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Strategic Foresight: a Broader Vision, Fewer Crises?

SPECIAL

Between Technology and Man – on the Bundeswehr of Tomorrow

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STRATEGIC FORESIGHT: A BROADER VISION, FEWER CRISES?

SPECIAL: BETWEEN TECHNOLOGY AND MAN - ON THE BUNDESWEHR OF TOMORROW

EDITORIAL

Our current e-journal edition of *Ethics and Armed Forces* examines the question: "Strategic foresight: Does a broader vision mean fewer crises?"

Why choose this question? Firstly, because interdependent developments like globalization and climate change mean there is a constantly growing need for a systematic way of dealing with uncertainty. Secondly, because it is hoped that strategic foresight will provide new approaches to complement classical crisis prevention – a goal recently set down in the 2016 White Paper and in the German federal government's guidelines on "Preventing Crises, Resolving Conflicts, Building Peace," published in 2017.

The question at the core of foresight processes is: What is in store for us? What do we need to prepare ourselves for? The question may be as old as humanity itself, but the conditions under which it is asked are becoming ever more challenging. Social scientists and crisis researchers have coined a term for this: "dynaxity" (dynamic complexity). Digitalization and autonomization processes, new capabilities (e.g. fully autonomous weapons or human enhancement), and new forms of conflicts (cyber war, hybrid wars, etc.) are also changing the coordinates of security policy. Old certainties suddenly vanish; crisis phenomena such as the rise of populism and nationalism seem to catch us completely unprepared.

Being able to know is evidently becoming continuously more difficult. And because that is the case, there is a growing desire not only to observe change, but to apprehend possible futures in different ways. In the sense of thinking ahead to prepare for eventualities. In the sense of identifying and examining options for action. And in the sense of reflecting on one's own point of view.

The authors of this issue offer an interdisciplinary investigation of the question "Strategic Foresight: Does a broader vision mean fewer crises?" – from the perspective of futures research, theology and ethics, (security) policy and the military. They explain key concepts, give an overview of foresight practice in Germany, and critically examine its capabilities and limitations. Can foresight be made to serve the goals of peace ethics, or does it only serve particular interests which are likely to make crises worse?

Find out what the sinking of the *Titanic* has to do with foresight; why in the sense of the virtue *prudentia* – prudence – we should not lose sight of the past; how working with scenarios can promote social reconciliation processes; and what obstacles lie in the way of "future work" in day-to-day politics.

Moreover, the normative aspect – the act of imagining desirable futures and the power of visions to promote peace – is not excluded from foresight processes. "Dreams are very, very important to me. If you want to change something, you need a dream, a vision. A belief that it is possible to make this vision a reality" (translated from German).[1]

Practicing foresight means expanding one's view of the world. This requires openness and flexibility toward all kinds of future scenarios, including contrary viewpoints. It requires a close consideration of what we think of as given, and what we believe can be changed. In this respect, it always draws our attention back to ourselves.

I hope you will enjoy reading this examination of "possible futures".

1 Dr. Beatrice Fihn, Executive Director of the International Campaign to Abolish Nuclear Weapons (ICAN), which was awarded the 2017 Nobel Peace Prize on October 6, 2017. *Zeitmagazin*, January 25, 2017, p. 25.

Dr. Veronika Bock
Direktorin des zebis

FORESIGHT AND MODERN FUTURE RESEARCH: POSSIBILITIES AND PRACTICE

Author: **Edgar Göll**

We know from the first great civilizations that people thought about the future even thousands of years ago. Mostly they were concerned with predicting the weather for crop cultivation, or with their health and destiny, or with threats and auspicious moments for waging war. History tells us that before he embarked on his relentless conquest of the east, Alexander the Great consulted the Oracle of Delphi to find out his chances of success.

Thinking about the future in the modern era

Societies have changed vastly since then. Economies and systems of production, lifestyles, cultures, and systems of belief, technologies, the military, sciences, media, and politics have seen great transformation, mainly in their forms. So when people today think about future developments, even in their everyday lives, it rarely boils down to a yes or no question, contrary to what oracles in former times, or the table talk and tabloid media of today, might suggest. The realms of possibility for human behavior are in principle very extensive. Contemporary sociology therefore talks about the "multi-option society" (Peter Gross). On top of this, changes are accelerating at an increasing rate, with their diverse consequences and challenges for modern people, institutions, and societies. Such challenges – here listed only in note form – include climate change or climate disaster, technological change and specifically digital transformation, individualization, commercialization, the concentration of capital, and urbanization. In addition to this increased complexity, we have to contend with conditions of globalization, under which the spatial dimension, and hence the human sphere of perception and more or less conscious sphere of impact, expands still further. Everyday uncertainties for people today are different than those of millennia ago. They appear less existential, but they are potent and they preoccupy us more or less consciously.

Humans have the capacity to distinguish past, present and future. In addition, human activity is a priori and for the most part geared to the future. And in so far as human beings are a kind of "thinking animal," their behavior is only partially guided by instincts and simple routines. All of this means

Abstract

Although the need to reduce uncertainty is a constant in human history, current challenges such as climate change, globalization, and digital transformation – as well as the vast array of options in modern societies – have altered the debate about the future. In recent years, a stronger scientific basis has been observed in business and politics, accompanied by an expansion of related capacities and expertise. Edgar Göll cites the example of the "weak signals" concept, which may enable us to anticipate relevant changes and potential security risks. Despite professionalization, all manner of methods and increasingly powerful computers, it is still not possible to make definite predictions about the future. But given the unsustainability of Western lifestyles, we have a greater-than-ever need for serious futurology to warn of critical developments, encourage reflection on our own role, and identify possible solutions. In this way, we can take a carefully considered, evidence-based approach to shaping the future. Göll sees this increase in "self-reflection" as being one of the greatest advantages of such an approach – and at the same time an important condition for it. To search out the new and unexpected, he argues, we need to take complexity into account and increase "individual and organizational awareness of new information and opinions." In the field of security policy, this openness implies an inclusion of breaks, contradictions, and the perspective of the other. If this succeeds, foresight could help to expand options for action, and support the maintenance or establishment of violence-free and peaceful conditions.

that both the individual and collective behavior of humans is extremely contingent. It is ultimately influenced by countless factors, their interaction, and how they are perceived. Human behavior, therefore, is barely possible to predict, or only under particular circumstances. For this reason, modern, science-based futures research and foresight[1] do not aim to make predictions. The goal is rather to develop the best possible and sufficient basis for discussing future realms of possibility. The former director of the Institute for Future Studies and Technology Assessment (*Institut für Zukunftsstudien und Technologiebewertung*, IZT) neatly sums it up: "You cannot predict the future, but you can develop scientific knowledge about the future, and use that for a better understanding of (possible, probable, desirable) futures. And in a participative, democratic process, you can work to prevent disasters and achieve the best" (translated from German).[2]

The need to think about the future

From the two phenomena described above (the range of options and the challenges), a kind of "objective need" for futures research and knowledge about the future can be derived. Thinking about – or better: forethought for – tomorrow and what it may bring is therefore by no means trivial. In so far as humans need to modify their environments and do so more or less consciously and creatively, they and their historically differentiated institutions and professions need to "understand" the past and future and make these "understandable" for themselves. Even more than that, however, they need to dedicate themselves to the future, because it is "there" that the emergent human living environments will be found, and because uncertainties and corresponding – possibly dangerous and, in part, potentially even life-threatening or existentially threatening – new challenges, hazards and risks may be associated with those environments.

Over the course of history, forms of dealing with the future and associated uncertainty have changed immensely. From the middle of the twentieth century, an increasing scientification of thinking about the future can be observed. This was initially influenced by the technological sciences, where research was conducted into the intended and unintended consequences of new technologies and their applications. Military research has also been a major influence on modern futures studies. Most active in this field were US think tanks – particularly the RAND Corporation, which rose to prominence with its linking of three new scientific theoretical approaches: cybernetics, game theory, and rational choice theory. The new approach to futures research, however, only developed "in around 1960, after European and US knowledge stores came together to form conceptualizations of futures research, which then in turn made an impact in the United States" (translated from German).[3] Since then, various approaches have been

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developed for dealing with that sphere which is not yet realized, but which is at least partially beginning to emerge in the form of futures. "Futures" is in the plural, since as long as no single "future option" has become established, the future holds manifold possibilities.

In the meantime, international working and research networks have formed, which are devoted to more or less systematically investigating future developments. They utilize concepts and methods from various scientific disciplines. For the most part, their goals and methods are pragmatic, for example in fields such as market research, urban planning, organizational development, technology design, and the military. In the course of "reflexive modernization" ("reflexive Moderne," Ulrich Beck), these activities are being further professionalized and, in some cases, scientifically grounded with corresponding institutions, expert networks and in the higher education sector.

One particular, demanding way of dealing with futures is scientifically grounded futures research. In the course of general cultural and scientific development over recent decades, research fields such as technology assessment and technology foresight, meteorology and climate research, military strategy development, risk research, urban planning and so on have emerged. Their work has been increasingly supported and expanded by rap-

idly growing computer capacities (e.g. modelling, visualization, big data).

Furthermore, in the course of recent decades, mainly in Western countries like Germany, ever more capacity for and forms of futures research competences have been created, both in the business field and also in government, i.e. in the political and administrative field. These include study commissions in the German Bundestag and Land parliaments; the Office of Technology Assessment at the German Bundestag (*Büro für Technikfolgenabschätzung beim Deutschen Bundestag,* TAB); teams in policy departments of governments and ministries; government commissions; projects on behalf of ministries; teams, commissions, departments in parties, and foundations; and international bodies (e.g. United Nations (UN), Sustainable Development Solutions Network (SDSN), World Bank, Intergovernmental Panel on Climate Change (IPCC), Club of Rome, NATO). Thus the German Federal Ministry of Defense (*Bundesverteidigungsministerium,* BMVg), German Federal Foreign Office (*Auswärtiges Amt,* AA), and German Federal Ministry for Environment, Nature Conservation and Nuclear Safety (*Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit,* BMU) have created futures research capacities; other ministries are considering doing so.[4] This is often a case of evaluating and using the expertise obtained from futures researchers in sufficient depth.

Scientifically grounded futures research

Finally, a self-professionalization of scientific futures research has taken place. In 2007, futures researchers from Germany, Austria, and Switzerland set up a futures research network association called *Netzwerk Zukunftsforschung.*[5] Various international expert networks in the futures research field have existed for decades now. And in 2010, the Institut Futur at Freie Universität Berlin launched an inter- and transdisciplinary master's degree programme. This is the first and so far only academic futures studies course in Germany, while various other countries outside Europe already offer courses in futures studies. The methods and principles of researching, constructing, and reflecting on imagined futures in society, politics, and business are taught at the Institut Futur.[6]

The great overall breadth of methodical approaches is remarkable. They originate in various scientific disciplines, particularly the social sciences. They encompass trend and megatrend studies, scenarios of very different kinds, Delphi surveys, various types of modelling, and the use of bibliometrics and big data, as well as road-mapping, other quantitative methods, and qualitative approaches. For the development of the discipline and self-professionalization, an important handbook was written by a working group in the *Netzwerk Zukunftsforschung.*[7] It is designed as an attempt to formulate initial proposals and suggestions for standards and quality criteria in futures studies, to offer practical guidance for work on futures. In theoretical terms, modern futures research relates to various social theories and social analyses, as well as theories of change. This can be seen particularly in the university working contexts.

For the systematic identification and prioritization of social trends, as well as their driving factors, the STEEP method is often used. The method investigates various key aspects of change processes. Usually these are the following five areas: Social, Technological, Economic (macro), Environmental, Political. Depending on the problem at hand, occasionally the aspects of Values (STEEPV) and the Military (STEEPM) are included. Each of these areas is examined as systematically as possible to find influential, potent trends, as well as the driving forces and actors. Then, in addition, the mutual effects and interactions are estimated, and conclusions worked out for one's own decisions and actions.

Despite these positive developments, even modern, scientifically grounded futures research can only shine a more or less plausible, intelligent spotlight on future developments. Predictions are (probably) in principle impossible.

Inertias and challenges

The need for scientifically grounded futures research and a carefully considered, evidence-based approach to shaping the future is today greater than ever. Here we can mention a doyen of German futures research, Ossip K. Flechtheim.[8] In a historical phase, when the limits of Western patterns of development were beginning to become more obvious and apparent, Flechtheim assigned a big task – perhaps too big – to

futures research: "In a way similar to that in which medicine is concerned with human ailment and healing on an individual level, futurology should diagnose, prognose, and 'treat' humanity collectively" (translated from German).[9]

From the middle of the twentieth century onwards, people and institutions have grown accustomed to a way of life (the "American way of life") which now turns out to be highly problematic. This is because it systematically, though unintentionally, undermines the conditions for human life and human civilization, and is on the verge of destroying them, as countless studies and reports show. Spread by Western media and advertising, this normality of undesirable developments is also seen as a goal in most other regions of the world. Yet a generalization and spread of the Western lifestyle is not possible, simply for reasons of resource limitations. So the United Nations model of sustainable development was created, and recently its sustainability goals were drawn up (United Nations: Sustainable Development Goals, 2030 Agenda).

It would be fatal – and this poses a major challenge for futures research – not to question the permanently created "comfort zones" in our culture, and not to discuss "inconvenient truths" (to borrow the title of Al Gore's famous documentary about global warming). The creation of always "new" products and media content results in a "racing standstill" (*rasender Stillstand,*" Paul Virilio) in which warnings are not heard. We ignore and suppress the possibility that threatening developments and the associated vague anxiety and feelings of insecurity might have something to do with the negative effects of our own consumerist and exploitative lifestyle. For thinking, reflection, and forethought, habit is an extremely potent gravitational force. It is a normal and permanent state that is hard to change. More than it has done to date, futures research should here act as a "second-order observer" ("Beobachter zweiter Ordnung," Niklas Luhmann), strengthen societal reflection and self-reflection, and productively "irritate" to help overcome dangerous thinking habits and destructive behaviors.

An important and well-known example of the "warning function" of foresighted scientific findings was the 1972 Club of Rome report, *The Limits to Growth.* Using new computer models with different variables, it was judged that maintaining normal growth trends (particularly gross domestic product and population growth) could cause societies to collapse, mainly because raw materials are available only in limited quantities. These assessments led to numerous changes and innovations

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in political, economic, and social fields. Thus the worst consequences predicted in the report have not yet occurred, or their force has been reduced. In some cases, rethinking and alternative action took place.

Methodology with the example of "weak signals"

In the field of security research, for example, modern futures research can draw on extensive experience and social-science approaches. Risk research, early warning systems, and technology assessment are just some examples that can be cited. The canon of frequently used methods in futures research also includes cross-impact analyses, Delphi surveys, scenario techniques, and trend analyses. To these, the "weak signals" approach can be added,[10] which was developed by Igor Ansoff in a management context in the 1970s and has been used for some time in futures research. It aims to help businesses anticipate changes well in advance, and react accordingly. Ansoff used a five-step scale to categorize the transition from weak to strong signals and the appropriate reactions. The concept attracted interest in security research, too, since timely detection and evaluation of new or future emerging dangers could minimize or prevent security risks.

Of central importance here is the question of whether particular events and signals are actually weak signals, in the sense that they will develop into relevant trends and influential factors. Experience shows that weak signals develop along idealized stages, each of which has specific phenomena and features:[11]

1. Weak signal: No-one knows
2. Strong signal: Can be spotted in research groups, think tanks etc.

3. Trend: Appears in general contexts/can be recognized by several persons
4. Megatrend: Significant and recognizable entity comprising phenomenon
5. Driving force: Affects whole societies

Accordingly, by means of expert dialogs and various process steps and tools (e.g. horizon scanning, monitoring, technological and social forecasting), an attempt can be made to assess whether particular signals have the potential and a high probability of developing in line with these five steps.

Another conceptual and methodological challenge consists in overcoming structural barriers to the gaining of insights by individuals and groups. Ansoff describes internal structures as possible filters, through which information has to pass in order to be perceived, and hence be taken into account in decision-making: the surveillance filter, the mentality filter, and the power filter. The

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surveillance filter describes the characteristics of actors and institutions in the search for (new) information. In this filter, structural and methodological criteria determine whether weak signals are (or can be) perceived at all. Creativity plays a special role here, as it is crucial for the signal filtering process. The mentality filter is characterized by mental criteria. Recognizing new information requires that one's view of possible change processes is not blocked and remains open to new relevant facts. As the final characteristic, the power filter refers to the evaluation and use of information previously identified as possible weak signals, which is in no way automatic.

It is only at the level of a decision that the information results in a reaction, which of course can also take the form of doing nothing. Ansoff described these three filters as a structural challenge in the detection and evaluation of weak signals. Consequently, in addition to the detection itself, these three filters constitute the second difficulty in the process of utilizing possible weak signals. In other words, a habitual and comfortable thinking structure has to be broken up in order to be able

to see what is new. He therefore particularly suggests looking in those places where normally one might not look, although the innovative and new often come from the fringe areas and oppositional milieus of a society or of the world society. This is a challenge in principle and in general. It always arises and has to be dealt with in futures research and foresight work.

Benefits of futures research and foresight – and requirements

It is sensible and useful to apply and consult foresight and futures research in almost all areas of society. Usually, futures are thought about in simple forms, in entrenched ways. That is to say, such thinking is neither sufficiently systematic nor sufficiently complex, and does not consider or use the experience and expertise of modern futures research.

At a theoretical and conceptual level, futures research offers expansions in three dimensions. In terms of content, it can add additional perspectives and aspects ("what"). In societal terms, additional groups and organizations can be recognized as relevant ("who"). In the time dimension, foresight and futures research can set new emphases and take additional, more extensive periods of time into account ("when").

Somewhat more specifically, futures research and foresight can contribute in various ways to better decisions and strategies. One of the main ways is by supporting the creation of transparency and orientative knowledge for decisions, e.g. by making trends and diverse development possibilities visible. Traditional thinking patterns can be expanded and usefully complemented. Hence an important expansion of options for action can take place, and new solutions can be found. Foresight and futures studies strengthen integrated thinking and the competent handling of complexity (on account of the multidisciplinary approaches alone). Finally, futures research makes it easier to be aware of and explain implicit – and possibly obsolete – assumptions. The UNESCO Foresight Unit also emphasizes this aspect, with its new concept of "anticipatory assumptions" (Riel Miller).

If one treats people like they are, one makes them worse.

If one treats people like they could be, one makes them better. (Translated from German.)

(Johann Wolfgang Goethe)

Nevertheless, to carry out futures research and foresight is a demanding task. It requires an attitude of openness, and an increase in individual and organizational awareness of new information and opinions. Our approach when seeking to identity future developments and events should follow the lateral thinking principle: we can expect to succeed only if we overcome all too narrow patterns of perception or even taboos. Ways and mechanisms of outside-of-the-box thinking are of key importance for detecting the new and unexpected. Therefore, they should be included appropriately in the working process of futures research, and also in security research.

