by combining Homeland Air Defense (HAD) with Homeland Security (HLS) resources. A successful HAD requires the ability to sense[2] adversary activities, understand their potential impact and make timely and appropriate decisions to neutralize or mitigate adversary effects.

Gaps

Conceptual Development

The NATO Military Committee (MC) is beginning work on a redraft of MC400 (MC Directive for Military Implementation of the Alliance's Strategic

Concept) in lieu of a new Strategic Concept. Two fundamental reasons undergird this approach:

- The strategic environment has fundamentally changed since 2010.
- The new US Administration will need to buy into NATO policies and NATO may need to re-adjust somewhat to possible changes in US support.

In this framework, NATO continues to place a greater focus on Air Power. For example, air missions are frequently the cutting edge of NATO responses for operations in the East and South, unmanned technologies are increasingly being used in all arenas and Joint Intelligence, Surveillance and Reconnaissance (JISR) and air and space technologies continue to be critical to feed the air picture for air operations. A new Joint Air Power Strategy is also under development in order to influence capability planning in NATO.

In this context, especially after Russia's invasion of Ukraine, NATO is conducting detailed studies on hybrid warfare aimed at developing new strategies favoring an enhanced resilience against hybrid war. From this standpoint, baseline national resilience requirements and guidelines have been developed for Allies at a national level. Undoubtedly, invasive effects on Homeland Security and the National Defense system, generated by hybrid threats in the Air Domain, require increased coordination and harmonization at a multinational level (NATO/EU cooperation) to achieve political, industrial/technological and procedural common results.

More specifically, a closer interaction between EU and NATO would enable both organizations to better prepare and respond effectively in a complementary and mutually supporting manner. This proposed interaction would be based on the principle of inclusiveness, while respecting each organization's decision-making autonomy and data protection rules.

EU Member States and NATO Allies alike expect their respective organizations to support them, and to act swiftly, decisively and in a coordinated manner in the event of a crisis (or ideally to prevent the crisis from happening).

A number of areas for closer EU-NATO cooperation and coordination have been identified, including situational awareness, strategic communications, cyber-security and crisis prevention/response.

Hybrid threats represent a challenge not only for NATO but also for other major partner organizations including the UN and OSCE. An effective response calls for dialogue and coordination between organizations at both political and operational levels.

Legal Framework

NATO Posture: Air Policing and Air Defense

The NATO Integrated Defense System currently represents an effective reactive and defensive posture to traditional threats. However, the manifestation of the hybrid threat, potentially through civilian aerial platforms (e.g. Renegade) requires shared political agreements among European Nations to counteract threats in these unique scenarios.

A new, shared regulatory framework across the EU would represent a more coordinated approach that would allow entities to overcome current restrictions imposed by NATO Air Policing Rules of Engagement (ROE) for air intervention against civilian aircraft or against a hybrid threat. Some nations share bilateral agreements to address such scenarios, in order to better coordinate and to implement mutual procedures. Normally, though, procedures are diverse from nation to nation when, for example, a Renegade has to be managed.

In this case, the management of a Renegade falls under national responsibility and command and control is transferred from NATO to the respective nation.

To date, NATO postures for Air Policing and/or Air Defense are quite powerless against these kinds of threats, and normal escalation and de-escalation mechanisms are inhibited. This paradigm becomes even more complex in the case of use of small, remotely piloted platforms, where inhibited identification, to include the lack of a human onboard (attribution problem), can make intervention even harder. Obviously, as we move away from homeland into various theaters, complexity tends to fade away as ROE grow in responsiveness to mitigate risks of warlike situations. That is why it is paramount that future airspace regulations should always consider potential aerial hybrid threats, as well as a cyber menace, that could hinder security in third dimension.

Consequence Management

Another important aspect is consequence management following the identification and engagement (kinetic or non-kinetic) of a hybrid attacker.
There is a potential for high complexity in identifying liability when damage to people or property is created due to anti-hybrid threat actions. This aspect is of great importance, especially considering that the malicious use of LSS would be advantageous in densely attended public gatherings and in urban environments. Moreover, the lack of a consolidated legal approach and a specific legal protection indirectly represents a challenge to the concept of deterrence by a nation.

Another possible area of high complexity is represented by 'thin lines' of responsibility among several governmental agencies and departments.

The effort needed for whole of government approach to problem solving can be quite high and not easy to address, especially when dealing with homeland security situations.

Therefore, the final solution to the military problem should be based on a set of materiel and non-materiel capabilities that, while extending current Air Defense system capabilities by enabling detection and engagement, would provide new policies and juridical frameworks to broaden its responsibilities and improve cooperation/integration with joint and inter-agency communities.

From a non-materiel standpoint, the solution should address the requirement for policy changes by highlighting the need for an overarching legal framework, to legitimize the Area Defense Commander (ADC) for the protection of domestic population, critical infrastructure and national interests, against all terrorist, illegal, hazardous and dangerous acts in the air domain.

Deterrence

The Warsaw summit listed up to 'ten developments' from the implementation of the Readiness Action Plan aimed to ensure *deterrence,* with one of them focused on a counter-hybrid warfare strategy. NATO recognizes that national resilience and the nations' prevention and denial of threats represent a strong deterrent in the hybrid arena, given previously understood methods of deterrence are less effective against terrorists and criminals. While resilience is primarily a national responsibility, NATO support can be useful to asses and facilitate national progress in these areas.

The awareness that nuclear and missile threats could pose a high level of risk to the Alliance has led NATO to progressively structure capabilities to provide a sustainable integrated response in these threat areas.

Furthermore, policies, legal adjustments and industrial cooperation have generated a credible collective defence apparatus in NATO and, therefore, an appropriate deterrence level.

The question is now: *How can NATO and NATO nations better deter possible hybrid aerial threats? Is the NATO Integrated Air and Missile Defense (NATINAMDS) strategic pillar still relevant and effective in this kind of scenario? How can NATO nations standardize procedures in order to fully empower Air Power to react to those threats?*

In this sense there is a role for NATO to coordinate and to establish a new paradigm that transforms the traditional concept of AD by introducing a suitable level of flexibility in managing the spectrum of new aerial hybrid threats.

Technological Challenges and Gaps

One of the most noticeable hybrid warfare gaps is inherent to technology. Concerning these threats, the air domain can be threatened in the areas below:

• *Effects on air and space enablers:*
  Hybrid threats could target space infrastructure, thereby causing multisectorial consequences.
  Satellite communications are key assets for crisis management, disaster response, police, border and coastal surveillance: they are the backbone of large-scale infrastructure, such as transport, space or Remotely Piloted Aircraft (RPA).
  Relating to the air domain, space enablers today provide a range of services and functions (satellite communication, navigation position/time, remote sensing and ISR/weather) to support operations. A partial or total degradation of these services could have a substantial impact on the ability to conduct military air operations and activities.

- *Effects on critical infrastructure (networks/services) to support the Air Domain:*
  By way of example, there are studies focused on the identification of cyber-attacks that can impact a nation's Air Traffic Management (ATM) system.
  In this respect, there is a tendency to make classes of information related to flight activity available to a wide spectrum of stakeholders (civil and military), in order to manage an ever more global and harmonized approach to the 'resource airspace'. As a result this could be a particularly critical node. The processing of this information through networks, and the progressive increase of web based/cloud solutions, could represent a key vulnerability to cyber threats.

  This aspect is highly significant considering that the surveillance and identification processes carried out by the actual AD systems are heavily dependent on data fusion processes provided by the ATM sector.
  Although the cyber component represents only one aspect of 'hybrid', in these two macro reference areas, NATO is steering towards a (partial) solution through a greater boost to cyber resilience of individual nations[3].

- *Effect on the responsibility to ensure the sovereignty of national airspace during peacetime:*
  The level of physical threat, starting from today's single Renegade, can scale up to the use of LSS RPAS, eventually in swarms. The technological gap consists of basic enabling functions that should contribute to building a reference model to cope with LSS. Therefore, it is necessary to look for a 'system of systems' approach that, using a *joint and interagency* perspective, will focus on the detection, assessment and engagement phases, including:
  - LSS multi-layered JISR fully integrated into a C2 operational architecture.
  - LSS detection capability provided by existing or new sensors with specific signal processing that is able to overcome current limits in terms of low Radar Cross Section (RCS).
  - LSS multi-sensor fusion and tracking capability provided by ad-hoc sensors. This relates to the ability to handle large amounts of data and to also enable non-traditional ISR (NTISR) tools.

- Fusion Post (FP) and HAD C2 tracking functions might also require implementation of threat prediction models.
- LSS Engagement tools (kinetic and less than kinetic options).

