



THE 'CHARACTER OF WAR' IS CHANGING, AGAIN...

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Today, high-end military technologies have been receiving extensive media coverage. This following the US decision to establish a Space Force, the emergence of ever more capable missile systems, the end of the INF Treaty between Russia and the US, as well as the modernization of both nuclear and conventional military forces. The focus on asymmetric warfare, terrorism and “wars of choice” in weak states are losing attention. Why is this happening, and which military technologies should we expect to see even more of in the coming years?

The development of military technology is driven by several factors. Technological opportunities are important, of course, but they are not the only determining factor. Not all potential technologies are developed into or succeed as military technology. A central, and perhaps the most

important factor, is ‘motivation’. By that, I mean the strategic interests and security policies of a nation or in some instances of non-state actors. In other words, what countries see as useful and necessary technologies to achieve their goals. Thus, the development of new military technologies and



Northrop Grumman X-47B (Photo: Permission by NG).



related conceptual thinking and tactics come from the interaction between states, people, ideas - and technology. To understand what may come our way in the next few years, we therefore need to understand both the security landscape surrounding us and the technological bases available – both of which are changing regularly these days. We live in times of uncertainty, in a dynamic and fast-changing security landscape, and with technological innovations constantly providing new opportunities.

The driver: Great power politics and rivalries are back!

Following the rise of China and the resurgence of Russia, we now see how the US military planning and efforts have increasingly shifted focus to high-end conventional warfare. Russia and China have become peer-competitors in their own regions, but do not yet possess the same global reach capabilities as the US and its allies.

Russia has for some time openly challenged NATO in Europe, and is today able to directly threaten NATO Allies and NATO as a whole in its so-called “near abroad”. Russia has achieved a dominant position in the Arctic and Black Sea regions, with effective high-end military layered defenses and with great depth for reinforcements. China has developed into a peer-competitor to the US and its allies in the South China Sea and inside what they label “the second island chain”. China has openly stated that it will modernize its military forces by 2030, and aims to become a “world class” fighting force by 2049. Consequently, the modernization efforts of the US military have come to primarily focus on these so-called “peer-”, or “near-peer” competitors. This development will increasingly have repercussions for NATO as an alliance, as well as for individual countries.

With the new ‘multipolar world order’ we will see increased competition between the global great powers and between regional middle powers. There are also very important dynamics between the great powers and the middle and smaller powers.

Great power rivalries lead to a renewed focus on high-end warfighting capabilities

The rivalries, or competitions, among and between the global great powers and regional medium powers are increasingly influencing military conceptual thinking concerning warfighting and capability developments. The main trends we see

the great powers focusing on today are:

- improvements in missile technologies and missile defenses;
- enhanced space capabilities and their protection, and ‘modern ASAT’ counter-space technologies;
- robotics, which will increasingly be part of the high-end warfighting systems – and may even become the dominant tool if nations avail themselves of the opportunities it provides; and
- a return to heavy conventional land forces and more robust naval and air forces able to operate in contested spaces by peer-competitors.

However, the trends of high-end warfighting preparations not only apply to the great powers in their strategic competition and preparations for worst-case scenarios. It also extends into regional dynamics. Indeed, many regional powers are building more balanced and high-end warfighting capabilities. Additionally, we see regional medium powers balancing their alignments to cope with the great power competition. Consequently, the market for arms providers is booming. In 2017, Russia became the second largest arms provider worldwide (after the US). Chinese arms are also entering the market, however good statistics are not available.

Peer-competitor Intelligence and Influence Operations are back on

For some time already, we have experienced operations to influence the information domain and decision-making processes. We will increasingly experience ‘espionage’, ‘subversion’, ‘intimidation’, ‘false rumor mongering’, ‘bribery’, simply all out ‘political warfare’ and maybe even ‘liberation support’ – very much in the same way and just as extensively as during the Cold War. I highlight these terms above in quotation marks, as these were the terms used in the beginning of the Cold War. As a Cold War historian, I do not see much new in the concepts of China’s ‘Three Warfares’ or our Western description of Russian ‘Hybrid Warfare’ since 2014. During the Cold War, many intelligence agency units were also engaged in the symbiotic dual role of ‘intelligence-gathering’ – far beyond military needs – and of ‘event shaping’ in support of mainly the foreign services, but also many other political bodies. British covert Cold War history in this regard is worth studying for those now working on ‘hybrid’ threats.



The great powers, and others, will compete in the knowledge domain and to influence global, regional and local developments. This ‘hybrid’ approach is by no means a new thing. It was a core feature of the Cold War, as it was in the 1930s, and in many other periods. The main difference is that it is now greatly enhanced by cyber domain capabilities. In the next decade, we should expect states and other actors to increasingly compete below the threshold of armed conflict, or in the case of NATO, article 5 situations.

which we are yet unaware(!). Following are some likely developments and challenges to watch:

- We will increasingly see more autonomous systems, enhanced by machine learning capacities for cyber operations. We will also increasingly be challenged by “what is true” and “what is real” in the information domain. Alternative narratives will challenge the entire information domain.



Colonel (PhD) Gjert Lage Dyndal (furthest to the right) debating the changing character of war during Leangkollen Security Conference 2019 (Photo: Den norske Atlanterhavskomiteé).

Cyber dependencies and challenges are here to stay

Already today, we are extremely dependent on the global interconnectedness in the digital room. The trend is that the technological evolution is speeding onwards, ever faster. With 5G mobile connectivity, the prospect of the ‘Internet of Things’, *i.e.* machine learning and artificial intelligence, provide for unprecedented opportunities, and challenges. The latter point involves many of

- What if ‘quantum computing’ suddenly becomes true? This will be a game changer and a true ‘revolution’ for both industry and state affairs, warfare included.
- (Cyber) Espionage will increase as we become more dependent on and (still) more vulnerable in the cyber domain. Ownership of ‘data’ is increasingly important, and its protection will become paramount. Also in this field, protectionism is on the rise. What will happen to the ‘free Internet’?

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- Big Data analysis will continue to evolve. It is an all-natural and necessary development. It will greatly enhance intelligence work. But it will also pose new challenges, notably making intelligence cooperation and sharing ever more difficult as more and more data are fused at national levels or within unique groupings as the Five-Eye cooperation between the US-UK-Canada-Australia-New Zealand.

How to conclude – and what to do about it?

To me, it is absolutely clear that we have moved on to a ‘multipolar world order’ situation where state-to-state competition is back. This has already led to a visible competition between great powers in the political and economic spheres. It has also led to an emerging arms race in conventional modern high-end warfighting capabilities. This global competition is just starting to transcend to the regional levels. I expect and fear a not-so-distant future of more indirect or proxy conflicts and limited wars. I hope that nuclear weapons will keep the great powers out of direct full-scale armed conflict.

So, how do we address and adapt to these great challenges that lie ahead?

We first need to see and accept what is happening, then at a political and policy level both adapt to, and try to limit, the emerging arms race.

We further need to empower international organizations, and to retain – and even make new and better – international agreements and treaties to limit the most dangerous potential of some modern technologies. We especially need to reflect upon space developments, the prospect of autonomous lethal weapon systems, and how we can ensure a continued open, free internet. This, despite states’ increasing concerns about cyber security – and how many increasingly view data ownership as a strategic asset.

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