Particularly in the key field of defense and security, our own flexibility should be increased in this respect, both for persons and institutions. This is a reference both to the awareness and openness already mentioned, and to elements such as the division of labor, communication processes etc. Selectively distorted perception, rigid and narrow-minded stereotypes, bogeymen, and dehumanization of the enemy can all produce immense negative consequences; they can lead to self-fulfilling prophecies and escalation, spirals of violence and arms races. By contrast, an integrated understanding of current situations, contingencies, and potentials is required, i.e. also the deep-seated causes of conflicts, opposing narratives, sensitivities and fears, or expressed generally: to research and understand the other's perspective. The same ultimately applies not only to the intended but also the unintended effects of one's own actions. Comfort zones created by an esprit de corps or male-bond cultures close off the possibility of seeing beyond one's own horizons, including the foreign and strange, and utilizing provocations for one's own development – in terms of content, methods and strategies. Hence problems, uncertainties, contradictions, protests, conflicts, and tensions in the foresight process should be taken seriously and taken into consideration so that the respective decision-makers and actors can prepare themselves at an early stage. One possibility here is to use wild cards, i.e. unexpected but highly consequential events ("game changers") which upset well-ordered ideas about the future, but at the same time may reveal potential weaknesses.

In short: futures research and foresight can help to expand the powers of imagination, make opportunities and risks more assessable, reveal alternatives, and hence expand the realms of possibility and the capacity for action. They increase the self-reflection of those involved, and thus increase the chances of success with regard to strategies and tactics for maintaining or creating violence-free and peaceful conditions.

1 The terms "futures research" and "foresight" are used interchangeably here. However, futures research (or futures studies) has a more academic orientation, whereas foresight is application-oriented.
2 Kreibich, Rolf (2007): "Wissenschaftsverständnis, Methodik und Zukunft der Zukunftsforschung." Unpublished manuscript. Salzburg, , p. 22.
3 Seefried, Elke (2015): *Zukünfte. Aufstieg und Krise der Zukunftsforschung 1945–1980.* Berlin/Boston, p. 70.
4 In this context, the concept of "anticipatory government" should also be mentioned, which is applied in parts of the US administration: Fuerth, Leon/Faber, Evan (2012): *Anticipatory Governance. Practical Upgrades.* Project on Forward Engagement, Washington DC. https://forwardengagement.org/anticipatorygovernance/ [accessed June 5, 2018].
5 See: https://www.netzwerk-zukunftsforschung.eu/
6 See: http://http://www.ewi-psy.fu-berlin.de/v/masterzukunftsforschung/zukunftsforschung/index.html
7 Gerhold, Lars et al. (eds.) (2014): *Standards und Gütekriterien der Zukunftsforschung. Ein Handbuch für Wissenschaft und Praxis.* Wiesbaden.
8 Flechtheim, Ossip K. (1973): "Futurologie in der zweiten Phase?" In: Pforte, Dietger, Schwencke, Olaf (eds.): *Ansichten einer künftigen Futurologie. Zukunftsforschung in der zweiten Phase.* Munich, pp. 17–25.
9 Ibid., p. 17.
10 Ansoff, Igor (1975): "Managing strategic surprise by response to weak signals." In: *California Management Review* 18 (2), pp. 21–33. http://journals.sagepub.com/doi/10.2307/41164635 [accessed June 5, 2018].
11 Holopainen, Mari & Toivonen, Marja (2012): "Weak signals: Ansoff today.". In: *Futures* 44,pp. 198–205, p. 201.

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CRISIS PREVENTION IN A TIME OF RADICAL CHANGE

Author: **Markus Vogt**

We are living in a time when familiar patterns of order and power structures are becoming fragile, yet no replacement has been found: "Liberal Western society is breaking down, but no alternative exists yet" (translated from German).[1] Many people are experiencing these times of accelerated change in the political and economic sphere, and in society in general, as a crisis. Others see more of an opportunity to shake off traditional limitations, and explore something new. At any rate, such a world of transitions is marked by a wide variety of surprises, tensions, and multipolar conflicts. The "intensification of the frequency of changes" (translated from German)[2] suggests that this is an epochal change. As such, it also requires new ethical, political, and military orientations.

In a complex world, the possibilities and reference points of certainty change: the only thing that is certain seems to be that the future will be different from what was expected. Predictions and the promise of control come to nothing. We need to rethink our concepts of planning and crisis prevention. Conventional strategies of risk avoidance become ambivalent, as they sometimes result in necessary adjustments being delayed. Resilience – in the sense of robustness, adaptability, and anti-fragility as familiar certainties fall away – becomes a key value.[3]

In this wide field, the following article attempts to outline the challenges for crisis prevention from the perspective of Christian social ethics. On this basis, the model of risk maturity is proposed. It is based on "systematic ignorance" when acting in complex system contexts, and it aims for a robust and peace-promoting way of dealing with surprises, crises, and collapse phenomena.

Climate change as a security risk

In Earth system research, analyses of accelerated change are empirically underpinned by a wide range of indicators. There is plenty of data to indicate that environmental and

Abstract

Many signs indicate that we are witnessing an epochal transformation. Radical changes in our lives are happening more often, while familiar patterns of order and power structures are becoming noticeably less important. But whatever will follow is not yet in sight. The only certainty is that in the near future, we will face various security risks, for which our conventional risk avoidance strategies are ineffective or even counter-productive.

Markus Vogt cites the specific examples of climate change, the superimposition of various types of conflict, and finally "the fact that morality itself is becoming uncertain." He puts forward the concept of "resilience" when dealing with uncertainty. This concept, now becoming more established, requires a shifting of focus away from external factors to an inward consideration of one's own potentials for robust crisis management strategies. Especially in times of increasing uncertainty, the author argues, resilience becomes a new guiding principle.

The philosophical and theological tradition of "learned ignorance" (docta ignorantia, Nicholas of Cusa) can be useful here, and enhances current foresight practices. It can help to systematize our own ignorance, awaken curiosity and the willingness to learn, and offer guidance for action under uncertain conditions. Ultimately, it allows the establishment of "risk maturity," i.e. the ability to take justified and responsible decisions in complex and uncertain situations.

climate change is already close to "tipping points" in many regions. This means that threshold values for critical parameters are close to being exceeded, and if they are, a change in the system dynamics will result. In their "big report" to mark the 50th anniversary of the Club of Rome (1968–2018), Ernst Ulrich von Weizsäcker, Anders Wijkman and their co-authors compile many such global trends which create instability and are unsustainable. The Italian chemist and ecologist Ugo Bardi sums up the analysis of change in his 2017 report, also addressed to the Club of Rome, titled "The Seneca Effect."[4] He refers to an observation made by the Stoic philosopher Seneca, according to which systemic orders generally take a very long time to arise, but collapse very quickly. He analyses the collapse of empires, financial systems, food production structures and the possible end of the planetary ecosystem in its current form, before considering strategies to prevent or manage systemic problems of this kind. We are currently in a phase of transition, he argues, in which collapse phenomena are accumulating and the survival of institutions depends largely on their ability to react to these phenomena in a flexible and anti-fragile way.

Against this backdrop, global climate and environmental change not only constitutes an ecological risk, but also – to a significant extent – a security risk. Ten years ago, the German Advisory Council on Global Change (*Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen,* WBGU) comprehensively analysed this situation.[5] In the absence of comprehensive counter-strategies (and there have been none so far), climate change will exceed many societies' adaptive capacities within the next few decades: "This could result in destabilization and violence, jeopardizing national and international security to a new degree. However, climate change could also unite the international community, provided that it recognizes climate change as a threat to humankind and soon sets the course for the avoidance of dangerous anthropogenic climate change by adopting a dynamic and globally coordinated climate policy. If it fails to do so, climate change will draw ever-deeper lines of division and conflict in international relations, triggering numerous conflicts between and within countries over the distribution of resources, especially water and land, over the management of migration, or over compensation payments between the countries mainly responsible for climate change and those countries most affected by its destructive effects," (WBGU 2008:1).

Global climate and environmental change not only constitutes an ecological risk, but also – to a significant extent – a security risk

In conflicts over distribution, conflicts of interest and conflicts of domination usually overlap; the former concern the question of how resources are distributed, the latter the question of who decides on the distribution.[6]

WBGU does not assume a direct correlation between climate change and an increase in violence. Instead, the Advisory Council diagnoses an indirect correlation via an amplification of mechanisms that lead to insecurity and armed conflicts: "Climate change could thus lead to the further proliferation of weak and fragile statehood and increase the probability of violent conflicts occurring," (WBGU 2008:2). As a push-factor for the increase in migration within developing regions, and between North and South in the context of the North–South conflict, climate change is increasingly overstretching national and international governance structures (cf. WBGU 2008:14). There is a great danger of escalating conflicts. A warning example of this is Syria. Before the escalation of political conflicts, there was a massive drought. First of all, this triggered distress and migration at regional level, which overstrained governance structures and ultimately, together with other factors, led to the destabilization of the entire region. Syria is also an example of the complexity of conflicts: what started out as a conflict of interest (the question of the

distribution of resources) became a conflict of domination (over the question of who will control Syria and in what way), with a high readiness to escalate among all actors involved.

As long as knowledge was considered to be a key resource, there was a decrease in violent conflicts (since knowledge can hardly be acquired by military force). But today, a struggle for increasingly scarce resources is emerging. Their sustainable management, however, can only be achieved through collaboration. In many areas, humankind has come to share a common destiny, where the ability to survive depends on adopting cooperative strategies. "All our main problems are global in nature: the nuclear threat, global warming, global inequality and the rise of disruptive technologies such as artificial intelligence and biotech. To successfully master these challenges, we need global cooperation," (translated from German; Harari 2018:14). Particularly when it comes to ecological resources, there are certainly encouraging experiences from history with regard to the cooperative management of common use. Rivers, lakes, and coastlines show that this has often worked relatively well across national and ethnic boundaries. Yet the complexity of present-day conflicts means there is a challenging need for a new quality of international, intercultural, and intergenerational cooperativeness on the part of many actors who are involved, affected, and capable of acting in very different ways. Expressed positively, and relating to the concept of foresight: the sustained process of stabilization of habitats and management of collective goods would be a key dimension of crisis prevention.

The superimposition of conflicts of recognition and conflicts over resources

Conflicts in the current phase of global change have a dual nature: firstly, they are hard conflicts of interest and power with regard to access to ecological and technical resources. Given the massive, largely under-

paid transfer of resources from the global South to the rich nations of the North, one can certainly talk of a new phase of colonialism. According to studies by the UN, the lifestyle of the "externalization societies" of the North, mediated via climate change, is today already curtailing existential human rights for several hundred million people (e.g. the right to food, safety, water etc.).[7] Climate change is mostly anthropogenic, i.e. caused by humans. Since its victims in the global South are not identical with those in the global North who are mainly responsible for it, it is interpreted as a conflict of justice. It is not accepted as fate.

On the other hand, identity conflicts are coming to the fore, with an intensity that would not have been expected even just a few years ago. Globalization and migration bring cultural and religious pluralization – including within many societies. As a result, different cultures and religions meet in a confined space, with their specific conceptions of humanity, interpretations of the world, ideas of morality, and legal systems. People experience these as alternatives, comparing their advantages and disadvantages, between which they can or must choose. Transcultural encounters result in whole cultural systems competing at national and international level. Their representatives constantly battle for recognition. Because of this, many people feel alienated and overwhelmed. At the same time, such conflicts are always also a construct, since cultures are never closed systems. Their dynamism is always a result of diverse internal tensions as well as encounters with other patterns of interpretation. In overburdened situations, however, this internal heterogeneity is often forgotten.

At the present time, the link between liberalism and capitalism in particular is perceived by many as an aggressive threat to their cultural identity, or is portrayed as such in discourses of discrimination. As a counter-reaction, closed systems of reference and the rhetoric of populist discrimination seem attractive. The associated conflicts of identity and recognition are not less virulent than the experience of exclusion and misery.

The reason why identity conflicts are politically and ethically explosive is that unlike conflicts of interest, they generally cannot be solved by compromises, and are often linked to strong emotions that are scarcely amenable to reason.[8]

On a geostrategic level, Samuel Huntington predicted and stimulated interest in the changed constellation of global conflict situations with his theory of a "clash of civilizations"[9] – so-called "fault-line wars" between cultures. Conflicts between Western and Islamic countries or groups appear to confirm Huntington's thesis in the most dramatic way: the conflicts triggered by the 9/11 attacks are not primarily focused on material interests. Instead, they are a symbolically charged conflict in which cultural systems are held to be irreconcilably opposed. One highly problematic aspect of Huntington's theory, however, is the construct of cultural blocks, which he describes in rather generalized terms. In the Middle East, for example, the highly complex differentiation between the different Islamic movements and groups is key if we want to understand these conflicts and identify possibilities for viable solutions. Another problematic point is that interpreting and enacting cultural conflicts can become a self-fulfilling prophecy: such activities may in themselves create and reinforce the very feeling of being threatened which they seek to counteract. The superimposition of resource conflicts and identity conflicts appears to be highly explosive in political terms.

A productive engagement with uncertainty in morality

In a complex world, there are no simple solutions. The current world situation understandably produces feelings of being overwhelmed and of anxiety. Today, therefore, a critical task for politics, ethics, theology, and culture is to face down the temptation of easy, but false solutions with their black/white, good/evil and friend/enemy dichotomies. This can also be described as a task of building trust in the project of an open,

plural society. In addition to the mentioned phenomena of radical change, as well as global resource and identity conflicts, there is a third fundamental uncertainty that needs to be overcome: the fact that morality itself is becoming uncertain – in respect of its foundations, and its individual and societal validity in a plural society marked by breaks with traditions.

Climate change could also unite the international community, provided that it recognizes climate change as a threat to humankind

If morality today is to acquire a general validity in everyday life, it has to prove itself under conditions of contingency, where justifications are plural and hence always disputable. Moreover, it should critically reflect on and fend off patterns of unresolved complexity in politics and society, which often lead to false solutions, kneejerk reactions and fragmented perspectives. At the same time, morality should not allow itself to be paralyzed by the high degree of ignorance about complex interactions. It should instead develop a way of engaging with risks which is capable both of restraint and caution, as well as innovation and decisive action.

In the ethical debate, the experience of uncertainty is relevant in several respects: it relates to the consequences of action in complex contexts, and the justification and responsibility for particular decisions. In plural societies, it is often impossible to find a consensus regarding the justification, validity, and scope of moral postulates. This can generate considerable uncertainty on the part of the individual. A carefully considered admission of ignorance and doubt with regard to the traceability of actions, motives and consequences of actions is a strong and reasonable basis for establishing freedom. To reserve judgment and allow different opinions in situations of uncertainty follows from a logical system for dealing with ignorance that is constitutive for the rationality

of ethical decisions. Many individual and societal decision-making conflicts have such a high and specific degree of complexity that the type of rationality that consists of calculating expected consequences doesn't seem to guarantee adequate decisions. Hence, utilitarian models of ethics also have a lim-

Preventive security policy needs new forms of intercultural, interreligious, ecological and social competence

ited reach, i.e. models based on calculating the consequences of actions in relation to individual or collective benefits. Because the comparability of benefits in complex situations is limited, their usability as an ethical guiding category is constrained, too.

Instead of a rationality type based on the predictability of consequences, we need one that calculates with open variables and can respond to surprises – a type of rationality that pays attention to non-linear interactions and takes secondary effects, cross-sectional relationships and cultural contexts into account. We need a rationality type that not only sets goals but also optimizes decision-making and communication processes – one that expects the unexpected and shapes systems so that they can absorb unforeseen events elastically through "buffer zones". "Resilience" is currently becoming established as a key interdisciplinary concept that transforms traditional concepts of progress, risk and security, and shifts the focus onto the question of robust crisis management strategies. What makes the concept attractive is that it asks about immanent problem-solving potentials, rather than external aids and certainties. It often seems that the challenges of change are necessary to activate these potentials.[10] "The most important ability for the future is to adapt ourselves permanently to changes. Whoever can do that is well prepared," (translated from German; Harari 2018:14).

In geostrategic terms, too, there are considerable consequences if we take the reori-

entation from consequence optimization to resilience seriously: the current world situation is so confused that any action guided directly by benefit calculations could prove to be very ill-considered. We need robust alliances and approaches to stabilization policy at various levels (cultural, economic, political, military etc.) The multidimensionality of conflicts and the complex interactions between them requires a corresponding multidimensionality in prospective security policy. The paradigm of the "just peace"[11] may offer important guidance here. In the conflict situations of the present – charged with identity conflicts, frequently asymmetric and highly complex – this paradigm is a necessary accompaniment to military strategies through civil society. Given the complexity of current global conflicts, preventive security policy needs new forms of intercultural, interreligious, ecological and social competence.

"Learned ignorance"

The uncertainty triggered by accelerated change and the high complexity of conflicts leads to calls for more knowledge about the future. Today, this is no longer seen as a prophetic gift based on divine revelation. It has long been established as an interdisciplinary research field. Thus there are a large number of institutions and practices, with scientific methods which promise "to turn the uncertainty of possible events and developments into predictabilities: demographic trends, climate change, the energy supply, assessing technological and geopolitical consequences, not least the economics of the stock exchange," (translated from German).[12] At the same time, however, there remains a considerable degree of uncertainty to take into consideration: "We only have the future in its social and societal constructs. Even the divinatory knowledge of the ancient world, with its oracles, never claimed to 'really see' a future reality, but it did state and judge what was visible, identifiable and plausible for a perspectivization of power and morality. Knowledge about the future is orientational knowledge. That remains true today for any

kind of 'political counselling,'" (translated from German; ibid.) Prediction quality results from the ability to understand the underlying structure of current change at any given time, and the logic of the forces at work in it. But there always remain many open questions. Instead of knowledge about the future or predictions, today we often hear the term "scenarios" in the sense of if-then correlations.

Wisdom consists mainly in the ability to distinguish between what one knows and what one does not know. Scientific and ethical progress, too, often results not from additional knowledge, but in the first instance from the realization that there is something one does not know and cannot know. This is particularly important for theology, for example. As "learned ignorance" (docta ignorantia, Nicholas of Cusa), theology is designed to remain open to the non-knowable, the non-calculable, and the mysterious. In the plea for "conscious ignorance," links can also be drawn with secular traditions, e.g. the Socratic "I know that I know nothing." For the philosopher, this is considered to be the starting point of wisdom. Hence foresight should be interpreted not only as looking ahead, but also as being cautious and taking care in uncertain situations.

In very different ways, the difference between repressed or unreflected ignorance (which limits the validity of the respective theory) and conscious ignorance (which is included in the form of variables, or factors kept open) is constitutive both for philosophical and theological traditions and for modern complexity theories. Conscious ignorance is the basis for curiosity and a willingness to learn. Knowledge of one's own ignorance is a crucial virtue when it comes to acting under uncertain conditions. A key conclusion, particularly for ethics, is to acknowledge that there is no getting round the fact that different perspectives exist, and hence that the right to plurality must also be acknowledged. From this follows the idea of tolerance as the peace principle in plural societies, and the legal principle of reserving judgment when charges are unproven.

Thus the decision-making maxim in dubio pro reo ([when] in doubt, for the accused) arose in the moral theology of the Baroque period, and today is legally acknowledged to be self-evident. The admission – hard-won at the time – that it is unjust to condemn someone unless their guilt can be proven, creates trust in the legal system.