Besides the opportunity to address the technological gaps in the development and preparation of specific actuators belonging to the aforementioned steps, it seems appropriate to stress the importance of providing funding for the testing and validation of new technologies, through a wide use of risk reduction tools and technological experimentation.

Today's technology can support, through appropriate data fusion processes, the appropriate management of large amounts of data, through a wide use of intelligence, to mitigate and prevent the use of hybrid threats.

Conclusions

Alongside a broad definition of 'hybrid warfare', we have seen how new small, low and slow threats in the aerial dimension, perhaps coupled with a cyberspace menace, could endanger and challenge the concept of traditional homeland security.

NATO is spending little effort on reinforcing IAMD capabilities, policies and ROE as they represent a success story in terms of deterrence and defence pillars against peer and near-peer opponents. Nevertheless, hybrid aerial threats (both manned and unmanned) can play in a rather grey turf, where NATO has little or no freedom of maneuver, and where responsibilities are in the sole hands of member nations.

Disparities in handling such scenarios can weaken national resilience and the capacity of consequence management efforts resulting from a hybrid attack. Effects should not only be considered in the physical domain, but also in the cognitive and morale domains of NATO member nations.

NATO therefore must consider these issues in the upcoming Joint Air Power Strategy, since air power can play a rejuvenated and pivotal role in such a paradigm.

Some issues stand as challenges:
- The comprehensive, multi-dimensional and interagency nature of hybrid warfare scenarios and how to coordinate consequence management.
- Technology solutions for surveillance and engagement.
- How to fuse large amounts of data from NTISR sources.
- How to harmonize procedures and develop a common vision.
- Legal frameworks and ROE evolution.
- Multinational cooperation.
- The role of NATO as coordinator, facilitator and procedural/doctrinal benchmark.

Endnotes

1. Source: PO(2015)0673, 'Strategy on NATO's role in countering Hybrid Warfare'.
2. The ability to monitor, understand, decide and execute represents the cornerstone of success.
3. Many critical infrastructures rely on exact timing information to synchronize their networks (e.g. telecommunication) or timestamp transactions (e.g. financial markets). The dependency on a single Global Navigation Satellite System time synchronization signal does not offer the resilience required to counter hybrid threats. Galileo, the European global navigation satellite system, would offer a second reliable timing source.

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Deterrence in the 21st Century

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The Nature of Deterrence

SI VIS PACEM, PARA BELLUM – If you want peace, prepare for war. This ancient adage expresses an idea at the heart of the concept of deterrence. It is also a prime example of what the strategic writer Edward Luttwak calls the paradoxical nature of strategy, namely that much of strategic thought, theory and practice is counter-intuitive. Put simply, only arms can fight a war. Yet arms are also required to prevent war. This is because of deterrence.

Deterrence is especially 'paradoxical' which is why it is so often misunderstood or dismissed. It also, as Lawrence Freedman has observed, often performs better in practice than in theory despite, or perhaps because of, the complexity of much deterrence theory, a good deal of which is derived from the nuclear era. And if that was not complicated enough, it is also the case that deterrence can rarely be 'proved', in that when it is successful nothing happens. *Why* it didn't happen often lies in the realm of counter-

factual speculation and can rarely be quantified. What is clear, however, is when deterrence fails for then the unwanted outcome does occur.

Deterrence seeks to dissuade one party from undertaking actions that another party deems unacceptable. By removing a cause for war deterrence is therefore a powerful tool of conflict prevention, as well as a means of limiting the scope and nature of existing conflict. It can also serve to reinforce existing norms of behaviour, for example against the use of chemical weapons, by holding out the prospect of baleful consequences if such norms are broken. Deterrence, fundamentally, is about containment – containing potential adversaries and containing security problems.

Since the advent of nuclear weapons, deterrence has most commonly been associated with threats of retaliation – *deterrence by punishment* in the jargon. This is because of the impossibly high standards required of a worthwhile defence in the face of threats that are nuclear, numerous and sophisticated. During the Cold War nuclear stand-off even a 95 % effective defence, if such could be devised, was of little point as 5 % of a lot was still a lot. But a promise of retaliation is not the only deterrence mechanism. *Deterrence by denial* offers the prospect of successful resistance to unwanted acts, to defeat them on their own terms and therefore remove the incentive to undertake them in the first place. Both forms of deterrence predate the nuclear age, are not mutually exclusive and have continuing relevance. A comprehensive deterrence posture will combine both, promising both to defeat aggression and to offer the prospect of subsequent consequences. Those consequences need not necessarily be military.

The Functioning of Deterrence

Deterrence is a relationship between the *deterrer* and the *deteree*. Like all relationships, it is critically reliant on effective communication. The deterrer

must make clear what it is that is to be avoided and the likely consequences if it is not. The deteree has to understand and act upon that message. Communication may include, but need not comprise, direct conversation. Signalling and perceptions are as important as first-hand communication. As such, deterrence is a deeply human, subjective activity subject to the psychology of perceptions, values, determination, assumptions, motivations and decision-making. As Keith Payne puts it, deterrence is an 'uncertain art, not a precise science'.

A deterrence posture can be both general and specific. General deterrence is an expression of a state's reputation and capability. A former MoD Chief Scientific Advisor, Sir Hermann Bondi, once observed that a nuclear-armed state is one that no one can afford to make desperate. That is general deterrence. The strategic maxim 'don't invade Russia' pre-dates the nuclear age and is another expression of general deterrence, as Russia (with or without nuclear weapons) is a state not to be messed with.

Specific or immediate deterrence is scenario-dependent. It relates to a particular actor and a particular act that one wishes to deter – for example, Syrian use of chemical weapons or an Argentine invasion of the Falkland Islands. The promised response, whether of the punishment and/or denial variety, needs to be tailored to the specific circumstances and communicated accordingly. This can suggest 'red lines' not to be crossed, but explicit and precise red lines can be counter-productive. They can suggest a range of undesirable actions which, because they stop short of the line, could be perceived as tolerable. And if the red line *is* crossed a response is required if deterrent threats are not to become incredible even if, under the circumstances, the deteree might not wish, or might not be able, to respond as previously promised. The recent crisis over the use of chemical weapons in Syria is a case in point. 'Studied ambiguity', a hallmark of the UK's nuclear deterrence posture, has much to commend it. Equally, however, the deteree must understand the threat proffered and the action to be avoided. This is a delicate and ever-shifting balance.

Deterrence is critically about credibility. The threats and promises on which deterrence is based must be believable and believed. This is a function of capability, will and communication, *as understood by the deteree,* for it is the other party who decides whether or not to be deterred. Proportionality is key as disproportionate threats may be not just illegal but also unbelievable. And it is important not to over-threaten as doing so will generate the very hostility that deterrence is meant to counter.

A critical problem is self-deterrence. Why would you want to deter yourself? You don't, but that can be the effect of a myriad of factors not least issues of proportionality, respective values, legal constraints and the extent of vital interests at stake. In the 1990s the Serbian leader Slobodan Milošević is reputed to have said 'I am prepared to walk on bodies, but the West is not. That is why I shall win.' He was wrong about winning, but right to speculate that the Western powers could be self-deterred, in that they had less at stake and were not prepared to undertake certain actions – indeed, arguably they showed a greater concern for Serbia's civilian population than did the Serbian leader himself. The same observation could be made about Saddam Hussein or Muammar Gaddafi.

Much of the problem of self-deterrence arises because of asymmetries of interest. Where one state has vital interests at stake, perhaps regime survival, but the other does not there will also be an asymmetry of will and purpose. Deterring actions that are objectionable but stop short of threatening national survival needs to be more nuanced than when the stakes are higher. And a perception that you will be self-deterred, whether accurate or not, will itself undermine deterrence and the deteree be tempted to call your bluff. International crises are made of these sorts of misperceptions and miscalculations.

Deterrence is often, though not always, a two-way relationship. Others may seek to deter us as we seek to deter them. The Cold War nuclear rivalry was an

obvious and relatively simple example of this mutuality. More often, while two parties do seek to deter each other, they try to deter different things, for different reasons and in different ways. For example, The United States wants to deter Iran from developing nuclear weapons, attacking Israel or threatening its Gulf Arab allies. Iran wants to deter the US from intervening in the region. Each seeks to limit the other's freedom of action whilst preserving its own.

Because being deterred limits one's freedom of action no state will willing acquiesce in its own deterrence, except perhaps in the important instance of mutual nuclear deterrence between 'peer competitors'. So 'counter-deterrence' is an important requirement for both strategy formulation and force planning. For example, Western powers have little option but to be deterred by the Russian nuclear arsenal when vital interests collide. They will not want to be similarly deterred by the embryonic nuclear capabilities of North Korea or Iran. So a mix of non-proliferation measures and active defences is used to prevent or retard these capabilities and to negate them if they are nonetheless acquired.