Trust in legal and political processes of conflict settlement is an essential form of complexity reduction in situations where differences of opinion and ignorance prevail. But trust also has a personal dimension: it draws its certainty not from objectively

Knowledge of one's own ignorance is a crucial virtue when it comes to acting under uncertain conditions

knowing something, but from interpersonal relations. Acting in uncertainty requires compensation for the limits of individual knowledge through the communicative ability to network with other knowledge holders and perspectives critically and on a basis of trust. Trust in no way precludes the ability for criticism. Here, there is a fundamental link with belief as a form of knowledge. According to the biblical understanding, belief is not an uncertain assumption. It is at its core a relationship of trust (Hebrew *aman* = belief, trust).

Risk maturity in the face of systematic ignorance

Wolfgang Kersting uses the term "risk maturity" *(Risikomündigkeit)* to describe a responsible approach to uncertainty. "Thinking in terms of probabilities, weighing up multiple possibilities, forms part of the cognitive infrastructure of the modern era, for the modern era is the age of only relative, certainty-free rationality. [...] Hence in technical and moral respects we should become risk-mature and develop a system of managing uncertainties" (translated from German).[13] Risk maturity is the ability to take justified and responsible decisions even in situations characterized by

high complexity and uncertainty. Uncertainty here refers to the consequences of actions, to the different standards of judgment on the part of those affected, and to the limits of moral rationality, for which there is no ultimate justification and no complete coherence under conditions of modernity.

In methodological terms, one can identify three main criteria that need to be taken into account for risk-mature crisis prevention:

(1) When assessing the evils in an actual decision-making situation, in order to avoid

Risk maturity requires democratic processes that include the different competences as well as the citizens concerned in a representative way

a distorted and one-sided consideration, we should always systematically include the consequences of failing to act in our concept of responsibility. Owing to the abundance of uncertainty in complex systems, the maxim "if in doubt, priority for the worst-case scenario" postulated by Hans Jonas (Heuristics of Fear)[14], if consistently applied, would lead to the paralysis of our ability to act. Strict avoidance of any risk results in a resigned loss of innovation. It could therefore ultimately turn out to be a strategy that blocks potential for action and thus creates more risks than it avoids. From a military ethics point of view, too, the risk of not acting always has to be systematically taken into account. Risk maturity therefore aims not to absolutely minimize all risk, but to avoid a

critical threshold of risks and increase flexible problem-solving potentials.

(2) A key element of risk maturity is a clear hierarchy of problems and dangers in assessing complex situations, as well as the weighting of risks that are not directly comparable. Systemic risks are particularly problematic – such as those that are typical of climate change, or in the field of financial markets, which are mainly determined by systemic interaction processes. Risk analyses have traditionally limited the assessment of undesired effects to numerical probabilities, which are generally based on relative frequencies and the respectively assigned damage potentials. A key feature of the main present-day conflicts, however, is that the probability of occurrence and extent of damage are not sufficiently known, while the public's assessment of risk deviates significantly from that of the experts, or the experts themselves cannot agree. Additional assessment criteria (alongside the probability of occurrence and extent of damage) include ubiquity (geographic extent), persistence (extent in time), and reversibility (particularly in the case of delayed effects). Risk maturity requires systemic thinking and, derived from this, a hierarchy of problems and action options. These criteria also apply to military action in complex conflict situations, for example in Afghanistan.

(3) "Yet precisely because the perception of risk is not shaped by the grammar of absolute rationality, but is instead embedded in a plural perceptual behavior which balances different value perspectives, it should remain embedded in participatory decision-making models of risk management" (translated from German; Kersting 2005:318). To the extent that many situations involving complex interrelationships are particularly context-sensitive, the judgment of those who are directly acting and affected acquires an essential importance over that of external experts. Risk maturity requires democratic processes that include the different competences as well as the citizens concerned in a representative way. In view of the current transition from a hegemonial world to an ex-

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tremely confusing, multipolar world that is marked by heterogeneous identity conflicts and conflicts of interest, communicative strategies are centrally important – particularly also for military ethics. Anyone who not only wants to win the war, but also peace, needs cultural competence and a willingness to engage in dialogue beyond technical superiority in order to achieve reconciliation and the consent and participation of the population in the construction of new power structures. Such an expansion of military strategies in the sense of just peace is today a necessary element of crisis prevention.

1 Harari, Yuval Noah (2018): "Zucker ist heute gefährlicher als Schießpulver." Interview on the sidelines of the Munich Security Conference 2018. In: *Süddeutsche Zeitung,* February 15, 2018, p. 14 (henceforth quoted in abbreviated form as "Harari 2018"; the same applies to the other quotations).

2 Osterhammel, Jürgen (2009): *Die Verwandlung der Welt – Eine Geschichte des 19. Jahrhunderts.* Munich, p. 51.

3 Cf. Taleb, Nassim (2013): *Antifragilität – Anleitung für eine Welt, die wir nicht verstehen.* 3rd ed. Munich; Vogt, Markus/Schneider, Martin (eds.) (2016): "Theologische und ethische Dimension der Resilienz." *Münchener Theologische Zeitschrift* [MThZ] vol. 67, 3/2016; Karidi, Maria/Schneider, Martin/Gutwald, Rebecca (eds.) (2017): *Resilienz. Interdisziplinäre Perspektiven zu Wandel und Transformation.* Wiesbaden.

4 For the two reports, cf. Weizsäcker, Ernst Ulrich / Wijkman, Andreas (2018): *Come on! Captalism, Short-termism, Population and the Destruction of the Planet – A Report to the Club of Rome.* New York; Bardi, Ugo (2017): *The Seneca Effect – Why Growth Is Slow but Collapse Is Rapid.* Cham.

5 WBGU (2008): *Climate Change as a Security Risk.* Berlin.

6 Cf. Imbusch, Peter/Zoll, Ralf (eds.) (2006): *Friedens- und Konfliktforschung – Eine Einführung.* 4th ed. Wiesbaden, pp. 67–81. On the analysis of climate conflicts, cf. Vogt, Markus: "Klimaschutz im Gestrüpp der Interessen – Philosophische und theologische Perspektiven." In: Felix Ekardt (ed.): *Klimagerechtigkeit – Ethische, rechtliche, ökonomische und transdisziplinäre Zugänge.* Marburg 2012, pp. 54–78.

7 UNDP [United Nations Development Programme] (2007): *Human Development Report 2007/2008. Fighting climate change – Human solidarity in a divided world.* New York.

8 Cf. on this point Vogt, Markus (2017): "Politische Emotionen als moraltheoretische Herausforderung." In: *Münchener Theologische Zeitschrift* [MThZ] vol. 68, 4/2017, pp. 306–323.

9 Huntington, Samuel (1996): *The Clash of Civilizations and the Remaking of World Order.* New York.

10 On the concept of resilience, cf. endnote 3 as well as the website of the Bavarian research consortium ForChange: http://www.forchange.de [accessed June 5, 2018]; see e.g. a study on resilience and risk by M. Vogt.

11 Die deutschen Bischöfe [DBK] (2000): *Gerechter Friede.* Published by Sekretariat der Deutschen Bischofskonferenz (Die deutschen Bischöfe 66), Bonn.

12 Cf. Mosse Lectures 2016: https://www.hsozkult. de/event/id/termine-30701 (accessed June 5, 2018).

13 Kersting, Wolfgang (2005): *Kritik der Gleichheit – Über die Grenzen der Gerechtigkeit und der Moral.* Weilerswist, p. 317; on risk maturity see the whole section on pp. 317–320.

14 Jonas, Hans (1984): *Das Prinzip Verantwortung – Versuch einer Ethik für die technologische Zivilisation.* 2nd ed. Frankfurt, pp. 63f.; cf. also p. 385 (on the anthropological fallacy of utopia) and pp. 390–392 (on the relationship between fear, hope and responsibility). [Translated version: *The Imperative of Responsibility. In Search of an Ethics for the Technological Age.* Chicago.]

TRANSFORMATIVE SCENARIO PLANNING

WORKING TOGETHER TO CHANGE THE FUTURE

Author: *Adam Kahane*

South Africa at a crossroads

In February 1990, South African president F. W. de Klerk unexpectedly announced that he would release Nelson Mandela from 27 years in prison, legalize Mandela's African National Congress (ANC) and the other opposition parties, and begin talks on a political transition. This had launched an unprecedented and unpredictable process of national transformation. Although South Africans knew that things could not remain as they had been, they disagreed vehemently and sometimes violently over what the future should look like. Nobody knew whether or how this transformation could happen peacefully.

Professors Pieter le Roux and Vincent Maphai, from the ANC-aligned University of the Western Cape, thought that it could be useful to bring together a diverse group of emerging national leaders to discuss alternative models for the transformation. They had the idea that the scenario planning methodology that had been pioneered by the multinational oil company Royal Dutch Shell could be an effective way to do this. At the time, I was working in Shell's scenario planning department at the company's head office in London. Le Roux asked me to lead the meetings of his group, and I agreed enthusiastically.

My job at Shell was as the head of the team that produced scenarios about possible futures for the global political, economic, social, and environmental context of the company. Shell executives used our scenarios, together with ones about what could happen in energy markets, to understand what was going on in their unpredictable business environment and so to develop more robust corporate strategies and plans. The company had used this methodology since 1972 and continued to develop it. It helped Shell to anticipate and adapt to, for instance, the first and the second oil crisis, the fall of the Soviet Union and the rise of Islamic radicalism.[1]

In 1980, Anglo American, the largest mining company in South Africa, produced two scenarios of possible futures for the country as

Abstract

"What might happen?" Anyone who seeks a systematic answer to this question will usually want to consider events and developments that are regarded as plausible. This is the method that Adam Kahane followed, when as head of Shell's scenarios department in the early 1990s, he was asked to oversee the Mont Fleur Scenario Exercise in South Africa.

At the time, the apartheid system had come to an end, and the country's future was uncertain: between peaceful reform and a civil war, anything seemed possible. Instigated by the left-wing opposition, the project was originally intended to highlight alternative development possibilities, but it turned out to be highly integrative. Over the course of several months, representatives of all groups in society – including those who had fought violently against the apartheid regime – were able to jointly outline four scenarios for the country's future. These four alternative blueprints for the future became important points of reference in political discussions, and influenced the positions of key actors. For example, the surprisingly strict budgetary policy of the subsequent ANC government under Nelson Mandela can be traced back to these preceding thought experiments.

The Mont Fleur project is an excellent example of the method's potential for bringing people together to forge a better future. In the second part of his essay, the author sets out the conditions under which scenario development can initiate change and reconciliation processes, and resolve frozen conflicts. These include: a representative team of high-profile and influential stakeholders, a rigorous process, and a stable framework ("strong container"). According to Kahane, the all-important transformation essentially takes place at the personal level. Because everyone involved changes – in terms of their views and intentions as well as their relationships with each other and their actions – it becomes possible for the situation as a whole to change.

an input to the company's strategizing: a "High Road" of negotiation leading to a political settlement and a "Low Road" of confrontation leading to a civil war and a wasteland.[2] Six years later, Anglo American made these scenarios public. They were presented to hundreds of audiences around the country, including de Klerk and his cabinet, and Mandela, at that time still in prison. These scenarios played an important role in opening up the thinking of the white population to the need for the country to change. Then in 1990, de Klerk, influenced in part by this work, made his unexpected announcement.

The Mont Fleur Scenario Exercise

Le Roux and Maphai's initial idea was to produce a set of scenarios that would offer an opposition answer to the establishment scenarios prepared at Anglo American and to a subsequent scenario project at Old Mutual, the country's largest financial services group. When le Roux asked my advice about how to put together a team to construct these scenarios, I suggested that he include some people who could prod the team to look at the situation from challenging alternative perspectives. What le Roux and his coorganizers at the university did then was to include current and potential leaders from across the whole of the emerging South African social-political-economic system. Their key inventive insight was that such a diverse and prominent team would be able to understand the whole of the complex South African situation and also would be credible in presenting their conclusions to the whole of the country. So they recruited 22 insightful and influential people: politicians, businesspeople, trade unionists, academics, and community activists; black and white; from the left and right; from the opposition and the establishment. Some of the participants had sacrificed a lot – in prison or exile or underground – in long-running battles over the future of the country; many of them didn't know or agree with or trust many of the others. Nevertheless, the members talked together fluidly and creatively, asked questions of each other and explained themselves and argued and made jokes. They agreed on many things.

The scenario method asks people to talk not about what they predict *will* happen or what they believe *should* happen but only about what they think *could* happen. At Mont Fleur, this subtle shift in orientation opened up dramatically new conversations. The team initially came up with 30 stories of possible futures for South Africa. They enjoyed thinking up stories (some of which they concluded were plausible) that were antithetical to their organizations' official narratives, and also stories (some of which they concluded were implausible) that were in line with these narratives. Trevor Manuel, the head of the ANC's Department of Economic Policy, suggested a story of Chilean-type "Growth through Repression". Mosebyane Malatsi, head of economics of the radical Pan-Africanist Congress (PAC) – one of their slogans was "One Settler [white person], One Bullet" – told a wishful story about the Chinese People's Liberation Army coming to the rescue of the opposition's armed forces and helping them to defeat the South African government; but as soon as he told it, he realized that it could not happen, so this scenario was never mentioned again.

Howard Gabriels, an employee of the Friedrich Ebert Stiftung (the primary funder of the project) and a former official of the socialist National Union of Mineworkers, later reflected on the openness of this first round of storytelling:

> *Some of the participants had sacrificed a lot in long-running battles over the future of the country*

"The first frightening thing was to look into the future without blinkers on. At the time there was a euphoria about the future of the country, yet a lot of those stories were like 'Tomorrow morning you will open the newspaper and read that Nelson Mandela was assassinated' and what happens after that. […] You are looking into the future and you begin to argue the capitalist case and the free market case and the social democracy case. Suddenly the capitalist starts arguing the communist case. And all those given paradigms begin to fall away."[3]

Johann Liebenberg was a white Afrikaner executive of the Chamber of Mines. Mining was the country's most important industry, its operations intertwined with the apartheid system of economic and social control. So in this opposition-dominated team, Liebenberg represented the arch-establishment. Gabriels later recalled with amazement:

He was the enemy, and here I was, sitting with this guy in the room […]. I think that Mont Fleur allowed him to see the world from my point of view and allowed me to see the world from his.[4]

The first three scenarios were prophetic warnings. The fourth scenario was a vision of a better future

In one small group discussion, Liebenberg was recording on a flip chart while Malatsi of the PAC was speaking. He was calmly summarizing what Malatsi was saying: "Let me see if I've got this right: 'The illegitimate, racist regime in Pretoria … '" Liebenberg was able to hear and articulate the provocative perspective of his sworn enemy.

A message of hope

In the following six months, the team and I returned to Mont Fleur for two more weekend workshops. They eventually agreed on four stories about what could happen in the country – stories they thought could stimulate useful debate about what needed to be done. "Ostrich" was a story of the white minority government that stuck its head in the sand and refused to negotiate with its opponents. "Lame Duck" was a story of a negotiated settlement that constrained the new democratic government and left it unable to deal with the country's challenges. "Icarus" was a story of an unconstrained democratic government that ignored fiscal limits and crashed the economy. "Flight of the Flamingos" was a story of a society that put the building blocks in place to develop gradually and together.[5]

The first three scenarios were prophetic warnings about what could happen in South Africa if the South African political leaders made the wrong decisions. The fourth scenario was a vision of a better future for the country if all three of these errors were avoided. When they started their work together, this politically heterogeneous team had not intended to agree on a shared vision. But both the content of the "Flight of the Flamingos" scenario and the fact that this team had agreed on it served as a hopeful message to a country that was uncertain and divided about its future.

The team wrote a 16-page summary of their work that was published as an insert in the country's most important weekly newspaper. Lindy Wilson, a respected filmmaker, prepared a 30-minute video about this work. The team used these materials to present their findings to more than 100 political, business, and nongovernmental organizations around the country.

The impact of Mont Fleur

Of the four scenarios, the one that had the biggest impact was "Icarus." Economist Nick Segal summarized the warning about the dangers of macroeconomic populism as follows:

"A popularly elected government goes on a social spending spree accompanied by price and exchange controls and other measures in order to ensure success. For a while this yields positive results, but before long budgetary and balance of payment constraints start biting, and inflation, currency depreciation and other adverse factors emerge. The ensuing crisis eventually results in a return to authoritarianism, with the intended beneficiaries of the programme landing up worse off than before."[6]

This scenario directly challenged the economic orthodoxy of the ANC, which in the early 1990s was under strong pressure from its constituents to be ready, once in government, to borrow and spend money in order to redress apartheid inequities. When members of the scenario team presented their work to the party's National Executive Committee, it was Joe Slovo (chairperson of the South African Communist Party), citing the failure of socialist programs in the Soviet Union and elsewhere, who argued that "Icarus" needed to be taken seriously.

When le Roux and Malatsi presented "Icarus" to the National Executive Committee of the Pan-Africanist Congress – which up to that point had refused to abandon its armed struggle and participate in the upcoming elections – Malatsi said: "This is a scenario of the calamity that will befall South Africa if our opponents, the ANC, come to power. And if they don't do it, we will push them into it." With this sharply self-critical statement, he was arguing that his party's declared economic policy would harm the country and also its own popularity.

One of the committee members then asked Malatsi why the team had not included a scenario of a successful revolution. He replied: "I have tried my best, comrades, but given the realities in the world today, I cannot see how we can tell a convincing story of how a successful revolution could take place within the next ten years." Later, le Roux recalled that none of the members of the committee could do so, "and I think this […] was crucial to the subsequent shifts in their position. It is not only the scenarios one accepts but also those that one rejects that have an impact."[7]

This conversation about the scenarios was followed by a fullday strategic debate in the committee. Later the PAC gave up their arms, joined the electoral contest, and changed their economic policy. Malatsi said that many of these changes were "directly or indirectly influenced by Mont Fleur."[8]

These and many other debates – some arising directly out of Mont Fleur, some not – altered the political consensus in the opposition and in the country. (President de Klerk defended his policies by saying "I am not an ostrich."[9]) When the ANC government came to power in 1994, one of the most significant surprises about the policies it implemented was its consistently strict fiscal discipline.[10] In 1999, when Mboweni became the country's first black Reserve Bank governor (a position he held for ten years), he reassured local and international bankers by saying: "We are not Icarus; there is no need to fear that we will fly too close to the sun." In 2000, Manuel, by then the country's first black minister of finance (a position he held for 13 years), said: "It's not a straight line from Mont Fleur to our current policy […], but there's a fair

amount in all that going back to Mont Fleur. I could close my eyes now and give you those scenarios just like this."[11] The economic discipline of the new government enabled the annual real rate of growth of the South African economy to jump from 1 percent over 1984-1994 to 3 percent over 1994-2004.

The Mont Fleur team's messages about the country's future were simple and compelling. Although some commentators thought that the analysis was superficial and many on the left thought that the conclusion about fiscal conservatism was incorrect, the team succeeded in placing a crucial hypothesis and proposal about post-apartheid economic strategy on the national agenda. This proposal won the day, in part because it seemed to make sense in the context of the prevailing global economic consensus and in part because Manuel and Mboweni exercised so much influence on the economic decision making of the new government for so long.

Mont Fleur not only contributed to but also exemplified the process through which South

It is not only the scenarios one accepts but also those that one rejects that have an impact

Africans brought about their national transformation. The essence of the process – a group of leaders from across a system talking through what was happening, could happen, and needed to happen in their system, and then acting on what they learned – was employed in the hundreds of negotiating forums (most of them not using the scenario methodology as such) on every transitional issue from educational reform to urban planning to the new constitution.

Neither the Mont Fleur project in particular nor the South African transition in general was perfect or complete. Many issues and actors were left out, many ideas and actions were bitterly contested, and many new dynamics and difficulties arose later on. But Mont Fleur contributed to creating peaceful forward movement in a society that was violently stuck.

When to use transformative scenario planning

The South African context that gave birth to the Mont Fleur Scenario Exercise turns out to have been a particular example of a general type of situation. Transformative scenario planning can be useful to people who find themselves in a situation that has the following three characteristics.

First, these people see the situation they are in as unacceptable, unstable, or unsustainable. In any event, these people cannot or are not

The South African context that gave birth to the Mont Fleur Scenario Exercise turns out to have been a particular example of a general type of situation

willing to carry on as before, or to adapt to or flee from what is happening. They think that they have no choice but to try to transform their situation. The participants in the Mont Fleur project, for example, viewed apartheid as unacceptable, unstable, and unsustainable, and saw the just-opened political negotiations as offering them an opportunity to contribute to changing it.

Second, these people cannot transform their situation on their own or by working only with their friends and colleagues. The larger social-political-economic system within which they and their situation are embedded is too complex to be grasped or shifted by any one person or organization or sector, even one with lots of ideas and resources and authority.[12]

South Africans who wanted to transform the apartheid situation had been trying for decades to force this transformation, through mass protests, international sanctions, and armed resistance. But these efforts had not succeeded. Mont Fleur and the other multistakeholder processes of the early 1990s (which the previous forceful efforts had precipitated) provided South Africans with a new way to work with other actors from across the system.

Third, the actors who need to work together to make the transformation are too polarized

to be able to approach this work head-on. They agree neither on what the solution is nor even on what the problem is. At best, they agree that they face a situation they all find problematic, although in different respects and for different reasons.[13] Any attempt to implement a solution directly would therefore only increase resistance and rigidity. So the transformation must be approached indirectly, through first building shared understandings, relationships, and intentions.

The actors who came together in Mont Fleur all agreed that apartheid was irretrievably problematic and needed to be dismantled, but they came in with deep differences in their diagnoses and prescriptions. The scenario process enabled them to create common ground.

How transformative scenario planning works

I have learned how to do transformative scenario planning through 20 years of trial and error. During this time, I have been able to discern what works and what doesn't and why, and to piece together a simple five-step process:

1. Convene a team from across the whole system
2. Observe what is happening
3. Construct stories about what could happen
4. Discover what can and must be done
5. Act to transform the system

Transformative scenario planning is simple, but it is not easy or straightforward or guaranteed. The process is emergent; it almost never unfolds according to plan; and context-specific design and redesign are always required. The five steps therefore constitute not so much a recipe to follow as a set of guideposts to keep in view.

In a transformative scenario planning process, actors transform their problematic situation through transforming themselves, in four ways.

First, they transform their *understandings.* Their scenario stories articulate their collective synthesis of what is happening and could happen in and around the system of which they are part. They see their situation – and, critically

important, their own roles in their situation – with fresh eyes.

Second, the actors transform their *relationships*. Through working together in the scenario team, they enlarge their empathy for and trust in other actors on the team and across the system, and their ability and willingness to work together. This is often the most important and enduring output of such projects.

Third, the actors transform their *intentions*. Their transformed understandings and relationships shift how they see what they can and must do to deal with what is happening in their system.

Fourth, the actors' transformations of their understandings, relationships, and intentions enable them to transform their *actions* and thereby to transform their situation.

Transformative scenario planning can generate transformations only if three components are in place. It is a composite social technology that brings together three already existing technologies into a new way of working that can generate new results.[14]

The first component is a *whole-system team* of insightful, influential, and interested actors. These actors constitute a strategic microcosm of the system as a whole: they are not from only one part or camp or faction of the system, and they are not only observers of the system. They all want to address a particular problematic situation and know that they cannot do so alone.

The second component is a *strong container* within which these actors can transform their understandings, relationships, and intentions.[15] The boundaries of this container are set so that the team feels enough protection and safety, as well as enough pressure and friction, to be able to do their challenging work. Building such a container requires paying attention to multiple dimensions of the space within which the team does their work: the political positioning of the exercise, so that the actors feel able to meet their counterparts from other parts of the system without being seen as having betrayed their own part; the psychosocial conditions of the work, so that the actors feel able to become aware of and challenge (and have challenged) their own thoughts and actions; and the physical locations of the meetings, so that the actors

can relax and pay attention to their work without interruption or distraction.

The third component is a *rigorous process*. In a transformative scenario planning process, the actors construct a set of relevant, challenging, plausible, and clear stories about what *could* happen – not about what *will* happen or about what *should* happen – and then act on what they have learned from this construction. The uniqueness of the scenario process is that it is pragmatic and inspirational, rational and intuitive, connected to and challenging of dominant understanding, and immersed in and disconnected from the complexity and conflict of the situation. Furthermore, the future is a more neutral space about which all actors are more equally ignorant.

A new way to work with the future

The transformative scenario planning process that was invented at Mont Fleur originated in the adaptive scenario planning process that had been invented at Shell two decades earlier – but it turns this process on its head. In an adaptive scenario planning process, the leaders of an organization construct and employ stories about what could happen in the world outside their organization. The aim is to formulate strategies and plans to enable their organization to fit into and survive and thrive in a range of possible futures that they think they cannot predict and cannot or should not or need not influence.

But this is useful only up to a point. Sometimes people need an approach not simply for

> *Sometimes people need an approach not simply for anticipating and adapting to the future but also for influencing or transforming it*

anticipating and adapting to the future but also for influencing or transforming it. For example, an adaptive approach to living in a crime-ridden community could involve employing locks or alarms or guards, whereas a transformative

approach could involve working with others to reduce the levels of criminality. Both approaches are rational, feasible, and legitimate, but they are different and require different kinds of alliances and actions.

The key difference between adaptive and transformative scenario planning is, then, one of purpose. Adaptive scenario planning uses stories about possible futures to study what could happen, whereas transformative scenar-

Transformative scenario planning addresses problematic situations slowly and from the inside out

io planning also uses stories about possible futures to influence what could happen. To achieve these two different purposes, adaptive scenario planning focuses on producing new systemic understandings, whereas transformative scenario planning also focuses on producing new cross-system relationships and new system-transforming intentions. And to produce these two different sets of outputs, adaptive scenario planning requires a rigorous process, whereas transformative scenario planning also requires a whole-system team and a strong container.

Transformative scenario planning addresses problematic situations slowly and from the inside out. Over the course of the five steps, the actors gradually transform their understandings, relationships, and intentions, and thereby their actions. Meanwhile, the transformation ripples out from the individual leaders to the scenario team, the organizations and sectors they lead, and the larger social system, either within the project or well beyond its end. A transformative scenario planning project can get a process of systemic transformation started, but the process may take generations to be completed.

This article is an abridged version of the first two chapters from Adam Kahane's book "Transformative Scenario Planning: Working Together to Change the Future" (San Francisco: Berrett-Koehler, 2012).

1 See, for example, Van der Heijden, Kees (1996): *Scenarios: The Art of Strategic Conversation.* Chichester, West Sussex; Wilkinson, Angela/Kupers, Roland (2014): *The Essence of Scenarios: The Evolution of the Gentle Art in Shell 1965-2010.* Amsterdam. (Additional references in the original version.)
2 Clem Sunter (1987): *The World and South Africa in the 1990s.* Cape Town.
3 Unpublished project document, 2000.
4 Unpublished project document, 2000.
5 See le Roux, Pieter et al. (1992): "The Mont Fleur Scenarios." In: *Deeper News* 7, no. 1; Segal, Nick (2007): *Breaking the Mould: The Role of Scenarios in Shaping South Africa's Future.* Ed. Betty Sue Flowers. Stellenbosch; Gillespie, Glennifer (2004): "The Footprints of Mont Fleur: The Mont Fleur Scenario Project, South Africa, 1991–1992." In: Käufer, Katrin, et al. (2004): *Learning Histories: Democratic Dialogue Regional Project.* New York [= Working Paper 3]. See: https://reospartners.com/publications/the-footprints-of-mont-fleur-a-learning-history [accessed June 5, 2018].
6 Segal, Nick (2007), p. 49.
7 Personal communication with Pieter le Roux.
8 Gillespie (2004), p. 41
9 Personal communication with Pieter le Roux.
10 Veteran journalist Allister Sparks referred to this fundamental change in ANC economic policy as "The Great U-Turn." Sparks, Allister (2003): *Beyond the Miracle: Inside the New South Africa.* Johannesburg, p. 170.
11 Unpublished project document, 2000.
12 I am referring here to the consequences of social, dynamic, and generative complexity respectively. See Kahane, Adam (2009): *Power and Love: A Theory and Practice of Social Change.* San Francisco, p. 5; Senge, Peter, and Scharmer, Otto (2001): "Community Action Research: Learning as a Community of Practitioners, Consultants and Researchers." In: Reason, Peter/Bradbury, Hilary (2001): *Handbook of Action Research: Participative Inquiry and Practice.* Thousand Oaks, California, p. 23.
13 I learned this crucial distinction between problems and problematic situations from Kees van der Heijden.
14 Brian Arthur says that new technologies arise from new and unexpected combinations of existing ones. See Arthur, W. Brian (2009): *The Nature of Technology: What It Is and How It Evolves.* New York.
15 This container principle is explained in Stookey, Crane Wood (2012): *Keep Your People in the Boat: Workforce Engagement Lessons from the Sea.* Halifax, Nova Scotia.

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AVAILABLE FUTURE?
PEACE ETHICS REFLECTIONS FROM THE PERSPECTIVE OF JUST PEACE AND PRUDENCE

Author: *Franz-Josef Overbeck*

"While mapping the future is a risky undertaking, perhaps the only thing riskier is doing nothing."[1]

However old the human desire to know the future may be, our ability to know is limited, and the outcome is uncertain. Nevertheless, human existence will mainly be determined by our actions because the future is not merely fate; it is also shaped by human decisions.

In order to consciously shape the future, humans require a concept which can guide their actions and which they accept to do so.

We have introduced the concept of "just peace" as a vision for the future into the political opinion-forming and decision-making process. With regard to the future of humankind, this concept is based on a simple insight: "A world in which most people are deprived of that which makes for a dignified life is not sustainable. It is still full of violence even if there is no war. Conditions of ongoing grave injustice are in themselves violent" (translated from German).[2] Justice or justness – understood to mean the realization of conditions under which humans can lead dignified lives – constitutes a worthwhile vision of the future: "the goal of just peace enables forward-looking politics" (translated from German).[3] To move closer to this goal, however, requires a kind of politics that continually reflects on its moral responsibility.

Although the future remains uncertain, humans have acquired a scientific set of tools designed to minimize this uncertainty, or at least make it more bearable. Different varieties of futures research, futurology and foresight attempt to anticipate future events, so that action can be taken when they occur – or better still, before they occur. This raises the question of to what extent and under what conditions foresight can serve the goal of just peace. First of all, therefore, we will take a closer look at the available tools, before moving on to discuss the conditions.

Abstract

In his essay, Bishop Franz-Josef Overbeck examines the extent to which the methods of strategic foresight can be made to serve a worthwhile vision of the future, namely a "just peace". He starts out by presenting the essential elements of modern foresight tools, which are a "systematic way of dealing with uncertainty": the determination of driving forces, the revealing of latent structures and entrenched attitudes, the illustration of various possible developments, taking breaks and discontinuities into consideration, and the identification of scope for action and influence. Nevertheless, the author argues, strategic foresight is ethically neutral, since it can serve any goal. This "shortcoming" of foresight raises a fundamental problem: is it at all compatible with the concept of just peace, which is committed to non-violence and the prevention of violence, and which calls for a comprehensive political crisis management system that is guided by these criteria?

Bishop Overbeck finds the solution in the concept of prudence (prudentia) from the Aristotelian and Christian ethics of virtue. To act prudently in this sense is to consider aspects which also feature in foresight processes – such as thinking in terms of various options, and including principles of all different kinds, including contrary ones. But in its orientation to "what is useful [...] in the long term" and to the standard of the good, prudentia at the same time implies something more than this: it is prudentia which enables an ethically desirable application of foresight tools and measures derived from them. In the context of successful crisis prevention, the author translates this into three concrete demands: that we should consider the history of conflicts, focus on the people concerned – especially their religious background – and show tolerance and respect toward their traditions.

Foresight as a human need

Particularly in times of an increasing perception of uncertainty, people have an inherent need to look into the future. Already in ancient times, they consulted oracles or seers before crucial decisions were taken, so that their actions could be guided by those prophesies. Even today, many people perceive the present to be uncertain, and considering ever faster changes in the political, economic, scientific and cultural sphere, they have wellfounded reason to do

There is a growing need for a systematic way of dealing with uncertainty

so. This affects not only individuals, but also entire societies, and especially the political leadership of states. Their decision-makers in particular struggle to gain the earliest possible notion or knowledge of what lies ahead or might lie ahead, so that they can possibly still influence the course of events.

Given the growing complexity of decision-making situations along with highly interdependent environmental and economic trends such as globalization and climate change, there is a growing need for a systematic way of dealing with uncertainty. Therefore, "foresighted and interministerial political action [is becoming] ever more important, but also ever more challenging" (translated from German).[4] Global digital transformation and autonomization processes as well as new forms of conflicts are also considerably changing the coordinates of security policy – keywords here are cyber war, fully autonomous weapons, hybrid wars and transnational terrorism. In comparison to the pre-modern era, when considerations of different futures were mostly spiritual in nature, the methods of futures research have become increasingly scientific over recent decades. Now it is no longer a question of having relevant events predicted by a magical authority, or calculating

probabilities of occurrence with mathematical precision. Instead, the idea is to prepare for possible future events.

"Government foresight means systematic approaches by state actors to continuously analyze possible future developments in a methodologically sound way, so as to be better prepared for them and – as far as possible – shape them" (translated from German).[5] Transferred to the strategic policy context, this is primarily a matter of policy guidance beyond the short term, i.e. identifying key factors that are already apparent and relevant for forward-looking government action to shape the future. The goal is to "think for the future" – to identify new scope for action, increase the available options, and prepare for discontinuities and surprise events (known as "wild cards"). Foresight is mainly concerned with "making the invisible visible" by analyzing latent structures, assumptions and attitudes. Conventional risk analysis often considers only "established" risks, which can be relatively well assessed. Former U.S. Secretary of Defense Donald Rumsfeld coined the phrase "known unknowns" for this kind of risk. The counterpart to this is "unknown unknowns", i.e. new kinds of threats that cannot be captured using the tools of traditional risk analysis.[6] In this respect , foresight is mainly the "management of uncertainty".

Our description of the foresight method leaves the moral question as yet unanswered, however. It has to be ascertained that foresight as an instrument is in itself ethically neutral. "Thinking for the future" to deal with future events is initially independent of the attitudes and objectives of the actors involved. Its various methods can serve purposes which should not be pursued from an ethical point of view. Thus, in itself, it is not sufficient to serve the goal of just peace which requires, as mentioned earlier, a kind of politics that continually reflects on its moral responsibility. In addition, a concept from virtue ethics that is traditional but by no means outdated is required.

The virtue of prudentia

Prudentia personified is a woman with two faces: one looks forward, to see how the goals of a virtuous lifestyle can be achieved. But to do this she also has to look back into the past, to previous experiences, to develop an understanding of new contexts for action. Medieval allegories express this in their depiction of *Prudentia.* With an attentive gaze, she looks into the world in front of her, while at the same time holding a mirror up to her face, in which she looks into the past.[7]

Thomas Aquinas, following Aristotle, attributed a leading role to prudence in the evaluation of actions. "A prudent man is one who sees as it were from afar, for his sight is keen, and he foresees the event of uncertainties."[8] The prudent man evaluates future actions from the perspective of knowledge that goes beyond the immediate situation; it is a question of *what is useful to him and others in the long term.* Firstly, he is familiar with the conditions that determine the current situation. But the prudent man is also capable of distancing himself from what the specific circumstances appear to demand.[9]

Prudent actions, in their chronological structure, are characterized mainly by their "foresighted concern about a desirable future" (translated from German).[10] The scope for possible action is partially influenced by the past. An essential element of prudence is "[...] to obtain knowledge of the future from knowledge of the present or past".[11] At the same time, the future always appears to us in an *intertwining of available and unavailable aspects.* What will be, is available only up to a point to the acting person.[12]

Consequently, prudent actors too should engage with uncertainty.[13] In their considerations, they should anticipate future dangers, possible side-effects and long-term consequences, and examine measures that could contribute to successful practice.[14]

Considering uncertainty is something wholly different than wanting to "force the future to happen." Therefore, the attitude of the prudent person is characterized by openness and flexibility.

Aristotle distinguishes between a type of prudence or practical wisdom oriented to virtue *(phrónēsis),* and an adroitness that rejects it (craftiness, *panourgía):* It is impossible to be prudent without being virtuous at the same time. A person who acts prudently is guided by the standard of the good. The future to which prudent action is geared, is also *a future that is qualified as good in ethical respects.*[15]

When making balanced judgments about what to do in complex situations, someone who decides on their own on the choice of appropriate means may not take important aspects into account. Therefore, according to Thomas Aquinas, *discussion among several people* deserves preference.[16] The prudent person, however, will not merely follow the experts' advice. They will make their decision independently. Knowing about other perspectives in the discussion includes the possibility of going beyond one's own

The future to which prudent action is geared, is also a future that is qualified as good in ethical respects

point of view. In this respect, discussion always serves the exchange of ideas and the communication of values and visions, too. Therefore, *a person who acts prudently will be guided by social, political and ethical goals.*

Aspects of the classical concept of *prudentia* as a virtue can be found in foresight processes: the perspective of knowledge going beyond the specific situation; foresighted concern for a desirable future that is guided by a specific practical interest; an awareness of the available and unavailable aspects of the future; an attitude of openness and flexibility toward different future scenarios; and, due to the complexity of reality and contexts for action, a consultation model that includes all kinds of views, even contrary ones.

Yet for all its intelligence, creativity and logical rigor, foresight per se does not possess any prudence in the sense of the vir-

tue prudentia. It is only through this virtue, however, that an ethically imposed application of the foresight instrument becomes possible. At the same time, prudence is not a marginal extension of thinking ahead. Rather, through its relationship to what is morally advisable, and also through its purposefully farsighted view of impacts and side-effects, it is a fundamental requirement for successful action toward the prospect of just peace.