The prevention of conflict and the deterrence of threats to national interests are the essential tasks of military forces. In the UK of late, however, this has tended to be obscured by the country being strategically 'fixed' by operations in Iraq, Afghanistan and elsewhere such as the Persian Gulf, the Horn of Africa and the South Atlantic. National strategy and force planning have been focussed on the 'here and now' commitments leaving little capacity for contingency and wider deterrence. And deterrence requires the demonstration of available and responsive capability. Armed intervention does just that, but once intervention becomes semi-permanent the opposite holds true as enduring commitments reduce responsiveness and flexibility. The UK's post-Afghanistan 'return to contingency' restores a degree of responsiveness that is the necessary underpinning of deterrence and conflict prevention. Their forward but non-territorial presence makes maritime forces of especial utility in this regard.

Nuclear Deterrence

Deterrence is about a good deal more than just nuclear deterrence, but the latter retains a central place in the theory and practice of deterrence. It might be noted in passing that nuclear deterrence can be the deterrence *of* nuclear threats or the use of nuclear weapons *for* deterrent effect. Intimately linked though they are, they are not synonymous. Nuclear use can, conceptually, be deterred by other means rather than, or in conjunction with, threats of nuclear retaliation. And nuclear threats can deter more than just other nuclear weapons. The presence of nuclear weapons certainly exercises a cautionary effect all round and their general war-prevention role has long been a central pillar of NATO's nuclear doctrine. It is, critically, nuclear weapons that have made major war between the Great Powers virtually unthinkable. Nuclear abolition, were it ever to be possible, might not be an unmitigated good.

It is sometimes asserted that nuclear weapons are purely 'political' and that they could never be used. This is a substantial fallacy in two senses. First, as the late Sir Michael Quinlan pointed out, 'Weapons deter by the possibility of their use, and by no other route.' An 'unusable' weapon, nuclear or not, will deter no one. That is why, however remote the possibility of their use, it is necessary for nuclear states to have doctrines and plans for their employment. To rely solely on the existential awfulness of nuclear weapons is insufficient as the party most likely to be thus deterred is oneself. Second, nuclear weapons are actually 'used' everyday in performing their core deterrent function.

Two observations about Continuous-at-Sea Deterrence (CASD) may be appropriate here. First, because deterrence is all about signalling and credibility abandonment of CASD would send a powerful signal that while the UK is not ready to abandon nuclear weapons it is not really serious about threatening their use – remembering that it is others'

perceptions, not ours, that ultimately matter. And second, maintenance of CASD provides an assured retaliatory capability in times of crisis, which is when its possession becomes important. In the absence of CASD in order to establish a credible deterrence posture it is necessary to receive and correctly interpret indicators and warnings of a deteriorating situation, and then to take the necessary political decision to deploy in time (assuming that time is available). This necessarily sends an escalatory signal at just the time when the government of the day might be seeking to do the opposite and de-escalate the situation. The relatively modest financial savings to be had from abandoning CASD make the serious compromise of the UK's deterrent posture and capability a very poor bargain.

Non-Deterrable Actors

A frequent criticism of deterrence is that some threats are non-deterrable. An irrational actor, it is asserted, cannot be deterred. However, instances of genuinely irrational ('mad') actors are thankfully rare. It is rather that not all rationalities are the same. It all depends on an individual's, a group's or a state's underlying assumptions, perceptions, beliefs and values. A deterrence posture directed at a potential adversary must reflect these. It is essential to understand others' values and motivations and not simply assume mirror-images of our own. The concept of 'tailored deterrence' is emerging in the United States to take account of these differences. And even this only applies to retaliatory deterrence. An ability to counter potential threats (defeat them) is just as important a deterrence tool. It establishes a degree of physical control lacking when one relies solely on a threat of retailiation.

Non-state actors are a related difficulty. In the event of anonymous attack by terrorist means, against whom should one retaliate? In this instance

effective defence is critical to neutralize or deter the threat. But few threats are genuinely non-state and non-territorial. State-sponsorship or at the very least state acquiescence in non-state action makes accountability more difficult to establish, but not impossible. The relationships between Al Qaeda and the Taliban in 2001 or between Hezbollah and Iran today are cases in point.

Ballistic Missile Defence

The role of Ballistic Missile Defence (BMD)[1] has become both prominent and controversial. The Cold War has unfortunately left a legacy of doctrines and assumptions that no longer fully hold true. It remains the case that, as observed earlier, that in the face of substantial nuclear arsenals (Russian and, increasingly, Chinese), BMD has little to offer and nor can it undermine the ability of a serious nuclear power to devastate whomsoever it might choose. In the case of small, emergent nuclear powers, however, BMD holds great promise. The ballistic delivery capabilities of recent and emergent nuclear states like North Korea, Pakistan and Iran are, though effective, based on very old rocket technology and are limited in numbers. And all actual use of ballistic missiles has, to date, involved non-nuclear payloads. Modern BMD systems, especially in the areas of sensing, computing and discrimination, offer the prospect of effective and worthwhile defence against threats that are modest in both numbers and sophistication. This is, crucially, a deterrence function as the ability to counter a missile strike reduces the utility and attraction of undertaking, or threatening, an attack in the first place.

There is also an important non-proliferation aspect to BMD. Missile defences substantially raise the bar, technological and financial, of effective nuclear/ballistic 'entry', while by denying ballistic missiles a 'free-ride' it reduces their attractiveness for strategic leverage.

Following NATO's 2010 Lisbon summit, the Alliance has placed BMD at the heart of its core Article 5 mission. But NATO has yet to address the looming problem of nuclear burden-sharing as the highly symbolic Dual-Capable Aircraft (DCA) approach the ends of their lives. A new generation of DCA looks highly unlikely on political and financial grounds. Done cleverly, BMD could provide an alternative means of burden-sharing in the nuclear arena, adopting a Denial rather than a Punishment deterrent mechanism.

Summary

Deterrence remains of fundamental importance in states' external security relations. It is also the basic purpose of a country's armed forces. Deterrence, when successful, prevents security problems arising or contains them when they cannot be prevented. There is an essential nuclear dimension to deterrence but it is not a purely nuclear matter. As the UK returns to 'contingency' deterrence needs to be at the heart of strategy formulation and force planning in order to optimize its contribution to the defence of the UK's vital interests.

Endnotes

1. For a fuller discussion of the role of missile defences, see the author's 'The Strategy of Missile Defence: Defence, Deterrence and Diplomacy', *RUSI Journal* Jun./Jul. 2011.

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NATO: Conventional Deterrence Is the New Black

VI

Henrik Ø. Breitenbauch

After Ukraine, conventional deterrence will be the main purpose of NATO's armed forces. NATO contingency planning, operational training and defence planning will all revolve around conventional deterrence. Russia's ready use of force in Ukraine, Georgia and beyond shows that its non-NATO neighbours are very much at risk for military intervention. President Putin challenges the post-Cold War order by breaking the rules underlying its stability. His means include the use of covert agents to stage unrest and create excuses for Russia to intervene in the supposed name of Russian-speaking minorities. Could Moscow apply the same measures in a NATO country with a significant Russian minority population, such as Latvia? This question should keep NATO leaders up at night and by the morning they should realize that the solution is conventional deterrence.

Why conventional deterrence? A superficial structural balance of power analysis suggests that Russia will be deterred by NATO's nuclear arsenal and will therefore not launch Ukraine-style operations against NATO members. But NATO never relied on nuclear deterrence alone. For deterrence to work, a convincing part of it must exist in time and in place. Simply put, as the ability to project power declines with distance, so does the ability to deter. An American carrier group in the Pacific is not a carrier

group in the Baltic or Black Seas. Some – credible – conventional deterrence is necessary in the region. Russia is less likely to overreach if its forces cannot cross the border unharmed.

When it comes to risk perceptions, geography matters and the relevant comparison may not be between Russia's defence budget (around USD 68 billion according to the *Military Balance)* and the US budget (around 600 billion), but between Russia and the aggregate defence budgets of Estonia, Latvia and Lithuania (around 1.2 billion). While Russia is unlikely to commit the bulk of its armed forces in an incursion against a Baltic state, Russia's conventional advantage in the region is still decisive. Only conventional deterrence can make sure that Russian decision-makers do not come to think that they could invade NATO territory without major military costs.