Prudence, foresight and conflict prevention

The 2016 White Paper on security policy and the future of the German armed forces, and the German federal government's guidelines, published in 2017, on "Preventing Crises, Resolving Conflicts, Building Peace" *(Krisen verhindern, Konflikte bewältigen,*

Preventive politics embodies the idea that an attitude of renunciation of violence can be translated into political structures

Frieden fördern), set out a framework for international crisis management. Its goal is to prevent crises by means of systematic foresight. This premise of preventing violence is the fundamental idea of just peace.

In the concept of just peace, the spirit of non-violence makes itself felt in a very fundamental way in the manner in which the political situation is perceived, the extent to which it is accepted, and in the places where changes are called for. This orientation leads to a new emphasis on those questions that are associated with the prevention of violence. Preventive politics embodies the idea that an attitude of renunciation of violence can be translated into political structures – in other words, that it seems possible in principle to change political structures and mechanisms in such a way that they lead to a greater capability for peace in the international system.

At the same time, this idea implies that political priorities should be determined by peace ethics. If it is possible to make purposeful contributions to reducing violence, then this insight is also accompanied by an ethical obligation to follow it. After all, using violence in any form – even those forms that are based on serious reasons – not only entails grave consequences, harming and destroying lives. There is also the constant danger that the use of force will spiral out of control, and its intrinsic dynamics will undermine the achievement of the desired goal.[17]

Strategic foresight enhances present-day crisis early warning with new methods and approaches: by analyzing alternative possible developments and options for action, by pointing out and questioning mental models and assumptions, by enhancing the visibility and verbal expression of interests, goals, desires and priorities, and by promoting communication and collective learning. However, for successful crisis prevention it is important, after the early warning, to act prudently in the ethical sense. Firstly, this requires engagement with the history of conflicts, as the often interest-driven definitions of contemporary problems do not get to the root of the conflicts. Secondly, to act prudently in conflict prevention means devoting attention to the people concerned: to their educational opportunities and to the question of how they approach morality – and hence also their religion. One of the major challenges in many current conflicts consists in a disturbance of the so-called post-secular society. The importance of religion and hence also the ethical significance of the unconditionality of the awareness of God and the resulting ethical obligations have become completely unimaginable for many people. Thirdly, for the sake of prudence, a true pluralism of thought would need to be established, and it would need to sufficiently reflect on and respect regional traditions, customs and contexts. All of this would be a prudent form of prevention responsibility which governments would have to take and which would correspond to the

prevailing spirit of non-violence within the concept of just peace.

Foresight reflects the situation of our times, in which many conceptions of the good compete with each other. Consequently, knowledge about possible scenarios does not put an end to questions about the normative criteria, or the striving for a future that is qualified as good in the ethical sense. According to our beliefs, the concept of just peace is one such normative criterion. To move closer to it requires, in addition to modern methods of futures research, the traditional virtue of ethical prudence.

1 https://www.wired.com/2013/01/al-gore-futurist (accessed May 29, 2018).

2 Die deutschen Bischöfe (2000): *Gerechter Friede,* No. 59.

3 Ibid., No. 60.

4 Stiftung neue Verantwortung (2013): "Policy Brief: Denken auf Vorrat – Strategische Vorausschau macht Deutschland fit für die Zukunft". www.stiftung-nv.de/sites/default/files/pb_government_foresight_.pdf (accessed May 16, 2018).

5 Ibid.

6 Roth, Florian and Herzog, Michel (2016): "Strategische Krisenfrüherkennung – Instrumente, Möglichkeiten und Grenzen". In: *Zeitschrift für Außen- und Sicherheitspolitik* 9, pp. 201-211, p. 204.

7 Cf. Fidora, Alexander et al. (2013): "Einleitung". In: by the same author et al. (eds.): *Phronêsis – Prudentia – Klugheit. Das Wissen des Klugen in Mittelalter, Renaissance und Neuzeit.* Porto, pp. 7-11, p. 7.

8 Summa theologiae [Abbr. as S. th.] II-II, q. 47, a.1, c. [Translation taken from http://www.newadvent.org/summa/3047.htm; accessed May 18, 2018.] Here Thomas is quoting Isidore of Seville, cf. Etymol., Lib. X, ad litt. P (PL 82, 388).

9 Cf. Mertens, Karl (2005): "Die Zeitstruktur kluger Handlungen". In: Kersting, Wolfgang (ed.): *Klugheit.* Weilerswist, pp. 215-236, p. 215.

10 Ibid.

11 S.th. II-II, q. 47, a.1 , c.

12 Cf. Mertens (2005), p. 219.

13 Cf. Mertens (2005), p. 220.

14 Quoted after Mertens (2005), p. 223.

15 Cf. ibid.; cf. also Koch, Bernhard (2017): "Klugheit". In: Ebeling, Klaus/Gillner, Matthias (eds.): *Ethik-Kompass. 77 Leitbegriffe.* Mit einem Vorwort von Hans Joas. Freiburg im Breisgau, pp. 94-5.

16 S. th. I-II, q. 14, a. 1.3, c.

17 Cf. on the preceding two paragraphs Hoppe, Thomas (2001): "Motiv Menschenrechte? Die Idee vom gerechten Frieden als Grundlage der Außen- und Sicherheitspolitik". In: Zentralkomitee der deutschen Katholiken (ed.): *Sein ist die Zeit. 94. Deutscher Katholikentag Hamburg 2000 – Dokumentation.* Kevelaer.

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Dr. Franz-Josef Overbeck studied theology and philosophy at Münster and Rome. He was ordained a priest in 1989. Following his consecration as a bishop in 2007, he was an auxiliary bishop in the Diocese of Münster. In 2009, he was appointed Bishop of Essen. Since 2011, he has also held the post of Catholic military bishop for the German armed forces. In 2014, he became chairman of the commission for societal and social issues of the Episcopal Conference of Germany (Deutsche Bischofskonferenz, DBK); that same year, Pope Francis appointed him to the Pontifical Council for Culture. In March 2018, he was elected Vice-President of the Commission of the Bishops' Conferences of the European Union (COMECE).

INCREASING COMPLEXITY AND UNCERTAINTY: FUTURE CHALLENGES TO NATO AND THE WEST

Author: **Manfred Nielson**

NATO is facing an unprecedented diverse range of security challenges in the Euro-Atlantic area. The emergence or resurgence of state actors as potential peer competitors, coupled with the increasing threat of terrorism have generated a renewed emphasis on deterrence and defense. Persistent transnational challenges such as organized crime, climate change, or economic instability further deepen the uncertainty and complexity of our security environment. Living in a globalized society, we cannot ignore the developments in areas beyond our borders.

NATO's Allied Command Transformation (ACT) – located in Norfolk, Virginia – seeks to provide NATO with relevant, resourced, military capacities in the right posture, to address current, but with even more emphasis, future challenges and to keep NATO relevant now and in the foreseeable future.

At the same time, this underscores the need for stability projection.

At the 2016 summit in Warsaw, NATO decided to adapt its posture in a 360-degree approach. Heads of state and government reconfirmed that the three core tasks – collective defense, crisis management, and cooperative security – remain valid. In order to maintain its effectiveness, NATO has therefore embarked upon a journey of adaptation. ACT being in one of the driving seats.

This adaptation is framed by three major questions:

Do we fully understand the context and developments in our security environment?

Do we have the right capabilities to counter evolving threats?

And, are we adapting at the speed of change and in a comprehensive approach (e.g. governments, civil sector, military, economy, cultural, non-governmental organizations)?

All this requires an Alliance that is strategically aware and flexible and agile enough to simultaneously decide, operate, and adapt. If executed poorly, NATO may in the future find itself dominant in a conventional sense and effectively irrelevant at the same time.

Of course, NATO has adapted before, but currently, the new security environment shows

Abstract

To stay relevant as a military alliance for the foreseeable future, it is essential to adapt. As the international security architecture continues to change, it affects NATO too, the world's largest military alliance. Plus there is the development and spread of much-discussed disruptive technologies, many of which are available not only to state actors, as well as the increasing pluralization of societies. Citing these and several other future trends, Admiral Manfred Nielson, Deputy Supreme Allied Commander Transformation and the highest-ranking admiral in the German armed forces, describes the conceptual considerations of the NATO Strategic Future Analysis (SFA) 2017. The alliance's military plans are based on this document. It discusses future security policy challenges and opportunities, and also clearly identifies likely ethical problems. Following on from this, the next step is to draw up various scenarios from the future trends, and work out their implications for military policy. SFA 2017 incorporates the futures research of all 29 member countries. This lends it particular weight, especially since the national security doctrines of the individual member countries are in turn derived from it. It was also produced in close consultation with the European Union. Despite receiving little public attention, SFA 2017 is the central document setting out the future of security policy in the global West. In his essay, Admiral Nielson accurately summarizes its essence.

that we do not have plenty of time to get it right. We need to be in place, resilient, and persistent. To get the adaptation of the Alliance right, we need to speed up our processes and our adaptability, increase our situational awareness, and plan for challenges of the future, not the past ones. Decisions taken today must take the effects over the mid and long term into account. And we have to be ambitious and innovative. Maybe we will even have to redefine innovation in the military realm.

All this requires a better understanding of what surrounds us today and in the future. This is not about predicting the future, but about identifying general trends. ACT released its first edition of the Strategic Foresight Analysis (SFA) in 2013. But in fact its origins go back to 2009, when ACT was commanded by today's US Secretary of Defense, James Mattis. Back then, he initiated the "Multiple Futures Project" as a solid foundation for much of our strategic planning. This key document already recognized many of the future trends, threats, and requirements that have been driving the adaptation of NATO's military posture since Wales and Warsaw.

The aim of the revised SFA 2017 is still to provide a shared understanding of the strategic future security environment. It describes the most significant political, social, technological, economic, and environmental trends in the coming years, and resulting security implications for the Alliance and for its member nations. Supported by professional military judgement, the SFA helps to both understand today and to visualize the future, in order to enable NATO to adapt.

Besides that, all nations develop their own foresight documents. The combination of all these different perspectives, however, is what gives the SFA its unique added value. Not only does it establish a shared view by 29 Allied nations, but it is the result of a collaborative effort drawing extensively on their expertise, and integrating inputs from partner nations, other international organizations, think tanks, industry, and academia.

In particular, it is closely shared and coordinated with the European Union. The European Strategy and Policy Analysis System's (ESPAS)

"Shaping the Future of Geopolitics," released in November 2017, and the SFA reciprocally informed each other in their production phase. As 22 nations are members in both organizations, a certain overlap and shared assessment should not surprise us, but be valued as criteria for combined strength, shared resilience, and common ground for future cooperation.

In addition, to enable a shared point of view of 29 allies, SFA 2017 also offers different opinions in some particular issues, where general agreement could not be achieved. This underlines the ambition to maintain maximum objectivity.

NATO's Strategic Foresight Analysis is closely shared and coordinated with the European Union

The SFA forms the intellectual foundation for the "Framework for Future Alliance Operations" (FFAO) which was released by both Allied Command Operations (Belgium) and ACT earlier this year. This document goes one step further by taking a number of instability situations from the SFA and defining their military implications for the years to come. It identifies characteristics and abilities of future Alliance capabilities to meet the potential challenges and opportunities of the future security environment.

What do we believe are the most significant evolutions in trends since the SFA 2013 report, and what might be their key implications for the Alliance?

The shift of powers as a challenge to the West

The geostrategic power transition that has been taking place over the past years in the Asia-Pacific region is now reaching a decisive turn. It clearly illustrates the resurgence of power politics in the region. China is leveraging its economic power to increase defense spending, as the foundation of a growing global power strategy. The neighboring India is following the same path. It could reach a comparable status in the medium term. At the same time, Russia

is resurfacing with the intent to be recognized as a major power again. It is challenging the established order in the former Soviet space by taking advantage of the lack of unity and resolve of Western nations.

Finally, a wide variety of emerging non-state actors – ranging from terrorist groups to globally operating companies – with significant resources and ambitions are increasingly influencing societies, national governments, and international institutions. This trend, combined with a growing lack of trust in governments and institutions, raises a number of consequences for the Alliance.

First, the increased likelihood of power competition is putting the international rule-based order to the test and is directly challenging the cohesion of the Alliance.

Second, the growing complexity of this environment and a wide variety of actors requires NATO to develop a global strategic awareness, beyond the Euro-Atlantic area.

NATO has to develop a global strategic awareness

Third, in this unprecedented range and multitude of global developments NATO will need to reinforce its cooperation with existing partners, other international organizations, or relevant non-state actors; and establish an effective dialogue with the rising powers to develop confidence and security building measures.

The exponentially growing innovation rate of technologies will change our societies

Emerging technologies are undoubtedly the fastest-growing and -evolving trend. The literally disruptive nature of some technologies has already started to transform our daily lives and the societies we live in. The surge in computing power, together with artificial intelligence (AI) and autonomous systems, will continue to accelerate the pace of technological progress. The development of global networks eases the access to new technologies and information, as well as their dissemination down to individuals.

In addition, the trend that governments will continue to lose their driving role in the development of cutting-edge technologies, leading to an overdependence on the commercial sector, including in sovereignty areas such as defense and security, is likely to continue.

For NATO, the consequence of this easier access to disruptive technologies poses a threat through their exploitation by our potential adversaries. This even includes individual actors.

Therefore, the Alliance will have to keep up with the tempo of these evolutions and adapt at the speed of relevance. A paradigm shift in our acquisition processes will be needed to allow quicker integration of innovative solutions into our range of capabilities.

Start-ups spend their own money on research and development. If the market embraces their product, they make a fortune, if not, they move on and develop something else innovative. However, if we compare this model to our governmental procurement processes, we must recognize we usually spend public resources for concept development and experimentation. Instead of stopping a defense project due to a change in parameters, we feel bound by the millions we have already spent and stick to the decision taken 15 years before in many cases.

This does not correspond to the innovative velocity of the world we are supposed to operate at all. Our business model differs in many regards; we often tend to focus more on processes than on outcome.

The United States released their Third Offset Strategy in 2014, aiming to ensure the US keeps the global technological edge in the defense sector and focuses on the most advanced technologies. Many technologies originally developed for other purposes were identified as relevant for the military today and in the future. The purpose of the Third Offset Strategy is to deter other major global powers from contesting the US militarily and to take advantage of the most advanced technologies.

For NATO, this makes it imperative to increase funding for the most advanced defense technologies. The US invited the Europeans to participate in some of their capability programs. One focus for NATO and the US alike is to enhance any man–machine interface.

Machines increasingly outpace humans in processing data. We need to identify ways and means to utilize this capability to our benefit. Furthermore, the disproportionate tempos in technological developments amongst Alliance nations could lead to compatibility issues within NATO.

Divergent ethical and legal interpretations and acceptance of the evolutions in technologies will create different levels of adoption and a reluctance to partner with nations that employ them in operations.

The technological edge and the newest gadgets, which are driving change in how we interact socially, how we shop, how we plan, how we conduct our businesses, no longer reside in the military community. The information environment is developing into a new battlefield with data as a main strategic resource. This will require adaptive mindsets, technological awareness, appropriate policies, and legal frameworks to facilitate the adoption of new technologies, as well as to ensure the highest level of interoperability for capabilities that will be increasingly connected.

We need to be aware of the impact on our most valuable capital and bring about a change of attitude in order to remain relevant. In the international community, the discussion on how legal norms like "law in armed conflict," "human rights," and "protection of civilians in armed conflict" are effected are ongoing. There is growing consensus on the need to apply international norms to the field of AI and autonomous systems. As we stand right at the beginning of the political process, NATO could take a leading role in shaping the discussions and driving them forward.

In fact, the complexity becomes really challenging if we have a closer look at the legal framework and the closely linked ethical aspects. How do we foresee the decision cycles for the deployment of unmanned and semi-autonomous systems? AI will inevitably lead to autonomous self-learning platforms and they are a technological reality already even though not fully operational so far.

Have we considered the necessary legal adaptation to that? Are we up to speed in the ethical discussion process? Are we sufficiently aware of the concerns, worries, and fears of our citizens?

Whatever turns the discussion will take we must always keep our Western societies in mind; we cannot wish away these emerging technologies – if we do not embrace them, others will, and we need to be prepared to deter and to defend against the threat imposed by them. Our potential adversaries are increasingly using global networks to disseminate false or misleading information to influence

> *We cannot wish away emerging technologies – if we do not embrace them, others will. We need to be prepared to deter and to defend against the threat imposed by them*

public opinion and decision-making. It can be assumed that they will neither have the legal constraints nor the ethical debates that are required on our side.

NATO will not only need to develop capacities to detect changes in the information environment to become more strategically aware and to take an agile approach to strategic communications. Equally important is that NATO and its nations will need to increase resilience against false information disseminated by opponents who do not feel bound by the same set of norms, rules, and legal frameworks.

What does this mean in the realm of deterrence?

Changing societies could impact the Alliance

Increased urbanization will lead to more resource competition and even to scarcity. Ownership and control of critical infrastructure could become contested. It will create additional vulnerabilities for the distribution of available resources. In addition, ageing populations will continue to challenge medical and social welfare policies, potentially limiting the necessary budgets for defense and security. Furthermore, the polarization of societies is increasing, preliminarily affecting Western nations fuelled by endless opportunities of indi-

vidualized lifestyle and amplified recognition of minorities.

All these factors will increase instability and the risk of large-scale migration, civil unrest, potentially even civil war. Consequently NATO must be prepared to operate in heavily concentrated urban environments. Therefore, the related measures regarding the protection of civilians are integrated into the planning and conduct of NATO-led operations.

Among allied nations, the understanding of civil preparedness and interdependence between services will be an essential factor to improve their sustainment and to build resilience.

Threats and strategic opportunities raised by environmental and climate change

Climate change impacts nearly all domains and comprises technical, legal, and political challenges. Increased frequency and severity of natural disasters will continue to shape the security environment. The scientific understanding of climate change is growing and will have to be taken into account in the Alliance's long-term planning and risk assessments. The following implications must be addressed:

First, the easier accessibility of the Arctic region will cut distances between Europe and Asia by a third. It will also allow increased military use of the far North and Arctic regions by friend or foe. This will impact both the Alliance's threat assessment of these regions, and also offer greater opportunities for our strategic lines of communication.

Building resilience already demands persistent interconnectedness between the civil, private, and military sectors in peacetime

Second, there is a need to develop resilience against deficiencies in primary resources and infrastructures while planning for military operations. Extreme weather conditions, water and food security issues and other climate and environmental stressors must be included in allies' situational awareness and planning processes.

Third, natural disasters will increase requirements for humanitarian support. The lack of military assets required for this support must also be taken into account in operational plans.

Strategic shocks of a yet unseen magnitude

All those briefly presented trends could equally lead to crises. However, the greatest danger is the confluence of these trends, and of many others described in the SFA, building up to trigger strategic shocks of a yet unseen magnitude.

Are we prepared to be resilient and to absorb such shocks today? Are we really considering the possible effects of those shocks and are we willing to plan for them or do we still prefer to ignore those scenarios because we fear debates about their consequences and the measures we would have to take to be resilient?

The understanding that the allied nations have of civil preparedness and interdependence between public services will be an essential factor to improve their sustainment and to build resilience. Building resilience already demands persistent interconnectedness between the civil, private, and military sectors in peacetime. Waiting for emerging crises to address the needs and required processes will lead to failure and existential threats for our nations.

It is important to have a common understanding of the future trends and their security and stability implications. In order to cope with this challenge, the SFA makes a valuable contribution with its shared perspective of the 29 member states, which lays the foundation for the discussion of future trends, threats, and challenges and fosters cohesion of the Alliance. It will enable us to better coordinate our national defense plans to face the future and to grasp new opportunities.

The SFA is also the primary document to inform national security reviews and defense and security strategies. It will help allied nations and partners to include future perspectives in today's decisions and enables the Alliance to permanently adapt.

But in fact, we at ACT strive at more than only to influence. Our purpose is the implementation of the outcomes of Warsaw on a larger scale and to bring coherence.

It is about better use of what already exists, leveraging it through existing structures and using it on a persistent, day-to-day basis, but without taking ownership or duplicating the work.

It could apply to everything we do: Command and Control, Capabilities, Training and Exercises, Logistics and Partnerships. And speed in this process will make the difference between being one step behind and one step ahead of any potential opponent.

Practically speaking, our ambition is to connect and to federate what exists in NATO, in nations, and in other organizations for the benefit of all. And in doing this to also strengthen national responsibilities in service of the Alliance.

That's why ACT's Persistent Federated Approach is not just focused on Command and Control, but also on capabilities, logistics, the way we train and exercise, and on our approach to partnerships. Partnerships that are not limited to partner nations but incorporate international organizations, non-governmental organizations, industry, and academia, etc.

A Persistent Federation to achieve higher levels of resilience

It is about constantly improving the way NATO and nations collaborate and cooperate, whilst nations retain full sovereignty and control over their systems. This would require, among other things, the adaptation of policies and permissions. Key however is a change in working ethos and practices.

A federated approach would provide insights into a specific situation through its architecture, encompassing NATO nations, partners, the private sector, academia, and all sources of publicly available information. It would facilitate enhanced strategic awareness to provide early warning and the assessment of a deteriorating situation.

Such a change in policy and mindset does not come from the organization itself. It builds on the people within, their curiosity about adapting at the speed of relevancy. NATO and its allied nations need to embrace the uncertainty, need to learn from the rapidly chang-

> *Waiting for emerging crises to address the needs and required processes will lead to failure and existential threats for our nations*

ing world around us, and need to enhance our interaction in order to gain a common, whole-of-government increased situational awareness and higher levels of resilience.

Improving today, shaping tomorrow, bridging the two is what drives Allied Command Transformation.

The Author

Admiral Manfred Nielson assumed duties as Deputy Supreme Allied Commander Transformation in Norfolk, Virginia in 2016. He has commanded units at all levels and held various leading positions in the German Federal Ministry of Defense. Following his promotion to Rear Admiral (lower half), he served as Commandant of the Naval Academy in Flensburg from 2003 to 2005 where he served as Commander Combined Task Force 150 during Operation Enduring Freedom. Promoted to the rank of Vice Admiral in 2010, he was appointed Commander in Chief of the German Fleet in Glücksburg. From 2012 to 2015 he served as Chief of Staff Joint Support Service of the Bundeswehr. He was promoted to the rank of Admiral with the assumption of NATO task at ACT.

CRISIS EARLY WARNING AND FORESIGHT IN PEACE AND SECURITY POLICY: EARLIER, MORE RESOLUTE, MORE SUBSTANTIAL ACTION!

Author: **Winfried Nachtwei**

Abstract

It is not long since Joachim Gauck, the then President of Germany, called for "earlier, more resolute, and more substantial" action in the Federal Republic's foreign and security policy. Since the 2014 Munich Security Conference, this remark has become an axiom for Germany's new security policy. Winfried Nachtwei has an intimate knowledge of politics in Berlin. In his essay, he investigates what this call means for (civilian) crisis prevention and the early recognition of crises. He begins by briefly listing surprises in world history over the last thirty years. Not infrequently, these have also triggered security policy crises. The author then outlines the need for a crisis early warning system, to contain the potential for surprises in a world shaped by increasing uncertainty. The German federal government, too, has recognized the strategic foresight method. One of its goals is to develop and link competences in this field. Based on extensive research in the individual institutions, Nachtwei provides a snapshot of the status of foresight and crisis early warning in the individual ministries (development, defense and the German Federal Foreign Office). He also looks at how they are linked together (the German Federal Academy for Security Policy BAKS, is mentioned in particular). Both in terms of expertise and in the degree of networking, the author points out that Germany has a fair amount of catching up to do. In the second part of his essay, Nachtwei looks at the stumbling blocks to crisis prevention. These often lie between an early, precise analysis and security policy-makers in executive matters and legislature. As a member of the German Bundestag for many years, Nachtwei offers insights – some of them quite alarming – from his extensive experience in security policy. The personal tone of this section and the glimpse behind the scenes of the Berlin Republic are of great value to the interested reader. The article ends with a plea for strategic foresight, and with recommendations – highly worthy of consideration – for a more solid implementation of its methods. This would make international crisis prevention and peacebuilding generally more effective, and the world, perhaps, a little more peaceful.

I have been active in peace and security policy for more than 35 years. In all that time, (civilian) crisis prevention has been a central theme for me, and crisis early warning (CEW) has been a key element of that. From the early 1980s onwards, one major factor that led me into politics was a future scenario that had enormous damage potential, was impossible to rule out, and even seemed to be becoming more likely: the failure of the nuclear deterrent in Europe, and a devastating nuclear "homeland defense" in Germany. Several times, European civilization only just narrowly avoided this scenario. We were all extremely lucky!

Surprising major crises

Since then, peace and security policy has had to contend with big surprises and unexpected major crises: the extraordinary series of events that led to the fall of the Berlin Wall; the peaceful revolutions in Eastern Europe and the break-up of the Soviet Union; the return of war to Europe in the Balkans; the genocide in Rwanda; the Al Qaeda terror attacks in New York and Washington; the borderless war against terror and the international/German deployment in Afghanistan; German overseas deployments, mostly in regions that had never seemed likely; the rapidly clouding-over Arab Spring and the extreme consequences of the war in Syria, leading to the terror of the Islamic State (IS); the "discovery" of sub-Saharan Africa by European and German security policy; the refugee crisis around the Mediterranean; the frosting of relations between Russia and the West since the annexation of Crimea and the war in East Ukraine, as well as the associated return of Alliance defense; Brexit; Trump's electoral victory in the United States and the global rise of national populism; the revolution in social and public communication.

In 2001, it was possible to prevent the next impending Balkans war in Macedonia, thanks to a last-minute recognition of the crisis, concerted international prevention efforts, and political pressure on the parties involved in the conflict. But this seems to have been something of a positive exception to the negative rule.

New impetus for crisis prevention

Given the increasing frequency of major crises and growing uncertainty, it is only natural that political crisis prevention and foresight in Germany has gained (a new kind of) impetus since 2014.

From 2000 to 2004, the German federal government's overall concept and action plan for "Civilian Crisis Protection, Conflict Resolution and Post-Conflict Peace Building" provided the conceptual basis for the new policy field of crisis prevention. Following the disaster of the Balkan conflicts, new instruments and approaches were added to the infrastructure of civilian crisis prevention. These include the Center for International Peace Operations (*Zentrum Internationale Friedenseinsätze,* ZIF), the Civil Peace Service (*Ziviler Friedensdienst,* ZFD), the German Foundation for Peace Research (*Deutsche Stiftung Friedensforschung,* DSF), and the "zivik" program for civil conflict resolution. Moreover, there was a general increase in conflict sensitivity in development cooperation.

But while the crisis early warning action plan did identify a warning/prevention gap, it did not discuss it further. Strategic foresight was not even mentioned at the time. Partly because of the growing challenges of overseas deployments, crisis prevention came to be overshadowed in the following years as attention was focused on post-conflict rehabilitation. It was not until early 2014, with the debate over Germany's international responsibility, the proliferating conflict environment, and the Federal Foreign Office's "Review2014" process, that the political emphasis shifted back onto crisis prevention – and now, for the first time, onto strategic foresight. Crisis prevention and crisis management became one of three priorities in German foreign policy. Following consultative processes, for the first time in July 2016 the German federal cabinet approved the "White Paper on German Security Policy and the Future of the *Bundeswehr* (German armed forces)." This was followed in June 2017 by government policy guidelines titled "Preventing Crises, Resolving Conflicts, Building Peace" (translated from German). For the first time, both government documents prominently discuss crisis early warning and foresight, and in more specific terms than ever before.

The White Paper emphasizes that Germany's fourth strategic priority is the "early recognition, prevention, and resolution of crises and conflicts."[1] This requires a "forward-looking, comprehensive, and sustained approach." Early recognition of crises should "combine national and international, state and non-state expertise to create a clear overall picture." An inter-ministerial approach to developing strategies will be promoted by "expanding and interlinking authority in the areas of strategic foresight, control, and evaluation."[2]

The prevention of the impending war in Macedonia in 2001 seems to have been something of a positive exception to the negative rule

The guidelines reaffirm the "primacy of politics and the priority of prevention" (translated from German). "Early recognition of crises is an essential basis for early and decisive action to prevent crises. It allows avoidable surprises to be reduced, and policies to be better prepared for possible escalations. This requires capacities for the targeted surveillance of countries and regions. The German federal government will refine its tools of analysis, so that it can keep sight of political, economic, and structural trends that favor the development or intensification of crises. At the same time, it is important to stay realistic: even with very good early warning mechanisms, crises cannot always be predicted in detail" (translated from German).[3]

In its guidelines, the German federal government makes a commitment to
- "refine and more closely interlink its instruments for the early recognition of crises";
- "apply strategic foresight methods and seek close international cooperation in the early recognition of crises and fragility analysis";
- "promote joint situation assessments of potential crises" (translated from German).[4]

Fundamentals of foresight and crisis early warning systems

Strategic foresight is increasingly developing into an instrument for the systematic preparation of political decisions.[5] Expectations occasionally surface to the effect that strategic foresight can provide reliable predictions about future trends, crises, and violent conflicts. It can identify preventative "adjusting screws," so to speak, which would allow conflicts to be reliably prevented. But such expectations are unrealistic. Social and political processes are fundamentally different than the cause-effect relationships of the physical world: they cannot be exactly predicted and can be influenced only to a limited extent.

Social and political processes cannot be exactly predicted and can be influenced only to a limited extent. But at the same time, crisis and conflict escalations are not natural disasters

But at the same time, crisis and conflict escalations are not natural disasters; they are human-made. And in some types of crisis and conflict, escalations can be predicted with reasonable plausibility: e.g. humanitarian crises or mass violence including genocide. Many cases are known in which there were early and credible warnings as well as realistic options for action, but these were not followed up with appropriate political or military prevention. Rwanda in 1994, Kosovo in 1998, northern Afghanistan in 2006, and the 2014 ISAF pull-out are such cases, and I have personal political experience of them.

The examples show that the systematic view ahead can and should be significantly better: in short-term CEW and in strategic foresight; to sharpen our focus so that we are better able to deal with the general acceleration and fundamental uncertainty; in policy-making processes for short-term crisis prevention measures and for strategic planning.

Status of foresight and crisis early warning in German government ministries

For a long time, the embassies dotted throughout the world, their respective country sections in the German Federal Foreign Office (*Auswärtiges Amt,* AA) and the German Federal Intelligence Service (*Bundesnachrichtendienst,* BND) were the main sensors in the Federal Republic of Germany's crisis early warning system. But the early recognition capability of the overseas representations depended to a considerable degree on their respective staffing and the crisis sensitivity of their management.

Some ministries only recently gained early warning tools: the Federal Ministry for Economic Cooperation and Development (*Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung,* BMZ) in 2005, the Federal Ministry of Defense (*Bundesministerium der Verteidigung,* BMVg) in 2012, and the Federal Foreign Office in 2015.

Development ministry: A majority of the focus countries for German development cooperation are considered to be fragile. Conflicts, fragility, and violence are obstacles to development. As a result of the 2005 BMZ strategy for peace building, and as part of the development cooperation crisis early warning system, the German Institute for Global and Area Studies (GIGA) analyzes the crisis and conflict potential of more than 90 countries every year on behalf of the development ministry, based on 36 indicators (structural conflict factors, processes that intensify conflicts, strategies for conflict management and the use of force, definition of the conflict phase). Supplementary "politico-economic brief analyses" (*politökonomische Kurzanalysen,* PÖK) by external experts analyze societal actors and institutions, providing regional desks with a basis for preparing country strategies and the work of country teams. Finally, "Peace and Conflict Assessments" (PCA) ensure a peace building orientation for development projects.

Defense ministry: Division SE I 3 in the strategy and deployment department, and division Pol II 1 in the policy department at BMVg, as

well as the department of futures research at the *Bundeswehr* planning office deal with early recognition and foresight in various scopes: SE I 3 with a time horizon of up to 18 months, Pol II 1 up to 5/10 years, and futures research until 2040.

As of 2012, in the context of the *Bundeswehr's* departmentally coordinated task profile for countries under observation, information from the media, military intelligence, and other departments at first converges on SE I 3. In the process of assessment and consolidation, the relevant data is separated from the irrelevant. In addition to the risk situation (focus on military force, violent conflicts), aspects affecting Germany are considered too (e.g. potential risk to German citizens, facilities and interests, multilateral interests, regional aspects). Via "potential analyses," the risks of role changes (from a partner to an enemy) are also taken into account. Furthermore, inter-departmental and inter-sectoral expert talks on crisis regions (e.g. Iraq) are held. These talks include non-governmental organizations (NGOs). The findings from SE I 3 periodically flow into the situation early warning system.

Division Pol II 1 aims to foster the strategic capacity of the German federal government. It looks at likely crisis areas of the future. The approach used now ranges from quantitative, IT-assisted methods to qualitative analyses. A "strategy and foresight" network was set up, in which the following organizations, among others, participate in regular thematic meetings: the new METIS institute at the university of the federal armed forces in Munich *(Universität der Bundeswehr München),* the *Bundeswehr* planning office, the *Bundeswehr* Command and Staff College *(Führungsakademie der Bundeswehr),* the university of the federal armed forces in Hamburg *(Universität der Bundeswehr Hamburg),* various foundations (including the German Institute for International and Security Affairs (*Stiftung Wissenschaft und Politik,* SWP), Bertelsmann Foundation, Konrad Adenauer Foundation), the Federation of German Industries (*Bundesverband der Deutschen Industrie,* BDI), the German Trade Union Confederation (*Deutscher Gewerkschaftsbund,* DGB).[6] In addition, the METIS institute and the Hamburg Institute for Maritime Safety produce short studies on relevant security policy topics.

The department of futures research at the *Bundeswehr* planning office has been in existence for 11 years. The fact that the *Bundeswehr* have the longest tradition in this field is simply due to the extremely long planning cycle in the military. It is all about long-term considerations, so that signals can be better understood. Strategic foresight in the *Bundeswehr* forces begins broadly, but is application-oriented on the whole. In February 2017, the head of the

Foresight experts point out that there is extensive foresight potential in Germany, but it is hardly used

planning department at BMVg – Lieutenant General *(Generalleutnant)* Erhard Bühler – for the first time presented a long-term perspective to 2040, titled "Strategic Foresight for the German Armed Forces" *(Strategische Vorausschau für die Bundeswehr).* This describes possible developments as well as capabilities that will be needed in the future.

Methods of futures research in the defense ministry are similar to those of CEW (e.g. Delphi method, scenario technique, road mapping, future workshops). The department has an interdisciplinary orientation, with experts in seven core areas, each with attached networks. Regular exchanges of views are essential for a constant change of perspective. These take place at conferences and in various networks with people from different specialist fields, cultures and regions of the world.

Federal Foreign Office: Department "S" has been growing since 2015. It deals with crisis prevention, stabilization, post-conflict rehabilitation and humanitarian aid. Within the department, two divisions are explicitly tasked with taking a systematic look into the future: S06 with strategic foresight, and S04 with crisis early warning.

S04 has been developing a CEW toolkit since 2016. This computer-assisted analytical system draws on 41 databases so far (e.g. World Bank, SIPRI, weather services, media). It should be completed by the end of the year. Political, eco-

nomic and social indicators include, for example, the status and protection of human rights, political and social participation, poverty rates, migration pressure, price trends and economic data, and social inequality including ethnic, religious, and gender-specific indicators.

Findings are delivered to department "S" itself as well as to other recipients in the Federal Foreign Office. An early warning working group meets every four years. It represents all the key foreign policy and security policy departments.

Usually, the growing demands of day-to-day work are so absorbing that little or no time is left for a systematic look into the future

S06 delivers analyses of conflicts and actors, alternative future scenarios and options for action on an as-needed basis e.g. to country sections but also to embassies. Time horizons extend to several years.

A so-called "Focal Point" for the responsibility to protect was set up in the Federal Foreign Office in 2012, and subsequently assigned to department "S". The German early warning system for impending mass crimes is based on available CEW tools such as reports by missions abroad, the UN and its special envoys, and CEW reports from the BND and the new S04 division.

The Crisis Response Center (*Krisenreaktionszentrum*, KRZ) monitors and responds to crises worldwide, to protect German citizens in danger. Its task is not to prevent or provide early warnings of political crises, but rather to make the best possible provisions in the event of a crisis by issuing travel warnings and planning protective measures and evacuation operations (crisis prevention and response in relation to individuals). The various departmental capabilities are assigned to the KRZ, including the Technical Relief Service (*Technisches Hilfswerk,* THW) and BKA negotiating group. The KRZ is regarded as a good example of a clear understanding of existing capacities and capabilities. Crisis support teams assist contingency planning irrespective of location.

German Federal Intelligence Service (BND): Country-based CEW analyses are a key instrument of intelligence foresight. The BND produces these analyses with assistance from other

departments in a cycle of 12 to 18 months. They are intended to record the conflict structure of a country, identify escalation factors, take resilience factors into account too, and support policy-making. They are also made available to the German federal government in the "crisis preparedness information system" *(Krisenvorsorgeinformationssystem).* Furthermore, the BND issues twice-monthly "intelligence and warning" reports. These provide a basis for short-term early warning, but they are secret.

German Federal Academy for Security Policy (*Bundesakademie für Sicherheitspolitik,* BAKS): Since 2014, BAKS has served as a training and networking platform for strategic foresight. Whereas an estimated 200 different organizational units are engaged in futures research, BAKS is tasked with promoting the whole-of-government approach in this field. Heads of section from all departments participate in its methods seminars. Every year, the "Strategic Foresight in Practice" *(Strategische Vorausschau in der Praxis)* network stages a conference and workshop day at BAKS, in partnership with various ministries. This event is attended by dozens of foresight experts from nearly all German federal ministries and subordinate authorities, who meet to exchange experiences and research results.

When it comes to foresight, the ministries are for the most part still set up in very different ways. Some still lack a dedicated organizational unit, while at others this is already in the development stages. Often only two or three employees are available for the task. The futures research department at the *Bundeswehr* planning office is unique in having a staff of ten.

A fundamental change in thinking can be observed on the part of the *Bundeswehr* when it comes to strategic foresight: previously, analyses and responses were geared to what was presumed to be likely. But it is said to be better first to look at the possibilities, then the risk potential, and only then the probability.