The credibility of deterrence rests on the actual ability to interdict and punish any challenger. The insurance premium has to be paid for insurance to work, and the lock on the door has to be locked to be effective. NATO's contingency plans for the Baltic countries and beyond should be backed up by a corresponding change in the Level of Ambition (NATO's agreed force posture) as well as in extended training and exercises and a repurposing of the NATO Response Force.

In order to size and evaluate these initiatives, NATO and the wider security and defense community would do well to rediscover the tenets of conventional deterrence. In the 1980s, the strategic debate was all about the necessary force-to-space ratios on German soil. Given Russia's recent actions, these debates will be revived in a more complicated form because of the new geography of NATO, which now includes the Baltic and Black Seas.

But conventional deterrence is not straightforward, either in practice or in theory. Some questions are linear: How to size capabilities for deterrence? How much is enough? Others are non-linear: What about political feedback

loops? Can wrongly timed or sized deterrence or even the contemplation of deterrence lead to counter-reactions from Russia? Will the deployment or projected deployment of force meant to deter aggravate rather than mitigate the likelihood of a conventional conflict across a NATO border? It is important to know whether a given amount of military capability actually deters attacks – and which factors may affect it and how. Are these factors limited to the quality and quantity of military capacities? Or do they also include perceptions and psychology among the responsible leaders? The precise meanings of general, nuclear and conventional deterrence, the relationship between the different parts, and the question of predictability have all been the subjects of extensive academic, strategic and political discussions since the aftermath of Hiroshima. Developed by Bernard Brodie, Herman Kahn and more early in the Cold War, the deterrence and conventional deterrence literature blossomed in the 1980s with John J. Mearsheimer and Richard K. Betts.

Conventional deterrence in particular ties together military and political strategy. The Cold War debate about deterrence was not abstract or academic, but in fact deeply political, in ways that should be instructive to policymakers today. In Europe, the shift from the doctrine of 'massive retaliation' to 'flexible response' was met with serious reservations exactly because it was tied to the balance between nuclear and conventional deterrence and because it was seen to increase the risk of conventional conflict. 'Massive retaliation' was based on a preference for nuclear over conventional deterrence and on the premise (or threat) that any aggression would be met with an overwhelming nuclear response. 'Flexible response', in contrast, emphasized deterrence at all levels, including the conventional. By introducing more steps on the escalation ladder it would reduce the risk of an unwanted and automatic global escalation of a conflict.

Yet critics pointed out that having more steps on the escalation ladder also increased the risk that the ladder would actually be climbed. While

mutual nuclear deterrence between the US and the USSR. would avert a nuclear Armageddon, a 'limited' nuclear war in Europe or a conventional war, limited geographically to Europe could be made possible in this way. On the other hand, they argued, if Soviet and American leaders expected an automatic escalation to nuclear weapons, then Europe's territory would be less likely to become the scene of a proxy conflict between the two superpowers. The transition from 'massive retaliation' to 'flexible response' was therefore controversial. In the same vein, military strategy options for NATO in Germany were limited by political concerns to forward defence as neither defence in depth nor offensive strategies were found politically palatable. Whatever the potential military strategic merits of defence in depth, political leaders could not accept the prospect of war across their territory. Inside NATO, conventional deterrence was therefore both a necessary part of the overall force mix and a politically contested mechanism.

In 2014 and beyond, conventional deterrence will similarly be bound and shaped as much by political as by military concerns. How will contingency planning and concomitant military preparations address the new political and military geography of the Alliance, especially in the Baltics? Will the Alliance now plan for significant, permanently deployed forces, or for residual forces and quick response forces? Does the Baltic space call for new amphibious capabilities? Will there be political consensus to develop and manage the implementation of such plans? Will NATO and its member nations be able to comprehend, communicate and coordinate such a military move within a larger grand strategy framework that both deters and engages with Russia in the long term? Will NATO and EU nations be able to coordinate such a framework? No matter how the broader strategy plays out, issues of conventional deterrence are sure to be at the heart of the discussions – both in terms of the theory and practice, and the political and military strategy, of conventional deterrence.

For the United States, the centrality of conventional deterrence means a triple challenge. The first part is getting conventional deterrence right, through US and Allied armed forces, in a way that fits with a (still to come) broader strategic response to Russia. This is difficult in itself but also compounded by the second part: the transatlantic relationship. As before, conventional deterrence in Europe will be as much about the political level – dialogues as well as behind-the-scenes arm-twisting with Germany and all the other nations – as it will be about the direct military implementation. Last but certainly not least, conventional deterrence as a main focus in NATO means that America's global alliance relationships are at stake. Taipei and Tokyo will watch closely how the US and NATO deals with Tallinn, Riga, and Vilnius. As the American security establishment returns to the intricacies of conventional deterrence it will also remember the painful predicaments of making policy for the sake of credibility while having to solve the problems at hand.

https://warontherocks.com/2014/04/nato-conventional-deterrence-is-the-new-black/

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Strengthening Deterrence in the Black Sea Region

VII

Wojciech Lorenz

R ussia's development of its offensive capabilities in the Black Sea region could pose a threat to NATO. Yet Bulgaria, Romania and Turkey each have different perceptions of the threat, making it difficult for the Alliance to strengthen deterrence policy in the regional dimension. Although NATO is gradually adjusting its forces in response to the new strategic situation, the credibility of deterrence depends on the rotational presence of US troops.

In response to the annexation of Crimea and Russia's aggressive actions on NATO's Eastern Flank, the Alliance is strengthening its deterrence abilities. However, NATO's policy objective is not to balance Russian regional military superiority, but to deter Moscow from aggression by convincing the Kremlin that this would be met with a swift and decisive response. In the Baltic Sea region, such a response would be ensured by the presence of the multinational battalion battle groups (approximately 1,000 soldiers each), which should achieve full operational readiness in the middle of 2017. In the Black Sea region, a similar mechanism is being created on the basis of the NATO naval presence.

The Development of Russia's Offensive Capabilities

According to the Russian naval doctrine last updated in 2015, the Black Sea is of strategic importance, and policy priority is to stop NATO enlargement and the deployment of forces and infrastructure near the Russian borders. The Russian authorities have warned that the US presence in the region is destabilizing. In their view, the SM3 missile launcher base in Deveselu, Romania, which has been fully operational since May 2016 and which is the American contribution to the NATO missile defence system, is a threat to Russia and may become the target of a pre-emptive attack. Russia has already demonstrated its readiness to use military force against countries in the region that remain outside NATO and the EU. The Black Sea Fleet supported offensive operations against Georgia (2008), the annexation of Crimea (2014), and Russian military involvement in the conflict in eastern Ukraine (ongoing).

Since the annexation of Crimea, Russia has expanded its offensive potential in the Black Sea region. The Black Sea Fleet has the capacity to carry out amphibious assault operations involving approximately 2,000 soldiers and dozens of combat vehicles. It also announced that a new airborne brigade will be formed (beginning in 2017), which may increase the number of troops able to participate in offensive operations to approximately 5,000. Under the pretext of the Kavkaz 2016 manoeuvres, Russia has deployed its advanced long-range S-400 air and missile defence system to the annexed Crimea. In 2016, the Black Sea Fleet was also strengthened with eight multipurpose Su-30SM aircraft (and in 2017, the fleet is set to receive additional aircraft), whose missions may include escorting Tu-22M Backfire bombers armed with cruise missiles to attack large ships such as aircraft carriers. The offensive potential of the Black Sea Fleet is reinforced by Varshavianka class submarines and Buyan M corvettes armed with Kalibr NK nuclear capable cruise missiles with a range of 300 to 2,600 km (depending on the version). In 2015 and 2016 the ships demonstrated long-range precision abilities with strikes against targets in Syria.

Such potential and existing capabilities could allow Russia to undermine the territorial integrity of a NATO member and effectively prevent Allied ships and aircraft from accessing the Black Sea area to restore the status quo. At the same time, Russia could threaten the territory of NATO members in order to prevent them from rendering help to an Ally.

NATO Forces on the Eastern Flank

Since the Russian annexation of Crimea, NATO has been strengthening its deterrence potential. However, it still respects the 1997 declaration on refraining from permanent deployment of substantial combat military forces on the territory of its new members. After the 2014 NATO summit in Newport, the Alliance improved its ability to deploy a rapid response force (NRF) on the Eastern Flank, including to Bulgaria and Romania. However, before the July 2016 summit in Warsaw, Romania (like Poland and the Baltic States), sought to create a deterrence mechanism based on a continuous, rotational NATO presence. Because of Romania's location and the threat of a Russian amphibious assault, Bucharest called for the establishment of a NATO naval mission in the Black Sea. Just before the summit, Bulgarian prime minister Boyko Borisov said that his country did not feel threatened by Russia, and that the deployment of permanent naval forces could be provocative. Turkey did not back the Romanian proposal either, as Ankara has been seeking to improve relations with Russia since the downing of a Russian aircraft in November 2015. Turkey also feared that it would bear the main burden of a NATO presence, as the Montreux Convention limits access to the Black Sea by warships from non-littoral states.