Foresight experts point out that there is extensive foresight potential in Germany, but it is hardly used. One such example is the foresight enhancement work carried out over the last 25 years by the Office of Technology Assessment at the German Bundestag (*Büro für Technikfol-*

genabschätzung beim Deutschen Bundestag, TAB). Or in the German Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung,* BMBF), where it is reported that very many detailed foresight studies on a wide range of policy areas are available and accessible on the Internet.

On the level of crisis early warning, regular communication takes place in the early warning working group *(Arbeitsgruppe (AG) Früherkennung)* between the AA, BMVg, BMZ, German Federal Ministry of the Interior (*Bundesministerium des Inneren,* BMI) and BKA at the levels of section head (quarterly) and department head (every six months). The "Preventing Crises, Resolving Conflicts, Building Peace" guidelines announce for the future an "inter-ministerial crisis early warning meeting – horizon scanning" ("*Ressortrunde Krisenfrüherkennung* – Horizon Scanning"). This would convene as needed or at least every six months, to promote joint situation assessments of potential crises.

Recent years have brought a sharp increase in networking as well as dialog and education formats beyond ministerial boundaries, and with the involvement of think tanks, foundations, associations etc. As a result, hitherto different understandings of foresight and early warning may be brought into line with each other, or at least made compatible. BAKS offers a central platform for this.

However, institutional locations for an inter-ministerial, integrated CEW and strategic foresight system are evidently not yet in sight. One can only suppose that this gap probably makes it more difficult to take the desired "earlier, more resolute, more substantial" political action, especially with regard to operational and short-term crisis prevention.

The crux of it all: from the analysis to the decision makers

The critical points are to be found in the transfer from theory into the political practice of policy planners and decision makers in the executive and legislature – in the gap between "early warning" and "early action."

I have focused on international crisis management since 1994 in the German Bundestag and since 2009 in its environs. Over this time, I have encountered many factors, constraints, interests and mentalities that get in the way of or even block political attention and farsightedness, crisis sensitivity, strategic thinking – and hence the earlier action we are hoping to see.

The familiar "Cassandra syndrome" describes a situation where truthful warnings from competent persons acting in the common good are regularly ignored by incompetent decision makers fixated on short-term advantage. Yet this is an over-simplistic caricature. The reality is rather more complicated.

- The double resource problem: foresight, strategic thinking and early warning do not come for free; they require sufficient personnel, time, space, and money. Usually, in the ministries, the growing demands of day-to-day work are so absorbing that little or no time is left for a systematic look into the future. When there is a permanent sense of urgency, a sense for what is important can be lost.
- "Early action" requires options for action and always implies the use of resources. These are usually scarce, and less available in cases where there is no acute pressure to act.
- Strategy weakness: For many years, primarily at the German Chancellery and Foreign Office, I experienced a downright defensive attitude to strategy developments. Some justified the need for "driving by sight" by referring to the runaway pace of change in international politics and the cost of developing an inter-ministerial strategy. This, they argued, was out of all proportion to the value of such a strategy in providing guidance. For other top politicians, strategy development evidently appeared to be an unacceptable limitation on the freedom to act of "men who make history". By contrast, the security policy community has been calling for strategy development, as a top priority, for many years.
- Reachability of decision makers: political actors and decision makers generally have to deal with all kinds of topics, requirements, deadlines and interests on a daily basis.
- Given this competition for attention, getting through to them is always difficult – especially for issues where there is no acute pressure to act, but which might entail a slew of other tasks.

- To reach decision makers, CEW is all the more dependent on the credibility of sources (for example the International Crisis Group), the relationships between analysts and decision makers, and on an orientation to the needs of decision makers. Warnings

Where thinking for the future is required, a two-person department is not much use

should be as clear and specific as possible. Recommendations should not be seen as completely unrealistic, as this would mean they could be dismissed.

- Individual and collective perceptual filters in the form of suppression, refusing to believe, wishful thinking and denial of reality. During the German deployment in Afghanistan, I found that perceptual filters of this kind were particularly widespread. It was a sobering experience: warnings rejected for years on end, spin doctoring, losing touch with reality, first development illusions, then illusions about withdrawal, and a rejection of impact analyses that continues to this day. This was due to a combination of political interests (prioritizing loyalty to the alliance and domestic opportunity), the lack of a "no-blame culture" and defensive attitudes toward unpleasant truths, but also excessive demands resulting from a highly complex conflict situation.
- In circles that disapprove of the military, there are patterns of perception which primarily focus on potential threats emanating from the West. In these patterns, threats from other actors play almost no part – and hence neither does the challenge of averting dangers.
- Across parties and actors, there is a pattern of perception that sees only the faults of the other, but not one's own faults. Yet meaningful foresight and early warning absolutely depend on having a self-critical perspective.
- Decision makers should be concerned with people, the issue at hand, and the common good. In reality, party and group interests, as well as personal career and power interests, are often involved too. Individual ministers

and those around them say that the decisive criterion determining some positions and actions is that the boss is presented in a favorable light. Prevented crises and conflicts are invisible successes, generally attracting little attention or merit. In terms of party tactics, a commitment to early warning and foresight is not likely to bring much advantage.

- Where hectic day-to-day politics prevail, as in sections of the German Bundestag, early warning, foresight and strategic thinking have a particularly difficult time. So having the space and time for foresight and early warning is all the more important. In the previous legislative period, the "civilian crisis prevention" *(Zivile Krisenprävention)* sub-committee would spend the final half-hour of its meetings on less well-known conflict regions, as a way of drawing the German federal government's attention to blind spots in CEW. Many country sections were extremely grateful for this.

Switching on the fog lamps

It would be irresponsible to continue driving only by sight into the thickening fog of the future. An intelligent autopilot is not available. But whatever guidance exists should be used in the best way possible and developed further. In this respect, Germany is a long way behind other countries.

- More common language, better dialog and a foresight network of educational institutions in Germany are required.
- The organizational units for foresight and CEW must be given the staffing and funding they need to work more effectively. They should be more than just a token. Where thinking for the future is required, a two-person department is not much use.
- Bodies that establish and foster links between the ministries should be supported. Common platforms for particular processes would be useful. It is recommended that different perspectives should be brought in, e.g. comparing trend analyses across policy areas from the perspectives of different ministries.
- The German federal government's guidelines on crisis prevention and peace building state more clearly than ever before: "The preven-

tion of war and violence in international relations, the prevention of genocide and serious human rights violations [...] are fundamental principles of German governance" (translated from German).[7] This categorical declaration of the responsibility to protect should also be reflected in its operationalization, starting with an effective early warning mechanism. It is doubtful that the design of the existing German "Focal Point" for the responsibility to protect is sufficient.

- I am aware that a large number of government reports appear periodically, and that they often receive only minimal attention in the Bundestag, as a formality. Nevertheless, an annual foresight report following the Finnish example[8] that had to be debated in by the Bundestag would be an important step – as a bridge from the important foresight community to the political sphere and the public.

- However, any such reporting would have to be accompanied by a certain degree of cultural change: it has to be possible to openly mention unpleasant events. In the case of the annual report by the parliamentary commissioner for the armed forces *(Wehrbeauftragter des Deutschen Bundestages),* this has been accepted practice for years.

- Foresight and crisis early warning, especially by state institutions for hazard prevention, are naturally focused on risk and threat factors, and worst-case scenarios. This is as necessary as it is potentially dangerous. Especially as it looks today, the future might frighten people. The "Paradox of Progress" study by the U.S. National Intelligence Council[9] illustrates this with its five global megatrends: the mountains of problems keep growing, the paths to conquering them are hardly visible. Reactions such as anxiety about the future, suppression and flight are only natural.

- So as not to inadvertently stir up a sense of hopelessness about the future, and not only to prevent crises but also build peace and give justified encouragement, foresight and CEW also need a systematic view of opportunities and of constructive approaches, processes, and actors. "Seek the peace" applies here too.

- Early warning and foresight should make German contributions to international crisis prevention and peace building more effective. This appeals to and is in line with the beliefs of most citizens, but that is not enough.

- It also needs to be more politically worthwhile. The key here is that the policy area of crisis prevention and peace building, which has traditionally been largely invisible, should finally be made professionally more visible. Good news from this field should not continue to be knocked down by the bad news that supposedly has a higher news value.

1 German federal government (2016): *White Paper on German Security Policy and the Future of the Bundeswehr.* Berlin, p. 50.
2 Ibid., p. 57.
3 German federal government (2017): *Krisen verhindern, Konflikte bewältigen, Frieden fördern. Leitlinien der Bundesregierung.* Berlin, p. 111.
4 Ibid., p. 150.
5 To deepen the topic, I recommend two articles from the daily press: Münkler, Herfried (2018): "Regieren wird sehr viel schwieriger werden." In: *Frankfurter Allgemeine Zeitung,* January 12, 2018; Seliger, Marco (2018): "Vorher wissen, wo es knallt." In: *Frankfurter Allgemeine Zeitung,* February 15, 2018.
6 One particularly innovative project affiliated to this network that I learned about at a presentation is "CEW through literature" (KFE durch Literatur). Inspired by Nigerian Nobel Prize in Literature winner Wole Soyinka, the project is producing a "mapping of emotions."
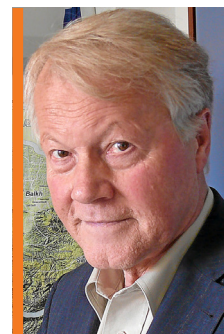7 German federal government (2017): *Krisen verhindern, Konflikte bewältigen, Frieden fördern. Leitlinien der Bundesregierung.* Berlin, p. 47.
8 See http://vnk.fi/en/article/-/asset_publisher/ hallituksen-tulevaisuusselonteon-1-osa-jaettu- ymmarrys-tyon-murroksesta [accessed June 5, 2018].
9 National Intelligence Council: "Global Trends – Paradox of Progress." https://www.dni.gov/files/documents/nic/ GT-Full-Report.pdf [accessed May 25, 2018].

The Author

Winfried Nachtwei was born in 1946. After completing military service and studying, he worked as a teacher in Dülmen from 1977 to 1994. From 1994 until 2009, he was a Member of the German Bundestag; from 2002 he was security and defense spokesman for the Green party. He is co-chair of the advisory panel for civil crisis prevention at the German Foreign Office, a member of the advisory panel for Innere Führung (leadership development and civic education) at the German Federal Ministry of Defense (BMVg), a director of the United Nations Association of Germany, a member of the "Just Peace" working group at the German Commission Justitia et Pax, and a member of the advisory board of Katholische Friedensstiftung. In 2015, he headed the "G36 im Einsatz" commission. www.nachtwei.de

THE NEW UNPREDICTABILITY

WHY GERMANY NEEDS A SECURITY STRATEGY

Author: **James D. Bindenagel**

Abstract

Technological advances will have a considerable influence on future warfare. According to James D. Bindenagel, meanwhile, contrary to many hopes, it is already becoming clear that the use of robots and artificial intelligence will by no means reduce the risk of escalation in armed conflicts. On the modern battlefield, military conflicts will still be characterized by the tendency toward extremes (von Clausewitz). As a result, modern warfare with its high-tech tools threatens to become "even bloodier, more ethically problematic, and generally more unpredictable." On top of this comes the steadily increasing complexity of international relations in the 21st century. In particular, there is an ever-widening gap between traditional international humanitarian law and the possible applications of modern war technologies. Closing this gap now is essential to minimize legal challenges and ethical grey areas, and at the same time enable an effective response to security threats.

Hence there is an urgent need for a long-term, coherent security strategy – which has been lacking for many years in Germany. Partly also in view of the new isolationism of the Trump administration, the author sees Germany as the "political and geographic heart of Europe." As such, the country has a duty to lead the EU with a strategy of this kind, based on the broadest possible consensus. This would give national and international prominence to the raison d'état of the Federal Republic of Germany: to respect and protect human dignity.

The national interest or raison d'état of the Federal Republic of Germany derives from the duty to respect and protect human dignity which is set down in Article 1 of the German Basic Law (*Grundgesetz*, GG). At the present time, the global and security policy context in which this principle applies is once again going through an upheaval. With rapidly advancing technological progress, the history of warfare is once more on the threshold of a new chapter: between Russian aggression, Chinese nationalism, and continuing unrest in the Middle East, the conditions and demands of modern warfare are currently experiencing fundamental change. Weapons systems are spreading rapidly, non-state actors are increasingly in possession of highly advanced weapons such as anti-tank missiles and portable anti-aircraft missile systems, and the diffusion of information technologies is changing public transparency as well as the conduct of military operations. Thus, with the digital revolution and robot technology powering technical innovations in weapons development and highly advanced weapons and information systems spreading massively on a global scale, methods and principles of military engagement are undergoing a fundamental upheaval.

New technological trends of course bring a whole array of new challenges. This is particularly true of drones, which have been the focus of many debates on the future of military interventions. The advantages of unmanned combat equipment are undeniable – such as comparatively low costs, the reduced risk to troops, and the possibility for targeted and therefore often highly efficient intervention. It is not for nothing that the new generation of military robot technology is seen by many as a natural development of all previous military technologies.

Between technical problems, legal challenges, and ethical grey areas

Nevertheless, unmanned combat systems – and particularly what is called "targeted killing" – are perhaps some of the most problematic aspects of modern military conflict. The new technolo-

gies entail a large number of problems: strategic dangers of alienating local civilian populations and allied governments; troops' lack of trust in unmanned aerial support, as recently investigated in depth by Jacquelyn Schneider and Julia Macdonald; the fact that the physical distance from the battlefield increases the odds for errors in judgement; and collateral damage due to the lack of an overview of the situation on the ground.[1] While these and similar challenges are mainly of practical, technical, and strategic concern, perhaps the most important challenge with regard to unmanned combat equipment and new weapons systems lies elsewhere: in the question of the attribution of responsibility, their status under international law, and the basic legal frameworks for the use of new, highly technologized combat systems.

Thus, for example, the edited volume *Drones and the Future of Armed Conflict* by David Cortright, Rachel Fairhurst, and Kristen Wall,[2] or Avery Plaw's comprehensive analysis *The Drone Debate,*[3] provide a detailed overview of the complex legal, strategic, and ethical issues posed by the new technologies. Together with other developments such as partially autonomous weapons systems, the emerging depersonalization of military intervention caused by drones and robot technology creates considerable legal uncertainties and ethical dilemma. In particular, questions of responsibility, legislative competences, and the applicability of current legislation regulating military deployments become increasingly diffuse.

In a recent *Foreign Affairs* article, Paul Scharre argues that drones and robot deployments will decisively shape the future, despite their considerable limitations, and that the development of better drones will solve most of the problems they cause.[4] Yet progress on a technological level will not solve the massive legal and ethical issues. Indeed, the urgency of the many new questions raised in strategic, legal, and humanitarian respects, as well as in respect of international law, tends to increase still further as new weapons systems become more sophisticated: What implications result from the dissolution of war zone boundaries due to the geographical displacement of attacks, and the fact that they are carried out across multiple national bor-

ders? How can legal responsibility for drones and partially autonomous weapons systems be regulated? When and to what extent could "targeted killing" be justified, considering that it currently exists outside of any legal norm? And who is involved in the decision-making process regarding the deployment, legitimacy, and scope of transnational drone strikes? These and many other questions lead to considerable uncertainty regarding the immediate future and carry extensive implications for global security policy and military intervention.

Foreign policy strategy in the complexity of the 21st century

In sum, therefore, the development of new weapons, combined with changed threat scenarios, is a huge contributing factor in making the international security environment even more complex. Charting a course in global security becomes even more unpredictable. For Germany, this means one thing above all: as

The emerging depersonalization of military intervention creates considerable legal uncertainties and ethical dilemma

the geopolitical situation becomes more unpredictable, including as a result of changing technological conditions, current German foreign policy looks increasingly inadequate. It is largely characterized by a case-by-case approach, and often seems to be shaped more by improvisation than by coherent strategic thinking. The future of warfare brings entirely new challenges – and Germany, too, will have no choice but to prepare for them. In order to effectively address the growing complexity of security policy issues, a long-term, overarching security strategy is now urgently needed.

The struggle against ISIS clearly illustrates the relevance of this issue. Aside from the development of new weapons systems and drone technology, it challenges conventional security strategies in a completely different way. With ISIS being a non-state actor, national borders lose all significance. As a result,

legal frameworks designed for the legitimization of counter-attacks and the right to defense intended for nation states, such as envisioned by the UN convention, are no longer fully applicable. Faced with a threat situation that has fundamentally changed, state actors respond by changing their tactics and developing new military instruments. But in so doing, they encounter many kinds of legal and strategic uncertainties. Thus the fight against international terrorism makes it all the more clear that existing legal frameworks and principles of international military intervention are no longer sufficient to maintain modern security requirements.

Germany needs to overcome security policy incoherencies between political elites and the broad public

The changing character of international conflicts, which goes hand in hand with the use of new technologies, means there is an urgent need for a corresponding national and international debate. A new, more stable legal framework is necessary to counter a combination of challenges at the crossroads of aggression through non-state actors on the one hand and the use of new, in part highly ambivalent technologies on the other hand. To arrive at such a framework, firstly the issue of proliferation and the creation of international treaties to limit the development of weapons systems such as cluster bombs should be discussed in depth. The new weapons pose ethical and humanitarian dilemmas that need to be taken seriously. At the present time, it is impossible to predict the full extent of possible consequences that the new weapons technologies might entail. For these reasons, there is an urgent need to modify international humanitarian law with a view to the future of global warfare. On the other hand, as part of a forward-looking security policy debate, the changing threats need to be recognized, and new military instruments and technologies for combating these threats need to be taken into account.

Overcoming security policy deficiencies for a long-term strategy

All of these aspects should be integrated into a long-term, overarching security policy approach. Of course the various challenges of one kind or another which result from technological advances and new, highly technologized warfare will hardly decrease in the medium to long term. The future of military conflicts looks different than the past, and we will have to adapt to the changes. In order to deal with increasing uncertainty in security policy and unforeseen developments, including those resulting from new weapons and technologies, Germany needs to take a strategic look into the future. Since the German Federal Constitutional Court *(Bundesverfassungsgericht)* ruling of July 12, 1994, the Federal Republic of Germany is able to send troops outside of NATO territory, provided there is a mandate from the German Bundestag. In the present-day context of a changed technological situation and a new security environment, it is now up to the Bundestag to define political principles with regard to future German military engagement, in accordance with Article 1 (1) of the Basic Law.

To manage new challenges, a long-term strategic approach is necessary. But before this goal can be achieved, massive gaps in German strategic culture need to be closed. Therefore, the Federal Republic will have to pursue a dual strategy: firstly, Germany needs to overcome security policy incoherencies between political elites and the broad public in order to establish a workable consensus across society. While leading politicians emphasize Germany's international responsibility, for example, nearly seventy per cent of Germans do not know why the Federal Republic is involved in the mission in Mali.[5] Secondly, a comprehensive exchange of expertise needs to take place at a national level. To achieve this aim, it would be necessary to bundle academic insights from foreign policy and security analysts with the resources of the Federal Criminal Police Office of Germany *(Bundeskriminalamt,* BKA), the German Federal Intelligence Service *(Bundesnachrichtendienst,* BND) and other relevant institutions and interlink these with ministries as well as the German

Chancellery (*Bundeskanzleramt,* BKAmt). Such a format would then enable strategies for the future to be developed to address numerous issues – from Chinese and Russian aggression, structural change in Africa, and nuclear proliferation, to Iran and the MENA region. At the same time, a long-term security policy of this kind should be closely oriented towards European security initiatives. It could, for example, be linked to the European Defence Fund or Permanent Structured Cooperation (PESCO).

No overall European security strategy without a German strategy

In the era of Trump's isolationist policies and increasing indifference toward Europe on the part of its traditionally most important ally, the EU can only develop a coherent security and defense policy if Germany – the political and geographic heart of Europe – first produces a clear strategy in this regard. Without a clear German direction in security policy, PESCO is doomed to fail. The European Defence Fund would only be usable to finance marginal capacities. French intervention forces would be likely to continue to act autonomously in the future, without integration into European structures. Europe would become even more unsteady.

Germany must now adopt a clear position within European structures, assume responsibility, and take a leading role by the side of its European partners. To succeed here, the country requires a courageous strategic vision of maintaining democracy, peace, and prosperity in Europe. Germany now needs a national security strategy that can build on the European Common Foreign and Security Policy. To this end, national interests and potential threats as well as means and instruments of protection have to be identified. The German federal government's 2016 White Paper took the first steps in this direction.

Technological progress will not transform modern warfare into a clean, unproblematic, and low-risk engineering exercise. In all likelihood, it will tend to make war even bloodier, more ethically problematic, and generally more unpredictable. The use of robots and artificial intelligence in particular will create more ethical and legal

grey areas. Above all, new technologies will be another uncertainty factor when it comes to assessing international threats and formulating national security strategies. At the present time, it is impossible to predict the full consequences

Technological progress will not transform modern warfare into a clean, unproblematic, and low-risk engineering exercise

of these technological developments. Hence it is all the more important to keep their future strategic implications in sight. To respond to these changing circumstances and deal effectively with the resulting challenges, Germany and Europe urgently need an overarching, coherent, and forward-looking security strategy based on Article 1 of the Basic Law which will enable flexible responses to complex and ever-evolving threats.

1 Schneider, Jacquelyn/Macdonald, Julia (2017): "Why Troops Don't Trust Drones. The 'Warm Fuzzy' Problem". https://www.foreignaffairs.com/articles/united-states/2017-12-20/why-troops-dont-trust-drones [accessed June 5, 2018].
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The Author

James D. Bindenagel looks back on 30 years of experience in the diplomatic service of the United States of America. From 1996 to 1997 he was U.S. Ambassador to Germany. An authoritative diplomat, he has negotiated the compensations for forced workers during the Nazi Regime, the Washington Principles on Nazi Confiscated Art and the Kimberly Process Certification Scheme, in order to prevent "conflict diamonds." James D. Bindenagel was deputy head of an American think tank and vice president of the DePaul University in Chicago.

BEYOND READING TEA LEAVES

FORESIGHT AS AN INSTRUMENT OF MODERN CRISIS PREVENTION

Dr. Reez, you are the foresight officer at the German Federal Academy for Security Policy. What in your view are the characteristic features of strategic foresight?

As the name suggests, strategic foresight is about vision, watchfulness, and thinking ahead. "Caution" is a word that also belongs to this semantic field. The best way to illustrate the characteristic features of strategic foresight – and hence its benefits – is with a story. I am sure you know the famous scene in the movie *TITANIC,* when the camera pans from the sailors' lookout – the "crow's nest" as it is called – across the starry Arctic night sky, to show us giant icebergs looming behind wisps of fog. The story of the *Titanic* – the biggest shipping disaster in recent history – has many lessons to teach us about foresight. Firstly, you can only see about one-seventh of the iceberg – the rest is not visible since it is below the water line. The question is: How big is the iceberg? In a figurative sense, this is exactly the question at the core of foresight processes: What is in store for us? What does the uncertain future look like, that we can see only in outline (so-called "weak signals")? What should we prepare ourselves for?

And what other lessons can the *Titanic* case teach us?

The second reason why the tragedy of the *Titanic* is instructive is because it has been shown that fatal false assumptions caused the disaster. The ship's engineers were completely convinced that the luxury liner was "unsinkable." That is why not enough lifeboats were provided for the number of passengers on board, for example. From the designers' and engineers' point of view, based on their calculations, it was totally inconceivable that the ship could sink. In the context of strategic foresight, this phenomenon is called cognitive dissonance or distorted perception. Foresight processes allow the systematic identification of groupthink – which was the case here – as well as wrong assumptions, perceptual filters and thought-traps.

What does that mean for security policy in the 21st century? To what extent can strategic foresight help us prepare better for crises and disasters?

Today, of course, it is no longer sufficient to "drive by sight." As a result of political and social challenges that never existed before, such as the pervasive digitalization of our lives (ubiquitous computing), early warning and foresight require other methods. It is definitely not enough anymore to send a sailor up to the lookout with a set of binoculars – so to speak – to keep watch for icebergs. To put it in clear terms, we need practical quantitative and qualitative methods and techniques of strategic foresight. A new kind of "crow's nest" for states is needed. Interestingly, back in the 1980s, the renowned systems researcher Niklas Luhmann once referred to himself as an "observer in the crow's nest". This is very accurate and highly topical: today we need a systematically developed early warning system, a "new type of crow's nest", that facilitates and sustainably supports anticipatory governance. This is because today we have to deal with different, complex problems (known as "wicked problems"). To stay with the iceberg metaphor: the iceberg is constantly turning – so quickly that we cannot measure its proportions at any given time.

Could you explain that in more detail? What exactly is the difficulty for crisis prevention today?

Social scientists and crisis researchers use the term "dynaxity" (dynamic complexity) and talk about a VUCA world (volatile, uncertain, complex, ambiguous). This underlines the point that crisis preparedness and crisis prevention are no longer only a matter of classical cause-effect re-

lationships. What we see instead are surprising and unforeseen domino and cascade effects as a result of state interventions, for example in measures to prevent global warming, international migration or urbanization. In other words, to cope with new pressures, states have to develop their "sensors" and tools. I believe that foresight capacity building is now an imperative for state institutions, because strategic foresight offers precisely such a toolkit. It goes beyond and complements classical planning, taking potential problem situations and possible solutions into account at an early stage. Eckard Minx rightly talks about "Denken auf Vorrat" (i.e. thinking ahead and making provisions for a wide range of possible future scenarios). In the world of strategic foresight thinking, surprising events and disruptive trends are called "wild cards" or "black swans." Conceivable scenarios of this kind should serve as a stimulus and a challenge: we should systematically analyze these possibilities and their social consequences in advance, so that timely provisions can be made. With regard to responsible security precautions by the state, developing an integrated strategic foresight system is now a condicio sine qua non.

There is nothing wrong with thinking ahead and making provisions. But how would you respond to those who say that strategic foresight is much like reading tea leaves, and has little practical relevance?

Foresight processes are structured communication processes, whether they are future workshops, scenario analyses, Delphi meetings, SWOT analyses or roadmaps. Ultimately the question is always: What specifically should be done, what action should be taken? In this respect, foresight has little in common with reading tea leaves, fortune telling or having your head in the clouds. Unfortunately this prejudice is very hard to eliminate. So too, by the way, is the much quoted and popular bon mot: "People who have visions should go see a doctor." Visioning is actually a widely acknowledged, serious method of normative futures research. The goal is to develop positive visions of the future that can provide orientation and guide action for problem-solving and the realignment of organizations. Without such visionary ideas (in the

best sense), day-to-day operations in organizations and institutions degenerate into piecemeal dealing and muddling through.

So, in your view, what specifically should be done?

I think an action program divided into five main task areas would be useful and possible: capacity building at the level of the German federal government, transfer of practical expertise to current leaders, creating additional higher education study opportunities, expanding network activities and educational work, and quality assurance in practice. In this context, it would be important to cultivate practical foresight work while maintaining standards and quality criteria, and prevent one-sided methodological development toward quantitative methods – which are referred to as "AI oracles."

A foresight-based national early recognition and early warning system, such as you describe, will not be set up overnight...

Strategic foresight does indeed require a certain strategic culture. But skepticism toward these tools should decrease as the willingness even to engage with such decision-preparation processes increases. This could happen quickly if there is a growing conviction that it makes sense in principle to establish a new crow's nest function in the government departments – in other words, that it is the expression of political prudence in the 21st century to use the instruments of strategic foresight.

Dr. Reez, thank you very much for the interview!

Norbert Reez is domestic policy advisor and foresight officer at the German Federal Academy for Security Policy (Bundesakademie für Sicherheitspolitik, BAKS) in Berlin. Previously he worked in law enforcement with the German Federal Police and as department head at the German Federal Office of Civil Protection and Disaster Assistance (Bundesamt für Bevölkerungsschutz und Katastrophenhilfe, BBK) in Bonn. At the same time, he was project manager in the LÜKEX national crisis management exercise series. Norbert Reez holds a doctorate in law and a degree in criminology. He studied in Saarbrücken, Mainz, Speyer, Frankfurt am Main, Hamburg and Dijon (France).

THE CITIZEN IN UNIFORM, NOW AND IN THE FUTURE
A PERSONAL PERSPECTIVE

Author: **Joachim Rühle**

"The most curious thing about the future is that then our own time will be described as the good old times."

Ernest Hemingway

It is hard to say, today, whether future generations will look back romantically on the current situation our world is in, and call it the "good old times." But one thing is certain: in the here and now, we have a duty to think about our future. This is not a question of gazing into a crystal ball, or reading tea leaves, or indeed making expectant visits to an oracle – even if military commanders of yore set great store by their predictions.

Modern, resilient armed forces depend on long-term, forward-thinking security planning.

But this is not to claim that strategic foresight in the German armed forces is able to predict what will happen 15 or 20 years from now. Rather, it is a case of systematically recording a wide variety of possible future scenarios, as well as pointing out the consequences with regard to our range of actions and capabilities.

The goal of strategic foresight, therefore, is to identify plausible developments and to consider them on equal terms, side by side. It is not to attempt to specify probabilities of occurrence, as ultimately this only opens the door to pointless speculation, devoid of all substance.

By "thinking for the future" in this way, we aim to anticipate better, recognize earlier, and interpret in more detail. We want to be sufficiently prepared, for both crises and unexpected events, which certainly may change the fundamental situation.

In this context, the term "black swans" is used – referring not only to the extraordinary and significant zoological beings, but by extension to extremely rare and at the same time rarely extreme events. These are events that people do not want to imagine happening, but which do occur nonetheless. Ultimately, distorted perceptions, selective attention, and suppression of undesired scenarios are not what we need when it comes to preparing the armed forces appropriately for different futures – and not just in terms of hardware.

Technological megatrends

Autonomization, digital transformation, and hybridization will continue to bring significant changes in the years ahead, not only for the German armed forces. As a result, these armed forces will themselves have to change significantly.

At this point, let us just mention some keywords: virtually limitless networking, big data, human enhancement, progressive optimization of the individual, #HomoDigitalis, grey areas between the virtual and the real world, the (apparent) perfection of information, cognition, and communication technology. These current trends are accompanied and consequently accelerated by demographic change that offers little scope for interpretation. A change in recruitment practice is therefore absolutely necessary.

In addition to the planning implications for the armed forces that this kaleidoscope presents, it is important not to lose sight of one crucial aspect: the future place of the citizen in uniform.

In future, the German armed forces will continue to offer policy-makers an appropriate range of options for military action: globally, in NATO, in the EU, under the umbrella of the United Nations, and in coalitions. They

will do this with significant troop strength and a broad capability profile, while playing a part in the country's overall security precautions, as well as in prevention, protection, deterrence, and international crisis management.

But rapid rates of change, the speed and complexity of operations, the mere existence of the "irrational," and potential enemies who obey different rules are placing greater demands on people than ever before: on their ability to anticipate, on their conscience as a moral authority, on their personal persuasiveness, and on their ability to make sound judgments and decisions "in the fog of the unknown," as well as based on their feel for the situation – which algorithms and formal logic lack even a rudimentary capacity to provide.

Leading by mission (Führen mit Auftrag)

We are faced with technological developments that not only open up opportunities, but also create temptations. For precisely this reason, it is vital to draw clear boundaries to protect the essential core of our proven concept of *Innere Führung* (leadership development and civic education).

One thing is certain: *Innere Führung* and *Führen mit Auftrag* are two sides of the same coin.

Judging the effects of one's own actions always requires thinking beyond one's immediate area of responsibility.

The key elements of mission-type tactics *(Auftragstaktik)* are the freedom to act and to delegate as well as to accept that responsibility, a reasonable tolerance of errors, and the overwhelming importance of the commander's intent for intellectual interaction between superiors and those they lead.

Our armed forces owe their existence to this leadership principle, despite – or perhaps because of – a sometimes difficult environment. It has proven particularly effective in overseas deployments and missions.

Command technology and information technology rightly play a prominent role in

the armed forces. This role is set to increase even further. Command systems will be better and faster at handling the sometimes diffuse flow of information, and they will reduce the complexity of its presentation.

But we should be careful: command systems and digital situation maps show only a pseudo-reality. For the foreseeable future, total information and total control will remain purely in the realm of wishful thinking. They cannot relieve the military leader

We are faced with technological developments that not only open up opportunities, but also create temptations

of her or his responsibility, since leading by mission means taking on precisely this responsibility. There are two basic ways that this can be done. One is to decide everything yourself. The second is to delegate, but without giving up overall responsibility. This is exactly what mission-related tactics require.

Whenever personal responsibility becomes diffuse, clear rules have to be put in place. Our proven understanding of leadership is based on the indivisible responsibility of the military leader, and on the recognition of his or her conscience as a moral authority. Despite all technological capabilities, this responsibility may never be given up. Difficulties always arise when decisions are taken across command levels on the basis of supposedly better situational overviews. Interfering with the freedom to act of those who are led destroys mutual trust. Therefore, command systems must never be an end in themselves, and "leapfrogging" orders across command levels should be the exception.

Only the soldiers on the ground have a feel for the situation and can choose a suitable method of implementation within a defined scope of action. For this reason, we have a continuing need for well-educated, creative, decisive, and ethically confident women and men. Anyone who thinks mili-

tary decisions can be automated and made without risks is mistaken.

Mathematical algorithms and the systems based on them cannot reproduce ethics,

Agreement in terms of concepts and actions is an essential requirement for a uniform understanding of leadership

morality, and a gut feeling which is not always merely rational. Yet extreme situations in ever more complex deployment scenarios demand that tactical decisions taken under time pressure and pressure to act stand up to moral and ethical scrutiny. This is extremely challenging – and it is something that only humans can do.

Drawing boundaries

Autonomous systems must therefore never be given complete freedom of action. Tensions arise here that need to be resolved. It is important not to close ourselves off from technological and social developments – but at the same time we should define our own clear rules.

In terms of their values, standards, cultures, and origins, future generations of soldiers are becoming more diverse. As a result, it will become ever harder to reach agreement in terms of concepts and actions. Yet this is an essential requirement for a uniform understanding

of leadership. The necessary preconditions for this are similarly uniform values, clearly defined and internalized tolerances, and a clearly stated claim to leadership, education, and training. These will continue to be the fundamental pillars of the citizen in uniform in the future as well.

Not only do our soldiers have a right to expect this, but so do our society and parliament, in whose name and on whose behalf they act. Our self-determination based on our common values, must remain a constant in whatever futures we imagine.

The Author

Vice Admiral Joachim Rühle became Vice Chief of Defense of the German armed forces in 2017. Following assignments on various sea-going units, in 2005 he became commander of Task Group SEF (Standard Einsatzausbildungsverband Flotte/Fleet Standard Operational Training Force), and in 2010 Director of the Knowledge Management Directorate at the Allied Joint Force Command in Naples. From 2012 to 2014, he was Director-General for Planning at the German Federal Ministry of Defense (Bundesministerium der Verteidigung, BMVg), during which time he also served as acting head of the Directorate-General for Equipment, Information Technology and In-Service Support. From 2014 to 2017, he held the post of Director-General for Personnel.

"HUMAN EXISTENCE SHALL NOT BE CHANGED WITHOUT REFLECTION"

Dr. Dr. Fischer, strategic foresight focusses on plausible future developments and scenarios. What does this mean for military medicine, and what particular challenge comes to your mind?

In military medicine, I consider the question of human enhancement as crucial. As in civil life we get more and more confronted with different forms of optimization and enhancement of the human being in the military. A well-known example might be the call for neuroenhancement, which is today a pharmacological improvement of psychological skills and vigilance in particular. Beside this, there is a number of non-pharmacological techniques to be found which allow to improve the soldiers' capacities in nearly every human sphere. Think of exoskeletons, deep brain stimulation or brain-machine-interfaces. To develop future scenarios with regard to human optimization and human enhancement is an important task for military medical ethics.

Do you see a difference between optimization and enhancement?

In my opinion it is very important to differentiate techniques helping to support naturally given skills from those which implement a new trait. The latter might be characterized as an invasive technique. Based on this idea I propose the following definition: human enhancement means the invention and application of invasive technical methods and tools to surpass qualitatively any natural given limit of human beings who thereby enter a new stage of existence. After having taking up a method or tool of human enhancement being human means something different than before.

Does this mean that applying those methods challenges our self-understanding as human beings?

It certainly does. What is brought to our mind here in a very impressive way is nothing less than the question of what it means to be a human being. Natural given limits in this context do not refer to quantitative, but qualitative traits, that is to say skills man originally does not have as a member of the species homo sapiens.

What might be the consequence of human enhancement as you defined before?

Apart from the discussion on human enhancement in the transhumanism debate, which I do not like to comment on right here, human enhancement as an invasive technique will lead to a challenge not only for the individual human being, but also for society in general. Though the development of enhancement techniques seems to be important from the point of view of military necessity, a fundamental change of human existence has to be a line which shall not be crossed without further reflection. Think of the consequences the development of a posthuman super-soldier might have on the law of armed conflict as we know it today and its underlying human ethos. Though I am not capable to line out the characteristics of the development of enhancing techniques to come, I am deeply convinced that this topic will preoccupy us tremendously in the future, and therefore should be part of strategic foresight.

Is this topic already part of the military medical ethical debate?

Over the last few years the question of human enhancement has become more and

more important. An enormous amount of research is done all over the world to profit from this development, particularly in military scenarios. The role military medical personnel have to face in this context still needs to be defined. As they are obliged to serve humanity, they will raise their voice in any case where a human being is at stake. Along with other institutions, at the Teaching and Research Unit for Military Medical Ethics at the Military Medical Academy in Munich we stress the need for further reflection on human enhancement and improve the research on this topic.

Dr. Dr. Fischer, thank you very much for the interview!

Dr. Dr. Rupert Dirk Fischer studied medicine, philosophy and catholic theology and gained a doctoral degree in medicine and catholic theology. He serves as spiritual director at the Herzogliche Georgianum in Munich, medical ethics consultant in the medical service of the Bundeswehr as well as head of the Teaching and Research Unit for Military Medical Ethics at the Bundeswehr Medical Academy in Munich.

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