Turkey, Romania and Bulgaria finally reached a compromise position, which was approved by NATO defence ministers during the February 16 North Atlantic Council (NAC) meeting. The presence of NATO ships in the Black Sea will be enhanced, and they will be put under the command of the

Alliance's Standing Naval Forces (Standing NATO Maritime Group 2 – SNMG2) operating in the Mediterranean. In this way, the Supreme Commander of Allied Forces in Europe (SACEUR) will have operational command, and will be better able to monitor threats from Russia and react faster to any indications of crisis.

The NATO presence in the region will consist of two additional elements. During the NATO Warsaw summit, the Allies agreed to enhance the air force presence in Bulgaria and Romania, which will help monitor airspace and facilitate a joint threat assessment. Poland, the UK and Italy offered to contribute aircraft, and NATO also decided to set up a multinational land brigade based on a Romanian unit. Bulgaria offered to contribute 400 soldiers, and Poland pledged approximately 250. Since the role of the brigade will be to coordinate exercises of multinational sub-units and ensure the visible presence of NATO troops, it will not be able to participate in defensive actions to speed up any NATO response.

US Actions

US troops, present in the region in the framework of the Black Sea Rotational Forces initiative, are the main pillar of deterrence in the Black Sea. After the annexation of Crimea, the US strengthened the Marines unit based in Romania from 250 to more than 400 soldiers. In April 2016, it deployed, albeit briefly, its most advanced fifth-generation fighter, the F22 Raptor, to Romania. In February 2017, it further strengthened its presence on the ground with a battalion (approximately 500 soldiers and heavy equipment), which is a part of Armoured Brigade Combat Team stationed in Poland and the Baltic States. Since the middle of 2015, approximately 150 soldiers have been deployed on a rotational basis to Bulgaria. The US Navy's Arleigh Burke-class guided-missile destroyers, armed with Aegis air defence systems have been regularly entering the Black Sea. This all

indicates that the US is able to deploy the forces necessary to neutralize the threat posed by Russian offensive capabilities in the region, including Moscow's rhetoric on using nuclear weapons. The rotational presence of US troops also increases the credibility of US commitment to defend Allies in the event of a conflict.

Prospects

The Russian policy of intimidation and increasing costs for NATO is aimed at enforcing a new European security system, which Moscow believes should include a Russian sphere of influence. Aggression against Georgia and Ukraine has de facto blocked the enlargement of NATO (possibly also of the EU) to the post-Soviet space. It cannot be excluded that, under extreme circumstances, Russia could also decide to undermine the territorial integrity of the Alliance in order to force negotiations on a new security architecture. Although such a scenario could most easily unfold in the Baltic States, the presence of the missile base in Romania could also be a convenient pretext for offensive action, presented as a pre-emptive, defensive operation. The risk of such a scenario may rise during Zapad 2017, the large scale combined Russian and Belarusian exercises planned for September, which may be accompanied by unannounced snap exercises in the Black Sea region. During this period, NATO will probably strengthen its naval, land and air presence in the Black Sea region.

Further development of deterrence based on land forces for defensive missions and a continuous instead of regular naval presence will be hindered by the divergent interests of Turkey, Bulgaria and Romania. For historical reasons, Bulgaria remains vulnerable to Russian political, military and economic pressure. The resignation of the Bulgarian government in November 2016, the country's presidential election, the dissolution of parliament, and an early parliamentary election scheduled for the end of

March, further complicated attempts to strengthen NATO's presence and security guarantees for the region. Turkey, which has since the end of the Cold War perceived Russia more as an economic partner than a threat, will make its participation in NATO deterrence policy conditional on support for Turkish interests, such as those related to the situation in Syria. Despite these difficulties, the possibility of further NATO adaptation to the threats could be considered by the Alliance, as a means of putting pressure on Russia should it continue attempts to destabilize European security.

At the same time, Romania and Bulgaria must, through the development of bilateral political and military cooperation with the United States, ensure the right conditions for the presence of US forces. After the March parliamentary election, Bulgaria will be under pressure to follow the example of Romania, which plans to increase defence spending to 2 % of GDP in 2017 and is modernizing its armed forces. Increased defence spending by all European NATO members, and investments in military capabilities, will be a key prerequisite for extension of the US rotational presence in Europe, which is necessary for credible deterrence in the Black Sea region.

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Conventional Arms and Nuclear Peace

VIII

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What many in the arms control community fail to appreciate, understand, or adequately analyze is how conventional force imbalances play into a state's security dilemma. Conventional arms imbalances generally – and US conventional military superiority specifically – are as much potential drivers of nuclear proliferation and geostrategic instability as nuclear weapons are. American preponderance in power-projection capabilities has in the past influenced some countries to acquire nuclear weapons as a deterrent against US intervention. There has been far less effort expended on exploring the relationship between conventional arms and nuclear proliferation than on nuclear arms and nuclear proliferation. In part, this may be because the spread of conventional weapons is viewed as a serious problem in its own right, possessing its own dynamics and its own bureaucratic and academic constituencies. However, conventional imbalances are just as important in understanding the threat perceptions that lead states to acquire nuclear weapons.

Why Conventional Military Balances Are Important

The relationship between the size of a state's arsenal and the resultant proliferation consequences is complex and, at best, only one part of the proliferation puzzle. For the past quarter-century, the US military's mastery of precision warfare has provided it with a significant advantage over its prospective rivals. Both China and Russia are working to offset this advantage, in part by developing their own competing capabilities. However, according to recent research by national security analyst Matthew Kroenig, there is no clear relationship between US nuclear force posture and proliferation decisions by other states.[1] Indeed, the connection may even be an odd proposition to make in the first place. That national leaders (aside from a Russian president) would stop to assess US nuclear policy or the size of the US nuclear arsenal before making decisions about nuclear proliferation is a tenuous assertion. Kroenig's research addresses an important question, but it does not analyze the role that the geographical deployment of US military forces has on a country's threat perceptions. In fact, states are more likely to confront, and therefore fear, America's conventional capabilities.

In the interim, the Russians in particular are seeking to offset the American advantage in precision-guided munitions by modernizing their nuclear arsenal and changing nuclear doctrine – even stressing nuclear escalation as a de-escalation mechanism. What appears clear is that both nuclear and nonnuclear nations see the prospects for conventional conflict with the United States as a losing proposition. For Russia and China, threatening to escalate their way out of a conventional loss is clearly an attractive option that Russian nuclear doctrine suggests is at the forefront of Pres. Vladimir Putin's strategic planning.[2] For nonnuclear states, acquiring nuclear weapons may be perceived as the only viable deterrent against American aggression. In general, nuclear weapons are largely seen as an offset to superior conventional capabilities possessed by an

adversary. With Iraq's weapons of mass destruction (WMD) ambitions, for instance, evidence suggests that Saddam Hussein, from the mid and late 1970s onward, was interested in nuclear weapons for two reasons: deterrence vis-à-vis enemies like Israel and Iran and considerations of national prestige.[3] However, Hussein also wanted nuclear weapons as a means of enabling *conventional* attacks on Israel:

When the Arabs start the deployment, Israel is going to say, 'We will hit you with the atomic bomb.' So should the Arabs stop or not? If they do not have the atom, they will stop. For that reason they should have the atom. If we were to have the atom, we would make the conventional armies fight without using the atom. If the international conditions were not prepared and they said, 'We will hit you with the atom,' we would say, 'We will hit you with the atom too. The Arab atom will finish you off, but the Israeli atom will not end the Arabs.'[4]

The acquisition of nuclear weapons by a weaker state significantly complicates the decision-making calculus of a militarily superior state. For these reasons, power-projecting states fear nuclear proliferation to both allied and enemy states.[5] This is a point worth underscoring and one that is often overlooked when nonproliferation is discussed and its rationale and purposes debated. These factors demonstrate that the 'more may be better' view of nuclear weapons proffered by political scientist Kenneth Waltz is entirely relevant and accurate.[6] Waltz famously argued that more nuclear weapons in the world would tend to increase deterrence among states. That logic is turned on its head in a world with far fewer nuclear weapons and a greater reliance on conventional systems, which may actually be destabilizing. This was true even before the advent of the atomic bomb. The awesome destructive power of nuclear weapons tended to overshadow the failure of conventional deterrence in the decades and centuries preceding the first use of nuclear weapons.[7] Thomas Schelling, an economist and foreign policy scholar, also argued very specifically that more nuclear weapons might enhance strategic stability by increasing the

survivability of a nation's nuclear forces.[8] Because states might be more risk acceptant with conventional forces and concepts of first and second strikes are much less well defined in the conventional realm, stability was much more fragile in the pre-nuclear age and would likely prove fragile in a world with fewer, or zero, nuclear weapons. Advocates of a world free of nuclear weapons often overlook this point. A world with fewer nuclear, but more conventional, forces is likely to bring forth new dynamics for arms races, which increase the likelihood of disputes and wars.[9] Reducing or eliminating nuclear weapons does not remove proliferation problems from the agenda. Might we fear arms races in the second conventional age less because of the sub consequences of an advanced conventional missile system, or should we fear it more because of the lower threshold to the use of armed force that might be involved? A world not anxious about nuclear proliferation is more likely to be anxious about the proliferation of advanced conventional systems. In that world, the knowledge that war might escalate to the use of an immediate and devastating nuclear strike is gone. This also raises new issues influencing the extent to which a conventional war may be more controllable than a nuclear one. As Lawrence Freedman, the doyen of British strategic studies, writes, 'In principle, denial is a more reliable strategy than punishment because, if the threats have to be implemented, it offers control rather than continuing coercion. With punishment, the [adversary] is left to decide how much more to take. With denial, the choice is removed.'[10]

Nuclear Reductions, Nonproliferation, and Disarmament

Nuclear abolitionists have very different views on the nature of deterrence. Their efforts are based largely on a fundamental ideological dislike of nuclear weapons rather than a deep understanding or appreciation of them. Global nuclear disarmament, if considered in a vacuum, would make the world safer for US conventional power projection but would not necessarily

promote strategic stability. This observation is made repeatedly by Russian and Chinese analysts, who clearly understand American conventional superiority. On this basis an argument can indeed be made that global disarmament disproportionately benefits the United States, not regional or global competitors like Russia and China. The effects of conventional capabilities are certainly a neglected topic when compared to the focus on nuclear arms control over the past seven years. They are generally said to bear, or lack, significance in comparison to WMDs. But does this argument still hold in a world with no nuclear weapons? A great deal of analysis is still needed to assess whether and how reductions could be managed to the point that no nuclear-armed state has more than a minimum deterrent. For even further reductions to occur, the process would necessarily have to be multilateral, including China, India, and Pakistan. While China and other states have indicated that they would potentially be willing to enter into negotiations once the United States and Russia reduce their arsenals, they have not specified at what level of forces this might conceivably take place. In any case, the process would involve complex calculations of deterrence equations involving changing sets of multiple actors as well as conventional imbalances that are, again, a major source of concern for many countries that may find themselves at odds with the United States. For the 'P5' nuclear weapons states (those with permanent seats on the United Nations' Security Council) such as Russia and China who are members of the Nuclear Nonproliferation Treaty (NPT), the issue of conventional imbalance compounds the difficulty they face in shaping the perception of some states who suggest that the P5 failed to take significant steps toward nuclear disarmament. Pakistan, for instance, has recently accused the United States and other countries of nuclear hypocrisy, with the Pakistani ambassador to the United Nations saying that a handful of nuclear-weapon states advocate abstinence for others but are unwilling to give up their large inventories of nuclear weapons or cease modernization efforts. The ambassador also stressed that double standards were not only evident on nuclear issues but also in the area of conventional arms: 'While professing strict adherence

to responsible arms transfers, some powerful states continue to supply increasing numbers of conventional weapons in our region, thereby aggravating instability in South Asia.'[11] Indeed, from the Pakistani perspective, the international community does not give enough attention to the issue of vertical proliferation (arms buildup). Certainly, it should come as no surprise that Pakistan continues to stress the importance of nuclear weapons in acting as a deterrent to perceived Indian conventional military superiority.[12]

Pakistan has made efforts at addressing issues of conventional force imbalances with India in the past, but New Delhi has traditionally dismissed these efforts, instead focusing on its larger regional competitor, China.[13] The problem in South Asia is therefore at least a trilateral one. However, the issue speaks to a much larger problem, and that is *multilateral* conventional arms control. If the India-Pakistan strategic situation offers any lesson, it is that weaker states (such as Pakistan) may desire to develop a 'great equalizer' to achieve the security that they cannot find through traditional (conventional) means.

With the United States and Russia undertaking a 90 percent reduction in their nuclear arsenals since the end of the Cold War, it is fair to say that these efforts have promoted neither goodwill nor a peaceful posture in countries like China or North Korea. We are not suggesting that American nuclear force reductions have *pushed* Beijing to expand its antiship ballistic missile inventory, place multiple warheads on its DF-41 ballistic missiles, build artificial islands with deployed military capabilities, or build bases in northern Africa. Nevertheless, it does show that there is little evidence to suggest that nuclear cuts necessarily lead to a more peaceful security environment. If anything, regional and global security evolve *independently* of the size and shape of one country's nuclear arsenal. North Korea, in particular, has pursued a nuclear weapons program as a means of countering American conventional superiority, paying little or no attention to the United States' declining nuclear arsenal.

Conventional Arsenals, Crisis Stability, and Arms Race Stability

Nuclear reductions have important consequences for both crisis stability and arms race stability. Conventional forces differ tremendously from nuclear forces in the way they are organized and operate and in their destructiveness. These distinctions influence the way in which arms-control arrangements aimed at conventional arms-race stability and crisis stability must be conceptualized in a world free of nuclear weapons but safe for conventional conflict. To be highly destructive, conventional forces need to be used en masse. Their successful application requires well-organized cooperation between many military units, often between different types of military forces (land, air, naval, cyber, and space), and, due to the globalization of conflict, also the participation of several allied states granting military support and access. Conventional forces most often seek military victory, which requires they first defeat adversarial forces before the political objectives of the conflict can be achieved. Also, to be militarily effective, conventional forces need up to date technology and well-trained troops that are capable of effectively employing weapons of war.

Crisis stability is a term that was perfected in its use during the nuclear age. Crisis stability aims at developing incentives for using the lowest level of military force possible – all while seeking to prevent escalation. It also seeks to control the emotions that are prevalent in conflict, providing procedures to cope with a crisis. Nuclear reductions and disarmament may make a paradoxical and undesired contribution; reducing expected levels of death and destruction if war comes might actually increase the probability of the onset of war. Even if two states went to war, one would expect the nuclear sword of Damocles to incentivize them to end the conflict as soon as possible. In addition, the historical record clearly shows there is not the same taboo or norm against using conventional missiles and bombers as there is against using an atomic version.[14] Not a single nuclear warhead has been delivered by any delivery system since 1945. By contrast, over the past

45 years, ballistic missiles were employed in at least six different conflicts: the Egyptian and Syrian missile attacks on Israel in the 1973 Yom Kippur War, the 1980–88 war between Iraq and Iran, the Afghan civil war of 1988–91, the 1991 Persian Gulf War, the Yemen civil war of 1994, and the 2003 US-led invasion of Iraq. Indeed the duration and controllability of a war becomes important here. As antinuclear advocate Randall Forsberg admits,

'The main role of nuclear weapons has always been to deter conventional war among the world's "big powers" (the USA, the USSR, the UK, France, West Germany, China, and Japan) by posing a clear risk that such a war would escalate to nuclear war. If ballistic missiles were abolished, raising again the prime strategic question of the 1950s – could a conventional war be fought without going nuclear, and if it went nuclear, could it be won? – it would diminish nuclear deterrence of conventional war.'[15] *(emphasis in original)*

The fog of war could become much thicker. Even if lower-yield nuclear weapons were used, they could still significantly disrupt command, control, communication, and intelligence. In the conventional world this would be less of an issue because of the smaller level of destruction, over a much more protracted amount of time, thus enabling more time to react. In the nuclear age, time becomes much more compressed. Moreover, assuming that deterrence was still desirable, states would have to rethink how to reorient their forces toward achieving a *conventional* second-strike capability. This might lead to a different type of arms race. This concept was already present before the advent of the bomb, in discussions about the importance of airpower and having enough aircraft to deter aggression among European states.[16] All these issues raise the importance of focusing on conventional arms control as much as nuclear reductions, especially in the Asia-Pacific.

Arms race stability aims at lowering incentives to further build up military forces. Thus we might conceivably ask: if the United States and Russia

reduce their nuclear arsenals to a few hundred warheads each – and other nations to a few dozen – might we see a nonnuclear arms race to fill a nuclear void?[17] As the 2010 *Nuclear Posture Review* states, 'fundamental changes in the international security environment in recent years – including the growth of unrivaled US conventional military capabilities [and] major improvements in missile defenses … enable us to fulfill … objectives at significantly lower nuclear force levels and with reduced reliance on nuclear weapons … without jeopardizing our traditional deterrence and reassurance goals.'[18] If one accepts this statement, and if opponents of nuclear modernization are truly concerned about reducing global instability, they should be urging the administration to cancel and eliminate a number of conventional capabilities that are far more concerning to our adversaries. Granted, such a position is irrational, but if *stability* is the key then this is the logical position to hold. Indeed, even with successful elimination of nuclear weapons, the tasks of strategic deterrence, extended deterrence, and arms control do not go away. Instead, they become more difficult to manage. This is especially true for conventional arms control, because nuclear weapons tend to make deterrence much easier, or so the historical record would seem to indicate. If one argues for further nuclear reductions and nuclear disarmament, then one needs to be responsible and also think seriously about *conventional* arms control. Conventional imbalances and any remaining system of deterrence would increasingly become the focus of deterrence and would serve as the source of instability.[19] This is especially true because, in many instances, the imbalance and insecurity of a conventional-only world have remained obscured during the nuclear age.[20]

With Article VI of the NPT obliging nuclear-weapon states to work toward general and complete disarmament of nuclear weapons, would such a treaty be required or feasible in a conventional world? This possibility raises an important question: to what extent should nuclearweapon states focus on reducing their arsenals as a precondition for *conventional*

disarmament? We have tended to think that it would first be a good idea to reduce nuclear weapons before reducing conventional forces. However, nuclear weapons are but one component of the overall military balance among states. In an age without nuclear weapons, it is also conceivable that deterrence relationships will simply not work without boosting some aspects of conventional arsenals. The more – maybe – better logic that Schelling (and others) applied to nuclear weapons may also carry into an entirely conventional era. That is, fewer nuclear weapons in the world would likely entail more conventional forces to compensate, which would not necessarily be a stabilizing development. For advocates of 'global zero', the implications of a world free of nuclear weapons are assumed to be inherently positive. However, the reality of such a world may be far less positive because the psychological effect achieved by the understood destructive power of nuclear weapons will no longer push risk-acceptant national leaders to allow caution to prevail. Given that no current leader of a nuclear-weapon state was even alive prior to the development of the atomic bomb, the security and stability of a nuclear-free world should not be taken for granted. Instead, much more work is required to understand the implications of such a fundamental change to a proven and stable approach to constraining great-power conflict.

Conclusion

If the past offers any lessons for the future, it is not unreasonable to believe that a world free of nuclear weapons is a world in which standing armies grow larger, defence expenditures (as a percentage of gross domestic product) increase, and conflict becomes more frequent as the perceived risks to a nation and its leaders decline. National leaders are not always rational, because they do not effectively weigh costs and benefits or risks and rewards, which would lead them to overvalue the prospect of a loss and undervalue the prospect of a gain. The certain loss caused by any prospective

use of nuclear weapons has caused decision makers to exercise great restraint when contemplating the prospective use of force.[21] History appears to suggest that, to some degree, nuclear weapons do cause decision makers to see the use of nuclear weapons as ensuring losses, with few gains – causing restraint. Thus, eliminating nuclear weapons may well reduce perceived risks and increase perceived gains from fighting – making the world safe for conventional conflict. Such a state of affairs would not have the same absolute risk associated with it that nuclear warfare poses (that of total annihilation), but it would increase the risks of proliferating conflict, which may lead to a dramatic increase in conflict-related casualties. Efforts to bring nuclear abolition to fruition may have an unintended consequence that has been given too little consideration by those who have made it their goal to rid the world of nuclear weapons. Too often, opponents of the nuclear arsenal fail to go beyond their desired end state to understand the consequences of such a world. Would America and the rest of the world really be better off without nuclear weapons holding great-power conflict in check? Such a discussion is strikingly absent from the debate. Perhaps it is time for advocates of nuclear abolition to provide a compelling description of the world that is to come should they succeed in further reducing or eliminating the nuclear arsenals of the great powers.

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JAPCC Conference Summary

IX

Dr Hans Binnendijk

T oday's global trends make both deterrence and the defence of NATO harder to achieve than at any time since the end of the Cold War. There are new challenges facing the Alliance in the East and South. This fact was recognized at NATO's 2016 Warsaw summit and steps were taken in particular to strengthen deterrence. Deterring and if necessary defeating Russia is NATO's main mission to the East while supporting counter-terror and refugee control measures is the main mission to the South. More needs to be done on both fronts and airpower will play a vital role.

At the 2014 Wales Summit, NATO sought to reassure allies that deterrence was viable. NATO Readiness Action Plan (RAP), complemented by the US European Reassurance Initiative (ERI), relied primarily on rapid reinforcement to deter the newly aggressive Russia. The VJTF was created and the NRF was enhanced. American Army companies were rotated through the Baltic States. Additional deterrence measures such as local resilience and horizontal escalation were developed. But the fact that NATO had few ground forces deployed forward was seen by many as an open invitation to Russian aggression. The deterrence package developed at Wales was inadequate.

At the 2016 Warsaw Summit, this fundamental flaw in the Readiness Action Plan was at least partially corrected. Four NATO multinational battalion sized battle groups were deployed in the Baltic States and Poland. In addition, a heel-to-toe rotational US Brigade Combat Team is exercising throughout the area. Any ground incursion by Russia would most likely result in unavoidable engagement with multiple NATO nations, hopefully convincing the Kremlin that an easy victory would be unattainable.

And yet after Warsaw, a scenario has developed that may undermine confidence in deterrence based on limited forward deployment. Analysts argued that the Warsaw plan would not provide for 'deterrence by denial' and hence was inadequate. This scenario suggested that risk-prone Russia might quickly defeat the small local Baltic/NATO force, create a pause in the fighting, and threaten nuclear escalation if NATO responds – hoping that NATO would be politically paralyzed as its military seeks to slowly mobilize. At the same time, it may be politically impossible to forward deploy now the 3–6 brigade combat teams needed for deterrence by denial.

NATO airpower can help fill this 'deterrence gap'. This nightmare scenario is dependent upon the notion of a politically divisive pause in the fighting while NATO reinforces. If NATO air power is properly oriented, it can demonstrate to Russia that there would be no pause in the fighting. NATO air power would be available without pause or significant mobilization to continue the fight. NATO airpower would be the first responder to meet a Russian conventional challenge and could offset and deter a Russian strategy to 'strike, pause, and win'. Call this 'deterrence by continuous response'.

This strategy would require NATO air power to deal with the Russian anti-access area-denial capability centred primarily on Kaliningrad. For this 'deterrence by continuous response' strategy to be plausible, NATO would need to make clear its willingness to neutralize Russian assets in Kaliningrad should Russia attack first. That political decision may be difficult to make in the abstract.

In the South, airpower of NATO nations organized as a coalition currently plays the critical role in defeating the Islamic State. The post-caliphate role of NATO and NATO air power is uncertain, but continued air operations such as no-fly zones over Syria are quite possible. At the same time, unless relations with Russia improve dramatically, NATO airpower must transition from difficult but unopposed missions in the South and focus primarily on politically and militarily much more demanding tasks to the East.

In addition, the role of NATO air forces in nuclear deterrence, missile defence, and cyber assurance are also becoming increasingly complex. To deal with these new challenges, European NATO air forces will need to maximize their early warning and rapid response capabilities and to work closely with the United States to reap the full benefits of the so-called 'Third Offset'.

As Europe increases its defence spending in response to both the growing threat and to US pressure, European NATO air forces will need to receive a significant portion of that additional funding, commensurate with their increasingly important role. Over the longer run, European nations should seek to achieve an air power capability which is much less dependent on American enablers.

This analysis suggests three main tasks that should be incorporated into NATO's emerging joint air power strategy. In priority order they are:

1. The new NATO joint airpower strategy should be built around the notion that given current NATO ground troop deployments, *airpower provides the ability to enhance deterrence* by convincing Russia that attacking those modest forward deployed ground forces will not give it an advantage that it can use by attacking, pausing, and then suing for peace before NATO reinforcements arrive. *To achieve this, the first task should be to significantly improve the readiness, deployability and*

sustainability of existing air forces and air bases. This includes a stronger commitment to Baltic Air Policing, higher level of pilot training, technical upgrades for existing aircraft, preparing air bases for forward operations, increasing munition stocks, maximizing multinational cooperation, and attaining overflight rights. This is the low hanging fruit that can pay quick dividends.

2. *The second task of a new NATO joint airpower strategy should focus on the increasingly difficult task of rapidly gaining air superiority in an anti-access area-denial environment*. To achieve this, NATO/European air forces need to acquire adequate numbers of both fifth generation fighter aircraft and advanced stand off munitions. Political decisions relating to targeting and rules of engagement will need to be made as far in advance as possible.

3. *The third task of a new NATO joint airpower strategy should concentrate on efforts to maximize the ability of NATO/European air forces to operate with declining US participation*. This may take many years, but interim goals should be set in the strategy. To implement this task NATO/European air forces should start to invest in enablers currently provided almost exclusively by the US like ISR assets, refueling aircraft, UAVs and strategic lift.

Dr Binnendijk is a Senior Fellow at the Center for Transatlantic Relations at Johns Hopkins University's School of Advanced International Studies (SAIS), and at RAND. He previously served on the US National Security Council staff as Special Assistant to the President and Senior Director for Defense Policy and Arms Control.

Joint Air Power Priorities

General (ret.) Frank Gorenc

Deterrence and Collective Defence

NATO is the most successful Alliance in history but past performance does not guarantee future results. Four realities could limit NATO aspirations:

1. NATO *potential* power is not *real* power.
2. When deterrence fails, *prompt* consensus is pivotal, collective defence must be decisive.
3. The *enemy has a vote* and could choose war.
4. NATO forces must be *ready, deployable and sustainable* to be fully combat capable.

Recognizing and understanding these four realities will posture the Alliance for future success.

The Power Reality: NATO *potential* power is not *real* power.

Today, NATO economic and military power is unmatched. However, Alliance power is *potential*, not *real* power. A $ 36T GDP does not generate *real* military power unless Allies increase defence spending and invest wisely. Large, well-equipped militaries do not generate *real* military power unless forces are fully

combat capable and offered during force generation. Only 5 of 28 Allies meet the 2 % GDP goal and only 10 meet the 20 % GDP modernization goal of the 2014 Defence Investment Pledge (DIP). Nine Allies are top 20 worldwide GDP nations: only 2 of 9 meet the DIP and 2 actually spend less than 1 %! Allies have readiness problems and NATO has lackluster force generation.

The Transition Reality: When deterrence fails, *prompt* consensus is pivotal, collective defence must be decisive.

Potential adversaries know consensus is a NATO center of gravity and will attack using asymmetric means to delay or prevent consensus. Consensus pivots Alliance mindset from peacetime to crisis and from prudent thinking to detailed planning. Consensus pivots Allies from pre-deployment preparation to execution. Long, contentious delays in gaining Alliance consensus weaken NATO credibility because the enemy may come to believe NATO would not or could not invoke Article 5. To remain credible against the threats described in Warsaw, prompt consensus must be followed with decisive real power collective defence.

The Threat Reality: The *enemy has a vote* and could choose war.

While effective for decades, NATO deterrence could fail and the enemy could choose war. Currently, in 'peacetime', Russia, ISIL/Da'esh and Iran are aggressive and undeterred. Russia using hybrid warfare annexed Crimea. ISIL/Da'esh is attacking Allies using terrorism. Iran pursues nuclear warheads for a capable ballistic missile inventory. Unattributed cyber warfare continues to threaten Allies.

Russian modern long-range surface-to-air missile (SAM) systems and surface-to-surface missile (SSM) systems create anti-access/area denial (A2/AD) areas to hinder NATO freedom of movement and threaten critical infrastructure. A well-executed military campaign will be required to neutralize A2/AD.

Adversaries are pursuing and threatening the use of nuclear weapons. Russia's 'Escalate to Deescalate' nuclear strategy, the implied willingness to use nuclear weapons in response to an Article 5 response could delay or prevent consensus. Success of this strategy, real or perceived, will provide incentive for future adversaries to seek nuclear weapons and explains Iranian attempts to build a nuclear arsenal.

The Force Reality: NATO forces must be *ready, deployable and sustainable* to be fully combat capable.

NATO leaders set high expectations for the Alliance force. They want a force that can deter, reinforce and defend against full spectrum potential threats attacking from any direction! Additionally, they want the force to be a deployable, sustainable, interoperable, heavy, high-end, full range and at high readiness!

To be fully combat capable, this force must be ready, deployable, sustainable and available every single day and it will be expensive. How expensive depends on the following unanswered questions: (1) Ready for what? (2) Deploy to where? (3) Sustain for how long?

NATO Joint Air Power core roles remain indispensible to credible deterrence and decisive collective defence. Command of the air, precision strike, ISR, strategic mobility and C2 will continue to guarantee success and minimize risk during both peacetime and crisis. If deterrence fails and the enemy chooses war, NATO air forces with their speed, flexibility, range and high readiness will be the first to respond and maximize the effectiveness of the follow on joint force. NATO Joint Air Power effectively integrated with the selected COA provides the best opportunity to meet Alliance aspirations. Defence investment and pursuing key urgent priorities will make NATO Joint Air Power the historical advantage Allies have come to expect.

Everything Old Is (Kind of) New Again ...

Lieutenant General Joachim Wundrak, DEU Air Force,
Executive Director, JAPCC

The Executive Director's Closing Remarks

I hope that you've found the series of essays provided in our Conference Read Ahead informative and enlightening. Our desire is that these essays will provoke thought and stimulate discussion about the role of joint air power in NATO deterrence in preparation for our upcoming conference. I wanted to take this opportunity to offer my perspective as the Executive Director of the Joint Air Power Competence Centre, highlighting many of the topics presented by our authors.

While it's easy to say that we have returned to the Cold War, many things have changed in the world, and within NATO, which may complicate the Alliance's ability to 'win' again. The consequences of twenty years of fighting outside the Alliance's borders, combined with resurgent, highly adaptable foes, are forcing us to relook at some assumptions we had largely considered facts.

One of the most difficult tasks we must undertake is to identify exactly what NATO's, and our partners', security challenges are and what specific

threats they entail. Some threats are quite clear. However, contrary to deterrence paradigms of the 1980s, we're now facing entities that are adept at various forms of hybrid warfare and that are harnessing and directing the power of cyber and information warfare to levels previously unseen. Not only must the Alliance be concerned with conventional and nuclear forces, we must also be prepared to deter the use of 'non-kinetic' actions, as well. Adversaries, including non-state actors, are attempting to exploit the Alliance's values of openness and freedom to their advantage. This is causing us to look not just externally, but internally, for threats and consider new ways of deterring them.

Another difficult question that we must face is that even if we can successfully identify the threats to the Alliance and whom we would like to deter, we must ask our ourselves if we are currently 'fit for deterrence', or not. Not only must we be aware of the increasingly complex political machinations that are required to successfully deter our adversaries, we have to ask the difficult questions of whether NATO's military arm is currently fit to do so. If not, what are we do to do correct the perceived shortfalls?

Lastly, I believe that one of the largest tasks we have in front of us is to determine, specifically, how Air Power can contribute to deterrence and what our immediate priorities should be, especially in our fiscally constrained environments. Alliance Air Power capabilities are growing exponentially, especially with the introduction of the F-35. However, we as an Alliance must come to grips with decreasing numbers of aircraft, especially fighters, against antagonists who are ever trying to sway the balance of capability and mass. I wholeheartedly believe that Air Power can make an enormous difference in deterrence of our enemies; our task is to ensure that we do it well.

The ideas covered in these essays are not all inclusive, but provide a starting point for discussion with our conference panel members and audience.

I invite you to visit our conference website to further explore details regarding panels, the topics and themes and the registration process for this year's conference: https://www.japcc.org/conference/

In closing, I hope you have enjoyed reading the articles and that they have piqued your interest in deterrence. I firmly believe that your expertise will be required to successfully navigate the coming years and I invite you to be a part of providing ideas and solutions for the continued success of the Alliance.

I sincerely hope to see you this fall in Essen.

Joachim Wundrak
Lieutenant General, DEU AF
Executive Director, JAPCC

Conference Itinerary

10 October 2017

Icebreaker and Industry Showcase

Director and VIP Tour of Industry

11 October 2017

Keynote Speech

Panel 1: Today's Security Challenges and Threats to NATO and Partners

Panel 2: Political Cohesion and Decision-Making: Is NATO Fit for Deterrence?

Director's Luncheon

Panel 3: Deterring from the 3rd Dimension – NATO's Current Capabilities

Networking Dinner and Industry Showcase

12 October 2017

Keynote Speech

Panel 4: Joint Air Power – Urgent Priorities

Wrap-up and Director's Closing Remarks

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